RF EXPOSURE EVALUATION REPORT

FCC ID	:	**2A7ZY-M811-TX**
Equipment	:	**Minder 811**
Brand Name	:	**Two-Commas**
Model Name	:	**M811**
Applicant	:	**Two Commas llc** **2576 Barona Street, West Sacramento CA 95691**
Manufacturer	:	**Two Commas llc** **2576 Barona Street, West Sacramento CA 95691**
Standard	:	**47 CFR Part 1.1307** **47 CFR Part 2.1091**

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 1.1307 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.

Cona Huang

Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FA220714005	Rev. 01	Initial issue of report	Aug. 12, 2022

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Minder 811
Brand Name	Two-Commas
Model Name	M811
FCC ID	2A7ZY-M811-TX
Wireless Technology and Frequency Range	Bluetooth: 2402 MHz ~ 2480 MHz
Mode	Bluetooth LE

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Reviewed by: Jason Wang

Report Producer: Paula Chen

2. Maximum RF average output power among production units

Mode	Maximum Output Power (dBm)
Bluetooth LE	4

3. Determination of exemption

Per 1.1307(b)(3), (i) For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by:

$$\text{Pth (mW)} = \text{ERP}_{20cm}\,(d / 20)^{x} \quad \text{for distance } d \le 20cm$$

$$\text{Pth (mW)} = \text{ERP}_{20cm} \quad \text{for distance } 20cm < d \le 40cm$$

$$x = -log10\left(\frac{60}{ERP_{20cm}\sqrt{f}}\right)$$

$$\text{ERP}_{20cm}\text{(mW)} \quad \begin{matrix} 0.3\ GHz \le f < 1.5\ GHz: & 2040\ f \\ 1.5\ GHz \le f \le 6\ GHz: & 3060 \end{matrix}$$

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.

4. RF Exposure Evaluation

4.1. Standalone assessment

General Note:

1. Pi means the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm.
2. Pth means the exemption threshold power (Pth), according to the § 1.1307(b)(3)(i)(B) formula for fixed, mobile, or portable RF source i.
3. In this report, Part1.1307(b)(3)(i)(B) is used to perfrom RF Exposure evaluation.
4. The distance of 20cm is for this device.

Band	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Maximum EIRP (dBm)	Maximum ERP (dBm)	Maximum EIRP (mW)	Maximum ERP (mW)	Pi (dBm)	Pi (mW)	Part1.1307 option(b) Threshold (mW)
Bluetooth	0.00	4.00	4.0	1.85	2.51	1.53	4.00	2.51	3060.000

Conclusion:

According to 47 CFR §1.1307, the RF exposure analysis concludes that the RF Exposure is FCC compliant.