



CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel: +86-755- 27521059 Fax: +86-755- 27521011 Http://www.sz-ctc.org.cn

Maximum Permissible Exposure Evaluation

FCC ID: PADWF148

IC: 10563A-WF148

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

EUT Specification

Product Name:	TRACKR HR
Trade Mark:	/
Model/Type reference:	WF148
Listed Model(s):	/
Frequency band (Operating)	BLE: 2402MHz ~ 2480MHz ANT+: 2457MHz
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 (Max)	BLE: 1.86dBi ANT+: 1.64dBi

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:

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

Where:

- $f_{(\text{GHz})}$ 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.

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Measurement Result

Mode	Frequency (MHz)	Max. Measured Power (dBm)	Max. Tune up Power (dBm)	Result	Limit	Verdict
BLE	2402	1.64	2	1.58	3.0	Pass
ANT+	2457	1.92	2	1.58	3.0	Pass

ANT+ The highest test data with is: 97.08dBuV/m @3m

$$\text{EIRP} = 97.08 - 104.7 + 20\log^3 = 1.92\text{dBm}$$

Note:

1. Calculate in the worst-case mode.
2. Max. Tune Up Power is declared by manufacturer, and used to calculate.
3. For a more detailed features description, please refer to the RF Test Report.
4. BLE and ANT+ can't transmit simultaneously.

RF exposure evaluation Limits for IC

RSS-102 Issue 6 Section 6.3

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

Measurement Result

Mode	Frequency (MHz)	Max. Measured Power (dBm)	Max. Tune up Power (dBm)	Result E.I.R.P (mW)	Limit E.I.R.P (mW)	Verdict
BLE	2402	1.64	2	2.43	3.0	Pass

ANT+ The highest test data with is: 97.08dBuV/m @3m

$$\text{EIRP} = 97.08 - 104.7 + 20\log^3 = 1.92\text{dBm} = 1.56\text{mW} < 3\text{mW}$$

Note:

1. Calculate in the worst-case mode.
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4. BLE and ANT+ can't transmit simultaneously.

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

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