

RF Exposure Evaluation

FCC ID: 2AVAQ-BRAINUP

1. Client Information

Applicant	:	Beijing brainup technology co. LTD
Address	:	Room 505A, building B, dongsheng building, no.8 zhongguancun east road, haidian district, Beijing, China
Manufacturer	:	Edefa (gu 'an) electronic technology co. LTD
Address	:	Huaxia julong financial electronic industrial park, gu 'an county, langfang city, hebei province, China

2. General Description of EUT

EUT Name	:	KANG Smart Sleep	
Models No.	:	BrainUp20	
Model Difference	:	N/A	
Product Description	Operation Frequency:	Bluetooth 4.2: 2402~2480 MHz	
	RF Output Power:	Bluetooth:2.269 dBm(Max)	
	Antenna Gain:	3dBi FPC Antenna	
Power Supply	:	DC Voltage Supply from USB Interface. DC Voltage supplied by Li-ion battery.	
Power Rating	:	USB Input:5V 1A DC 3.7V by 300mAh Li-ion battery	
Software Version	:	espRFTool_2.0	
Hardware Version	:	2.0	
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:

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

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	1.294	1±1	2	1.585	0.491	3.0
2.442	2.269	2±1	3	1.995	0.624	3.0
2.480	1.795	2±1	3	1.995	0.628	3.0

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
0.628	3.0

The worst RF Exposure Evaluation is **0.628/cm² < limit 3.0**, So standalone SAR measurements are not required.

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