RF EXPOSURE EVALUATION

EUT Specification

EUT	Aries 1
Model Number	iReel
FCC ID	2BBRK-IREEL
Antenna gain (Max)	-1.73dBi
Operation Frequency	2402-2480MHz
Input Rating	DC 5V from adapter and battery 3.7V
Classification Per Stipulated Test Standard	§15.247(i), §2.1093
Modulation	GFSK
Max. output power	-0.4dBm(0.0009W)

Test Requirement:

According to §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[24] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[25]
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 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 5) in section 4.1 is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by §2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to quality for TCB approval.

One antenna is available for the EUT. The minimum separation distance is 5mm.

BLE :

Transmit Frequency (MHz)	Mode	Measured Power (dBm)	Tune up Power (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
2402	GFSK	-0.61	-1±1	0	0.309968	3
2440	GFSK	-0.46	0±1	1	0.393301	3
2480	GFSK	-0.4	0±1	1	0.396512	3

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

Signature:

Tiger Xu
Date: June 13, 2023