

RF Exposure Evaluation

FCC ID: 2A84M-B3

1. Client Information

Applicant	:	SHENZHEN WOOPOINT TECHNOLOGY CO., LTD.
Address	:	Room 601-602, Tower A, Shenzhen Unicity, Renmin Road, Long hua District, Shenzhen, China
Manufacturer	:	SHENZHEN WOOPOINT TECHNOLOGY CO., LTD.
Address	:	Room 601-602, Tower A, Shenzhen Unicity, Renmin Road, Long hua District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Smartwatch	
Model(s) No.	:	B3, R13, R17, R20, R21, S7, S9, S11, S13, G3	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is that appearance.	
Product Description	:	Operation Frequency:	Bluetooth V5.2: 2402MHz~2480MHz Bluetooth 5.2(BLE): 2402MHz~2480MHz
	:	Number of Channel:	Bluetooth 5.2: 79 channels Bluetooth 5.2(BLE):40 channels
	:	Antenna Gain:	1dBi Wire Antenna
	:	Modulation Type:	GFSK, Pi/4-DQPSK, 8-DPSK Bluetooth LE:1Mbps&2Mbps
	:	Bit Rate of Transmitter:	1/2/3Mbps
Power Supply	:	Input: DC 5V, 130mA	
Li-ion Polymer Battery	:	3.7V by 300mAh Rechargeable Li-ion battery	
Software Version	:	42AE-T7970	
Hardware Version	:	T7970V1.0	
	:	T7970-B330FPCV1.0	
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:

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $\sqrt{f_{\text{GHz}}}$ ≤ 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						
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	5.904	6±1	7	5.012	1.554	3.0
2.441	5.577	6±1	7	5.012	1.566	3.0
2.480	4.673	5±1	6	3.981	1.254	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	6.275	6±1	7	5.012	1.554	3.0
2.441	5.871	6±1	7	5.012	1.566	3.0
2.480	4.901	5±1	6	3.981	1.254	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	6.77	7±1	8	6.310	1.956	3.0
2.441	6.332	6±1	7	5.012	1.566	3.0
2.480	5.499	5±1	6	3.981	1.254	3.0
Bluetooth LE 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	5.491	5±1	6	3.981	1.234	3.0
2.440	5.075	5±1	6	3.981	1.244	3.0
2.480	4.329	4±1	5	3.162	0.996	3.0
Bluetooth LE Mode(2Mbps)						
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	5.857	6±1	7	5.012	1.554	3.0
2.440	5.462	5±1	6	3.981	1.244	3.0
2.480	4.525	5±1	6	3.981	1.254	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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