

## RF Exposure evaluation

Product Description: Bluetooth Smart Padlock  
Model Number: LE-01-5.2  
FCC ID: 2AR3KPLBC00001

According to 447498 D01 General RF Exposure Guidance v05 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:  $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g 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

According to the follow transmitter output power (  $P_t$  ) formula :

$$P_t = ( E \times d )^2 / ( 30 \times g_t )$$

$P_t$ =transmitter output power in watts

$g_t$ =numeric gain of the transmitting antenna (unitless)

$E$ =electric field strength in V/m

$d$ =measurement distance in meters (m)

According to the above test data,

$$P_t = 2.490 \text{ dBm} = 1.77 \text{ mW}$$

The result is rounded to one decimal place for comparison

Worse case is as below: [2480MHz -3.0mW output power]

$$(1.77 \text{ mW} / 5 \text{ mm}) \cdot [\sqrt{2.480(\text{GHz})}] = 0.56 < 3.0 \text{ for 1-g SAR}$$

Then SAR evaluation is not required

**NOTE:** For the maximum power, you can refer FCC test report.

RF Exposure evaluation

Product Description: Bluetooth Smart Padlock

Model Number: LE-01-5.2

IC: 24605-PLBC00001

According to Clause 2.5.1 of RSS-102 Issue 5 SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance<sup>4,5</sup>

Frequency(MHz)	At separation distance of $\leq 5$ mm
2450	4 mW

According to the follow transmitter output power (Pt) formula:

$$P_{MAX}=2.490\text{dBm}(\text{Max EIRP Power}=\text{Max radiation field}-95.2)$$

Antenna gain=0dBi

$$P_{EIRP}=2.490+0=2.490\text{dBm}=1.77\text{mW} < 4\text{mW}$$

Then SAR evaluation is not required

**NOTE:** For the maximum power, you can refer IC test report.