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COMMERCIAL-IN-CONFIDENCE

SAR EXCLUSION DOCUMENT

Document 75954061-09 Issue 01

2400 MHz Transmitter:

FCC General RF Exposure Test Exemption Guidance (KDB 447498 D04 v01 Appendix B)

SAR or MPE based evaluation is not required if any of the applicable Steps 1, 2 or 3 are met (Ref: KDB 447448 Figure A.1).

Step 1: All Devices: Blanket 1 mW Exemption (100 kHz – 100 GHz)

Reference: FCC CFR 47 Part 1.1307(b)(3)(i)(A).

Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	Antenna Gain Ratio	Maximum Power (EIRP) mW	Maximum Power (ERP) mW	Test Separation Distance (mm)	All devices: 1.1307(b)(3)(i)(A) Blanket 1 mW Exemption (Yes/No)* (100 kHz to 100 GHz)
2402	3.2	32	1.024	1.5849	1.6229376	0.99	10	No
2480	3.2	32	1.024	1.5849	1.6229376	0.99	10	No

*Based on conducted power output or ERP whichever is greater, compared to the 1 mW exemption threshold.

Step 2: All devices: MPE Exemption (300 kHz to 100 GHz)

Reference: FCC CFR 47 Part 1.1307(b)(3)(i)(C).

Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	Antenna Gain Ratio	Maximum Power (EIRP) mW	Maximum Power (ERP) mW	Test Separation Distance (mm)	Threshold ERP at separation distance R (mW)	All devices: 1.1307(b)(3)(i)(C) MPE Exemption (Yes/No)** (300 kHz to 100 GHz)
2402	3.2	32	1.024	1.5849	1.6229376	0.99	10	1.92	No (See Note)
2480	3.2	32	1.024	1.5849	1.6229376	0.99	10	1.92	No (See Note)

Note: Minimum distance ($\lambda/2\pi$) calculated as 19.8 mm which is greater than test separation distance therefore exclusion cannot be applied.

**Based on ERP compared to the KDB 447498 Table B.1 Threshold ERP calculated for the separation distance R.

Approved by

Matt Russell

Authorised Signatory

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Step 3: All Devices: (if Step 1 & 2 not met): SAR Exemption (300 MHz to 6 GHz, 0.5 cm to 40 cm)

Reference: FCC CFR 47 Part 1.1307(b)(3)(i)(B).

Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	Antenna Gain Ratio	Maximum Power (EIRP) mW	Maximum Power (ERP) mW	Test Separation Distance (mm)	Threshold Pth (mW)	All devices: 1.1307(b)(3)(i)(B) SAR Exemption (Yes/No)* (300 MHz to 6 GHz, 0.5 cm to 40 cm)
2405	3.2	32	1.024	1.5849	1.6229376	0.99	10	5.6	Yes
2480	3.2	32	1.024	1.5849	1.6229376	0.99	10	5.6	Yes

*Based on conducted power output or ERP whichever is greater, compared to the Pth KDB 447498 B.2 formula;.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

The SAR and MPE exclusion thresholds have been evaluated using the formula described above from information supplied by the manufacturer below. Based on the calculations above, the product is categorically excluded from SAR or MPE evaluation.



Manufacturer's Declaration of Product information:

Equipment Description

Technical Description: <i>(Please provide a brief description of the intended use of the equipment)</i>	Heart Rate and Motion Monitor for Horses with BLE communication for transmitting data to a SmartPhone.
Manufacturer:	Ruxbury ApS
Model:	EM1
Part Number:	RX-0101

If more than one frequency band is supported, please confirm which combinations of bands are capable of Simultaneous Transmit.	
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Frequency Band 1: Please detail (one entry for each band), e.g GSM 900 / WCDMA FDD I etc .

Antenna Model:	Built-in F-antenna	
Antenna length:	0,2	cm
Bottom frequency:	2402	MHz
Middle frequency:	2440	MHz
Top frequency:	2480	MHz

Maximum power (input to the antenna including a tolerance):	5	dBm
Antenna gain (or maximum gain allowed):	2	dBi

Or

Field Strength Measurement:		dBμA/M
Measurement Distance:		cm

Separation distance from antenna to the user/bystander	1	cm
Transmitter Duty Cycle:	32	%