



RF Exposure Evaluation

FCC ID: 2BBPB-HK80

1. Client Information

Applicant	:	Shenzhen Hongbo Intelligent Electronics Co., Ltd.
Address	:	2 / F, No. 10-5, Minsheng 1st Road, Baoyuan Community, Shiyan Street, Baoan District, Shenzhen, China
Manufacturer	:	Shenzhen Hongbo Intelligent Electronics Co., Ltd.
Address	:	2 / F, No. 10-5, Minsheng 1st Road, Baoyuan Community, Shiyan Street, Baoan District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Smart Watch
Model(s) No.	:	HK80, HK81, HK83, HK75, HK84, HK79, HK57, HK66, HK68, HK72
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance color.
Product Description	Operation Frequency:	Bluetooth V5.3: 2402MHz~2480MHz
	Antenna Gain:	0.25dBi Wire Antenna
Power Supply	:	USB Input: DC 5V/1A DC 3.8V 300mAh 1.14Wh Rechargeable Li-ion battery
Software Version	:	V1.0
Hardware Version	:	V1.0S

Remark:

- (1) The antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
- (4) 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						
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	2.754	2±1	3	1.995	0.618	3.0
2.441	2.488	2±1	3	1.995	0.623	3.0
2.480	3.286	3±1	4	2.512	0.791	3.0
Bluetooth Mode (Pi/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	3.419	3±1	4	2.512	0.779	3.0
2.441	3.088	3±1	4	2.512	0.785	3.0
2.480	3.491	3±1	4	2.512	0.791	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	4.327	4±1	5	3.162	0.980	3.0
2.441	4.025	4±1	5	3.162	0.988	3.0
2.480	4.859	4±1	5	3.162	0.996	3.0

Test separation: 5mm						
Bluetooth LE 1M						
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	2.402	2±1	3	1.995	0.618	3.0
2.440	2.059	2±1	3	1.995	0.623	3.0
2.480	2.957	2±1	3	1.995	0.628	3.0

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.

-----END OF THE REPORT-----

