

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

$$S = 0.00525W / (4 \times \pi \times (0.2m)^2) = 0.01 W/m^2 = 0.1 mW/cm^2$$

LIMITS & EVALUATIONS FOR PORTABLE USE:

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

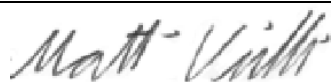
²1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by: $[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f}(\text{GHz})] \leq 3$. Test separation distance is taken as 10 mm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

³SAR test exclusion threshold based on linear interpolation of values in Table 1 at separation distance of 10 mm.

Summary:

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

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