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Project: C5667

Report number: 14221TR1 Customer Details

Company name	Reactec Ltd
Address	Vantage Point
	3 Cultins Road
	Edinburgh
	EH11 4DF
Tel:	44 (0)131 221 0930
Contact	Mr P Gillespie
Email	PeterGillespie@reactec.com
Customer Representative(s) present during testing	Testing was not witnessed

Date received:	7th December 2020
EUT name:	HAVwear Docking Station (no GPRS)
Type/Part no:	DST-E001
FCC ID	2AYGFHVWDST001

1574

Reference: 14221TR1

MPE Calculation for Reactec Technologies Ltd

Mobile devices are defined by the FCC as transmitters designed to be used in other than fixed locations and generally to be used in such a way that a separation distance of 20cm is normally maintained between radiating structures and the body of the user or nearby persons. These devices are normally evaluated for exposure potential with relation to the MPE limit. As the 20cm separation may not be achievable under normal operating conditions, an RF exposure calculation is used to demonstrate the minimum distance required to be less than the power density limit, as required under FCC rules.

FCC rule part:47CFR2.1091(3)

Power density (S) relates to Equivalent Isotropic Radiated power (EIRP) according to the following:

$$S = \frac{EIRP}{4\pi R}$$

Where,
R is the distance to the centre of radiation of the antenna (cm)

Rearranging,

$$R = \sqrt{\frac{EIRP}{S4\pi}}$$

Using the measured value of EIRP (derived from electric field strength, and using the limit for S, it is possible to determine the value R i.e. distance from the EUT, where the limit is met.

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MPE Calculation for Reactec Technologies Ltd

The distance R is calculated as:

Frequency (MHz)	Maximum field strength (dBμV/m) (Note 1)	Maximum ERP (dBm)	Maximum EIRP (mW)	Power density limit (S) (mW/cm²) 47CFR1.1310 Table 1 (Notes 2 and 3)	Distance (R) required to be less than 4.89 (mW/cm²)
13.56	62.5	-34.9	0.0003	4.89	0.02mm

Note 1:
3m measurement distance.

Note 2:
Limits for General Population / Uncontrolled Exposure.

Note 3:
The limit is defined in Table 1 of 47CFR1.1310(e)(1) as:

Between 1.34MHz and 30MHz as $180/f^2 = 180/(13.56^2) = 4.89 mW/cm^2$

Conclusion
The product met the 20cm distance requirement.