

RF Exposure Evaluation

FCC ID: 2AXJW-Q8

1. Client Information

Applicant	:	Shenzhen Kule Times Technology Co.,Ltd.
Address	:	6B1-3, Block AB, TianXiang Building, CheGongMiao, Futian District, ShenZhen City, Guangdong Province, China
Manufacturer	:	Huizhou Jintaiyang Technology Co.,Ltd.
Address	:	4F, Block B of Jiaying Company, No. 50 Community, Zhongkai High-tech Zone, Huizhou City, China

2. General Description of EUT

EUT Name	:	Smart watch
Model(s) No.	:	Q8, S9, S11, S60, S68, Q5, Q6, Q53, Q57, Q59, KT40, KT41, KT42, KT43, KT44, KT45, KT46, KT47, KT48, KT49, KT50, KT51, KT52, KT53, KT54, KT55, KT56, KT57, KT58, KT59, KT60
Model Different	:	All these models are in the same PCB, layout and electrical circuit, the only difference is appearance.
Product Description	Operation Frequency:	Bluetooth 4.0(BLE): 2402MHz~2480MHz
	RF Output Power:	Bluetooth: -0.827 dBm(Max) BLE: -2.453 dBm (Max)
	Antenna Gain:	-1.5 dBi FPC Antenna
	Modulation Type:	GFSK(1Mbps) $\pi/4$ -DQPSK(2 Mbps) 8-DPSK(3 Mbps) GFSK(BLE)
Power Rating	:	USB Input:DC 5V DC 3.7V 550mAh by Li-ion battery
Software Version	:	MT2502_AB024_DO05_B_1271_V0.0.1_2008281502
Hardware Version	:	AB024_V1.0-20200608
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.		

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 (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	-2.746	-2±1	-1	0.794	0.246	3.0
2.442	-2.453	-2±1	-1	0.794	0.247	3.0
2.480	-2.952	-3±1	-2	0.631	0.199	3.0

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	-0.827	0±1	1	1.259	0.390	3.0
2.441	-0.901	0±1	1	1.259	0.393	3.0
2.480	-1.550	-1±1	0	1.000	0.315	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	-1.704	-1±1	0	1.000	0.310	3.0
2.441	-1.664	-1±1	0	1.000	0.312	3.0
2.480	-2.209	-2±1	-1	0.794	0.250	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	-1.501	-1±1	0	1.000	0.310	3.0
2.441	-1.432	-1±1	0	1.000	0.312	3.0
2.480	-2.004	-2±1	-1	0.794	0.250	3.0

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
0.393	3.0

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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