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RF Exposure Evaluation

FCC ID: 2BH7H-SPARK

IC: 28587-SPARK

The calculations were performed according to following standard:

[RSS-102 Issue 6](#) — Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)

EUT Specification

Product Name:	Smart Watch
Trade Mark:	 东芯泰合（广州）科技有限公司
Model/Type reference:	Spark
Listed Model(s):	Spark-1, Spark-2, Spark-3
Model Different:	All these models are identical in the same PCB, layout and electrical circuit, The difference is shell color.
Operating Frequency band:	2402MHz~2480MHz
Device category:	☒ Portable (<5mm separation) ☐ Mobile (>20cm separation) ☐ Fixed (>20cm separation) ☐ Others ____
Antenna diversity:	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Antenna gain:	-4.51dBi
Evaluation applied:	☒ MPE Evaluation ☐ SAR Evaluation

FCC Limit

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{GHz}}}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR}$$

Where:

f_{GHz} is the RF channel transmit frequency in GHz

-Power and distance are rounded to the nearest mW and mm before calculation

-The result is rounded to one decimal place for comparison

-The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5



mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

IC Limit

According to RSS-102 Issue 6 section 6.3 as below:

Devices operating at or below the applicable output power levels (adjusted for tune-up tolerance) specified in table 11, based on the separation distance, are exempt from SAR evaluation. The separation distance, defined as the distance between the user and/or bystander and the antenna and/or radiating element of the device or the outer surface of the device, shall be less than or equal to 20 cm for these exemption limits to apply.

Table 11: Power limits for exemption from routine SAR evaluation based on the separation distance

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

FCC Measurement Result

Mode	Frequency (MHz)	Max. Measured Power (dBm)	Max. Tune up Power (dBm)	Result	Limit	Verdict
8-DPSK	2480	1.63	2.5	0.198	3.0	Pass

IC Measurement Result

Mode	Frequency (MHz)	Max. Measured Power E.I.R.P (dBm)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Calculation Value (mW)	Limit (mW)	Verdict
8-DPSK	2480	-2.88	1.63	2±0.5	2.5	1.78	3.0	Pass

Note:

For a more detailed features description, Please refer to the RF Test Report.

*****THE END*****