

RF Exposure Evaluation Report

Product : BRU Maker One
Trade mark : BRU
Model/Type reference : BRU100
Serial Number : N/A
Report Number : EED32O80686002
FCC ID : 2A7IV-BRU100
Date of Issue : Jun. 09, 2022
: 47 CFR Part 1.1307
Test Standards : 47 CFR Part 2.1093
: KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

BRU AG

Buckhauserstrasse 34, 8048 Zürich, Switzerland

Prepared by:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District,

Shenzhen, Guangdong, China

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Compiled by:

mark.chen

Reviewed by:

Tom Chen

Mark Chen

Tom Chen

Approved by:

Aaron Ma

Date:

Jun. 09, 2022

Aaron Ma

Check No.:9818170522



2 Version

Version No.	Date	Description
00	Jun. 09, 2022	Original

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4 General Information

4.1 Client Information

Applicant:	BRU AG
Address of Applicant:	Buckhauserstrasse 34, 8048 Zürich, Switzerland
Manufacturer:	BRU AG
Address of Manufacturer:	Buckhauserstrasse 34, 8048 Zürich, Switzerland
Factory:	Shenzhen Chileaf Electronics Co., Ltd
Address of Factory:	4F, building 5#A, Skyworth science and technology industrial park phase ii, No. 1 tang tou road, Bao'an district, ShenZhen

4.2 General Description of EUT

Product Name:	BRU Maker One
Model No.:	BRU100
Trade mark:	BRU

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz to 2480MHz
Modulation Type:	GFSK
Test Power Grade:	Default
Antenna Type	PCB Antenna
Antenna Gain	-2 dBi
Power Supply:	AC 120V
Max Conducted Peak Output Power:	-3.65dBm The Max Conducted Peak Output Power data refer to the report EED32O80686001.
Sample Received Date:	May 18, 2022
Sample tested Date:	May 18, 2022 to May 22, 2022
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.	

4.4 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 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

1) For BLE

Measurement Data:

1M:

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-5.58	-5±1	-4	0.398
Middle(2440MHz)	-4.15	-4±1	-3	0.501
Highest(2480MHz)	-3.67	-3±1	-2	0.631

2M:

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-5.47	-5±1	-4	0.398
Middle(2440MHz)	-4.1	-4±1	-3	0.501
Highest(2480MHz)	-3.65	-3±1	-2	0.631

BLE:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
39	2480	0.432	0.631	20	0.0001	1

Note: Refer to report No. EED32O80686001.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32O80686001 for EUT external and internal photos.

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.

*** End of Report ***