

# RF Exposure Evaluation

## FCC ID: 2AVAQ-BRAINUP

### 1. Client Information

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

### 2. General Description of EUT

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

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

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]\*[  $\sqrt{f_{\text{(GHz)}}}$  ]  $\leq 7.5.0$  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	Thres hold 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  $0.628/cm^2 < limit\ 3.0$ , So standalone SAR measurements are not required.

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