# RF EXPOSURE ANALYSIS

# **EQUIPMENT**

Type of equipment: Wireless sensor

Brand name: SCA

Type / Model: VRU

Manufacturer: SCA Hygiene products AB

By request of: SCA Hygiene products AB

Operating frequency: 2405 MHz

# REQUIREMENT

CFR 47 §1.1310 RSS-102 issue 5 (2014)

#### **CALCULATIONS FOR MOBILE USE**

Highest output power to antenna is 4.2 dBm With +3 dBi antenna gain EIRP is 7.2 dBm or 5.25 mW

A test separation distance of 20 cm is used.

A worst case calculation for mobile condition is as follows:

$$S = \frac{EIRP}{4 \times \pi \times r^2}$$

Maximum power density is  $S = 0.00525W / (4 x \pi x (0.2m)^2) = 0.01 W/m^2 = 0.1 mW/cm^2$ 

# LIMITS & EVALUATIONS FOR PORTABLE USE:

Standard	Reference for limit	Limit	Unit	Values	Result
CFR 47 §1.1310	KDB 447498 D01 <sup>1</sup>	3	N/A	0.81	PASS
RSS-102 issue 5 (2014)	RSS-102 issue 5 (2014) <sup>2</sup>	7.24	mW	5.25	PASS

<sup>&</sup>lt;sup>2</sup>1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by: [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]  $\cdot [\sqrt{f(GHz)}] \le 3$ . Test separation distance is taken as 10 mm and maximum power is 5.25 mW.

# Summary:

All requirements are fulfilled. The device is exempted from rf-exposure evaluation.

Date of issue: 2015-07-16

Issued by: Matti Virkki

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<sup>&</sup>lt;sup>3</sup>SAR test exclusion threshold based on linear interpolation of values in Table 1 at separation distance of 10 mm.