RF Exposure Evaluation
FCC ID: 2AYNF-KANG

1. Client Information

Applicant	:	Beijing Naolu Technology Co., Ltd
Address	:	Room 704-1, floor 7, Building 1, No. 10 caihefang Road, Haidian District, Beijing, China
Manufacturer	:	Dongguan Syntheticplastic Electronics Co. LTD
Address	:	No.9-10, Laofu House, Huangwu Village, Dongkeng Town, Dongguan City, Guangdong Province, China

2. General Description of EUT

EUT Name	:	KANG SMART SLEEP	
Model(s) No.	:	KANG Ⅱ	
Model Different	:	----	
Product Description	:	Operation Frequency:	Bluetooth V4.2(BT): 2402~2480 MHz
		Number of Channel:	Bluetooth(BT): 79 Channels Bluetooth(BLE): 40 Channels
		Max Peak Output Power:	Bluetooth: 2.578dBm(8-DPSK)
		Antenna Gain:	3 dBi PCB Antenna
		Modulation Type:	GFSK π/4-DQPSK 8-DPSK BLE（1Mbps）
Power Supply	:	Input: Output DC 5V DC 3.7V by 600mAh Li-ion battery	
Software Version	:	1.0.3	
Hardware Version	:	V1.0.3	
Remark: The antenna gain and adapter provided by the applicant, the adapter and verified for the RF conduction test provided by TOBY test lab.			

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

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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:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 for 10-g SAR

2. Calculation:

Test separation: 5mm						
Bluetooth 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	0.073	0±1	1	1.259	0.390	**3.0**
2.441	-0.167	0±1	1	1.259	0.393	**3.0**
2.480	-0.790	0±1	1	1.259	0.397	**3.0**
Bluetooth Mode (π /4-DQPSK)						
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	2.321	2±1	3	1.995	0.618	**3.0**
2.441	2.125	2±1	3	1.995	0.623	**3.0**
2.480	1.513	1±1	2	1.585	0.499	**3.0**
Bluetooth Mode (8-DPSK)						
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	2.578	2±1	3	1.995	0.618	**3.0**
2.441	2.400	2±1	3	1.995	0.623	**3.0**
2.480	2.186	2±1	3	1.995	0.628	**3.0**
BLE Mode (1Mbps)						
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	0.089	0±1	1	1.259	0.390	**3.0**
2.442	0.743	0±1	1	1.259	0.393	**3.0**
2.480	0.841	0±1	1	1.259	0.397	**3.0**

Simultaneous Transmission for SAR Exclusion			
Simultaneous Transmission for SAR Exclusion		Total Calculation Value	Limit
Bluetooth Mode	BLE Mode		
0.0841	**0.0531**	**0.1372**	**1.0**
Note: The sample support one BT modular and BLE modular, they supports difference antenna, need consider simultaneous transmission;			

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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