

RF Exposure Evaluation

FCC ID: 2AFRJ-HDL1

1. Client Information

Applicant	:	Noke
Address	:	2000 Ashton Blvd, Suite 375, Lehi, UT 84043
Manufacturer	:	Mapleaf technology CO., LIMITED
Address	:	5B1003, Shengtaoshajunyuan, Baoan District, Shenzhen City, Guangdong, China

2. General Description of EUT

EUT Name	:	Noke HD Padlock	
Models No.	:	HD Padlock	
Model Difference	:	N/A	
Product Description	:	Operation Frequency:	Bluetooth 5.0(BT): 2402MHz~2480MHz
		RF Output Power:	BLE:-0.277dBm
		Antenna Gain:	2dBi Internal Antenna
Power Supply	:	DC Voltage supplied by DC battery.	
Power Rating	:	DC 3.6V by DC battery	
Software Version	:	N/A	
Hardware Version	:	N/A	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2. Calculation:

Test separation: 5mm						
BLE Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-0.277	-1 ± 1	0	1	0.310	3.0
2.442	-0.562	-1 ± 1	0	1	0.313	3.0
2.480	-1.017	-1 ± 1	0	1	0.315	3.0

Test separation: 5mm		
The worst RF Exposure Evaluation		
Worst Calculation Value	Total Calculation Value	Threshold Value
Bluetooth Mode		
0.315	0.315	3.0

The worst RF Exposure Evaluation is **0.315/ cm2** < **limit 3.0**, So standalone SAR measurements are not required.

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