

RF Exposure Evaluation Report

Product : Ion Pro RT
Trade mark : **BONTRAGER**
Model/Type reference : 552373
Serial Number : N/A
Report Number : EED32M00014302
FCC ID : 2AHXD-552373
Date of Issue : Apr. 13, 2020
47 CFR Part 1.1307
Test Standards : 47 CFR Part 2.1093
KDB 447498 D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

Trek Bicycle Corporation
801 West Madison Street, Waterloo WI 53594

Prepared by:

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Apr. 13, 2020

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2 Version

Version No.	Date	Description
00	Apr. 13, 2020	Original

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4 General Information

4.1 Client Information

Applicant:	Trek Bicycle Corporation
Address of Applicant:	801 West Madison Street, Waterloo WI 53594
Manufacturer:	Trek Bicycle Corporation
Address of Manufacturer:	801 West Madison Street, Waterloo WI 53594
Factory:	EISO ENTERPRISE CO., LTD.
Address of Factory:	NO.2, JHONGHUA LANE, SHANYING RD., GUEISHAN DIST., TAOYUAN CITY 333, TAIWAN

4.2 General Description of EUT

Product Name:	Ion Pro RT
Model No.(EUT):	552373
Trade mark:	BONTRAGER
EUT Supports Radios application:	BT 4.0 single mode, 2402-2480MHz
Modulation Type:	GFSK
Antenna Type:	Integral Antenna
Antenna Gain:	-1.52 dBi
Power Supply:	Rechargeable Li-ion Battery Pack 21700 3.63V 4900mAh 17.787Wh DC 5V and AC 120V/60Hz
Test Voltage:	AC 120V, 60Hz
Test Power Grade:	N/A(manufacturer declare)
Test Software of EUT:	nRFgo Studio.exe(manufacturer declare)
Conducted Peak Output Power:	-1.893 dBm The Conducted Peak Output Power data refer to the report EED32K00141201
Sample Received Date:	Jan. 16, 2020
Sample tested Date:	Jan. 16, 2020 to Mar. 29, 2020
The tested samples and the sample information are provided by the client. This test report (Ref. No.:EED32M00014302) is only valid with the original test report (Ref. No.: EED32K00141202). Review this report and original report, this report only replaces the battery	

4.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v05

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ 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 calculation¹⁷

The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

The Max Conducted Peak Output Power is -1.893dBm in highest channel(2.402GHz);

The best case gain of the antenna is -1.52dBi.

$\text{EIRP} = -1.893\text{dBm} + (-1.52\text{dBi}) = -3.413\text{dBm}$

-3.413dBm logarithmic terms convert to numeric result is nearly 0.46mW

According to the formula. calculate the EIRP test result:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

General RF Exposure = $(0.46\text{mW} / 5 \text{ mm}) \times \sqrt{2.402\text{GHz}} = 0.14$ ①

SAR requirement:

$S = 3.0$

② ;

① < ②.

So the SAR report is not required.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00014301 for EUT external and internal photos.

***** End of Report *****

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.