

FCC RF Exposure Exemption report

for

GPS enabled cycling computer

Model No.: Rider 460

FCC ID: YDM-CA2205

of

Applicant: Bryton Inc.

Address: 3F-1., No.79-1, Zhouzi St., Neihu Dist., Taipei City 114, Taiwan

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

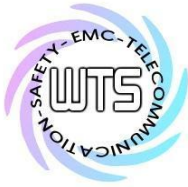
FCC Registration No.: TW1477, TW1072

Industry Canada filed test laboratory Reg. No.: 20037, 5107A



Report No.: W6M22305-22653-EE

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
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Registration number: W6M22305-22653-EE
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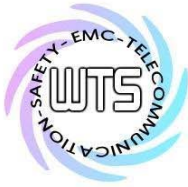
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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

Laboratory disclaimer-

1. The test results of this test report relate exclusively to the item tested as specified in 1.5.
2. The test report may only be reproduced or published in full.
3. Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.
4. Antenna gain is provided by applicant and laboratory issue relevant data and results.

Tester:

August 25, 2023

Sora Kuo

Sora

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

August 25, 2023

Kevin Wang

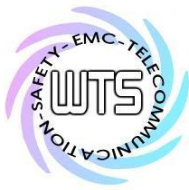
Kevin Wang

Date

WTS

Name

Signature



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1.2 Testing laboratory

1.2.1 Location

10m OATS

No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,
New Taipei City 207, Taiwan (R.O.C.)

3 meter semi-anechoic chamber

No.35, Aly. 21, Ln. 228, Ankang Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
Tel: 886-2-6613-0228

Worldwide Testing Services (Taiwan) Co., Ltd.

6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
Tel: 886-2-6606-8877

1.2.2 Details of accreditation status

Accredited testing laboratory

FCC filed test laboratory Reg. No.: TW1477, TW1072

Industry Canada filed test laboratory Reg. No.: 20037, 5107A

Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :

Name: ./.

Accredited no.: ./.

Street: ./.

Town: ./.

Country: ./.

1.3 Application details

Approval holder

Name: Bryton Inc.

Street: 3F-1., No.79-1, Zhouzi St., Neihu Dist.,

Town: Taipei City 114,

Country: Taiwan



Worldwide Testing Services(Taiwan) Co., Ltd.

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Manufacturer: (if applicable)

1.

Name: Pan-international Precision Electronic Co.,Ltd
Street: Xinlian Indl. Area , Hu-men ,
Town: Dongguan ,Guangdong ,
Country: China

2.

Name: Q.S.C INDUSTRY CO.LTD
Street: 5F., No. 193-2, Zhongxing N. St., Sanchong Dist.,
Town: New Taipei City
Country: Taiwan

Date of receipt of test item: May 11, 2023

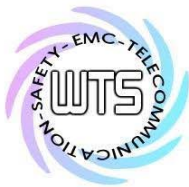
Date of test: from May 12, 2023 to July 27, 2023

1.4 General information of Test item

Type of test item: GPS enabled cycling computer
Model no.: Rider 460
Multi-listing model no.: ./.
Brand name: Bryton
Power supply: Battery 3.7Vd.c., 500mAh, 1.85Wh
USB 5Vd.c.
Type of antenna: PCB antenna
Antenna gain: 0 dBi
Technical data:

Mode	Channel	Conducted Power (dBm)
BLE 1M	Ch 0 : 2402 MHz	-1.88
	Ch 19 : 2440 MHz	-2.20
	Ch 39 : 2480 MHz	-2.23

Mode	Channel	Conducted Power (dBm)
BLE 2M	Ch 0 : 2402 MHz	-1.81
	Ch 19 : 2440 MHz	-2.23
	Ch 39 : 2480 MHz	-2.19



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Operation modes: Duplex

Modulation type: GFSK

Sample no.: #02

Special statement: ./.

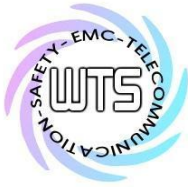
Classification:

Fixed Device	☐
Mobile Device (Human Body distance > 20cm)	☐
Portable Device (Human Body distance < 20cm)	☒

1.5 Duty cycle and factor

The duty factor is computed as $[10 \log (1 / D)]$, where D is the duty cycle.

Mode	T _{on} (ms)	T _{on} +T _{off} (ms)	Duty cycle (%)	1/T - VBW (kHz)
BLE 1M	0.404	0.625	64.64%	2.48
BLE 2M	0.224	0.633	35.39%	4.46



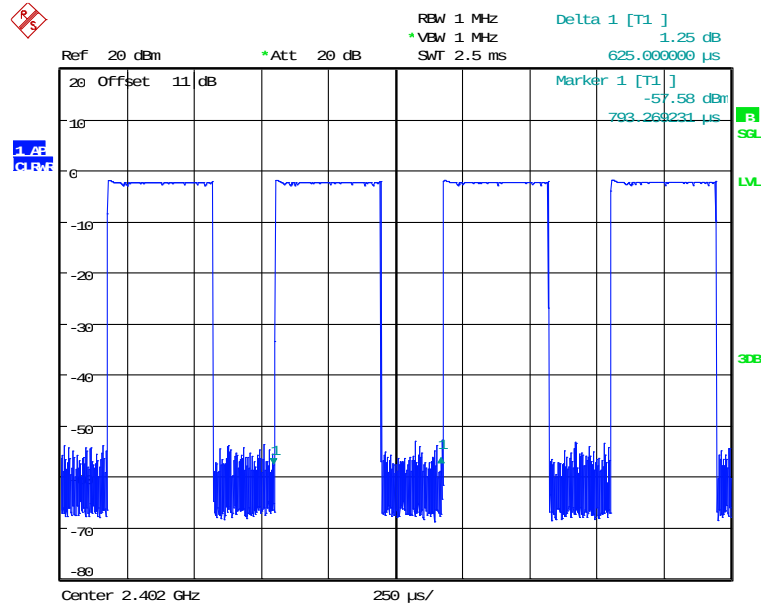
Registration number: W6M22305-22653-EE

FCC ID: YDM-CA2205

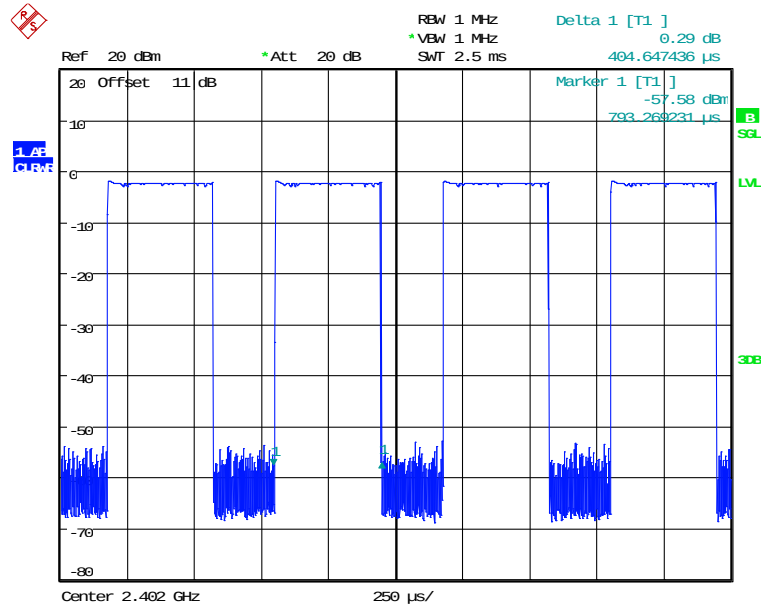
Duty cycle plot

BLE

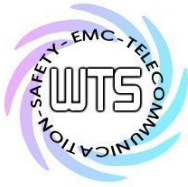
1M



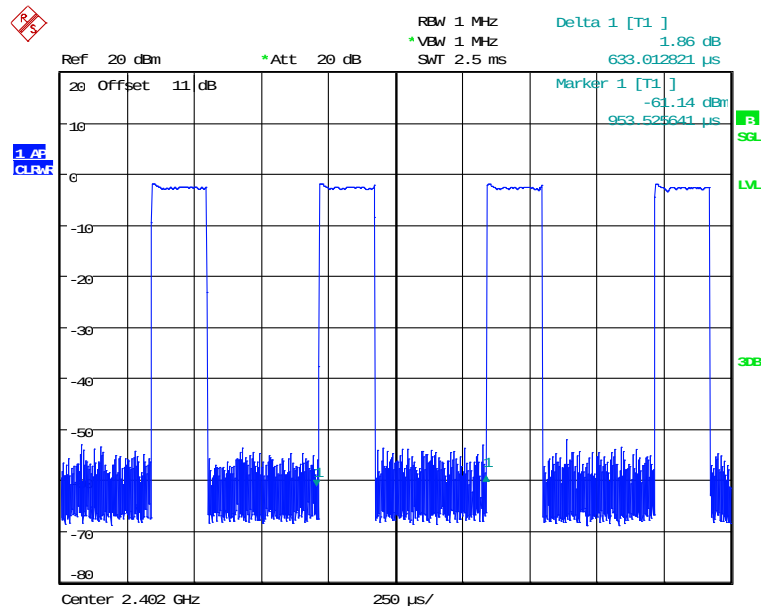
DUTY BLE 1M
Date: 15.MAY.2023 16:18:50



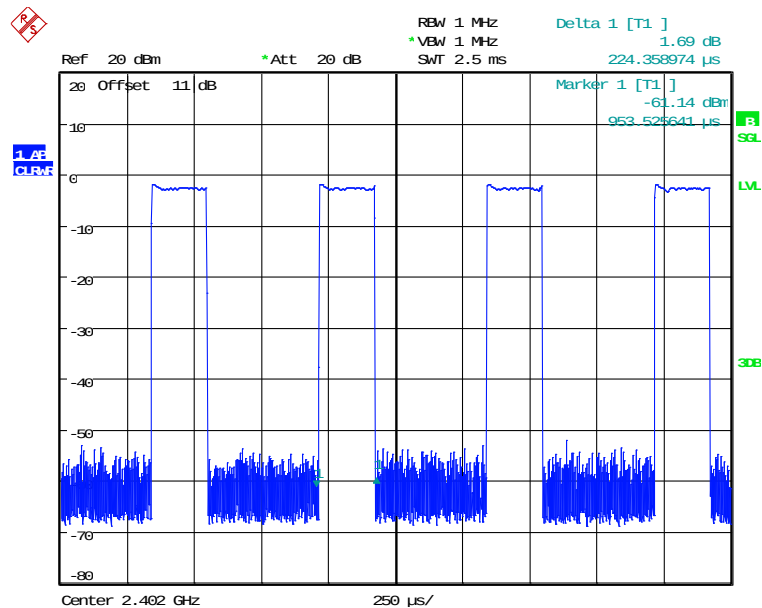
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Registration number: W6M22305-22653-EE
FCC ID: YDM-CA2205
2M



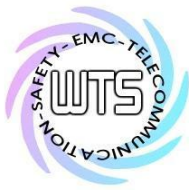
DUTY BLE 2M
Date: 15.MAY.2023 16:11:49



DUTY BLE 2M
Date: 15.MAY.2023 16:12:03

1.6 Test standards

47 CFR FCC Part 2.1093
447498 D04 Interim General RF Exposure Guidance v01



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2 Test configuration

2.1 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Extreme conditions parameters: ./.

2.2 Measurement uncertainty

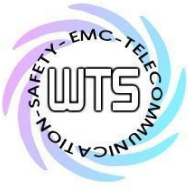
Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty : 1.48 dB

The decision rule is: Measurement uncertainty is not included in the calculation of test results.

2.3 Test Equipment List

RF Conducted

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2023/7/28	2024/7/27
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2023/3/22	2024/3/21
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2023/3/22	2024/3/21
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2023/2/17	2024/2/16
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	T-0A023536	T-Power	Function test	
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2023/2/17	2024/2/16
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2022/10/3	2023/10/2
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2022/9/2	2023/9/1
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2023/4/27	2024/4/26
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9) (S_Cable 9)	279067	HUBER+SUHNER	2023/02/17	2024/2/16
ETSTW-Cable 045	Microwave Cable	SUCOFLEX 104	325536	HUBER+SUHNER	2022/10/21	2023/10/20
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2023/5/26	2024/5/25
WTSTW-SW 008	Signal studio	Agilent	None	AUDIX	Version 2.0.0.1	



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3 Exemption calculation

1-mW Test Exemption

The maximum power is -1.81 dBm (0.6592 mW)

$$0.6592\text{mW} \leq 1\text{mW}$$

The device is qualify for simultaneous transmission SAR exemption.