



## **MPE/RF EXPOSURE REPORT**

**FCC CFR 47 Part 1.1310**

**Report No.: SATE01-U2A Rev A MPE FCC**

**Company:** SATEL OY

**Model Name:** SATEL-TR49 SnapOn

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**Model Name:** SATEL-TR49 SnapOn

**To:** FCC CFR 47 Part 1.1310

**Report Serial No.:** SATE01-U2A Rev A MPE FCC

This report supersedes: NONE

Applicant: SATEL OY  
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### **This Test Report is Issued Under the Authority of:**

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## 1. MAXIMUM PERMISSABLE EXPOSURE

### Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d (\text{mW/cm}^2) = \text{EIRP} / (4 * \pi * d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10 ^ (G (\text{dBi}) / 10)$$

These calculations represent worst case in terms of the exposure levels: Table 1 of **FCC §1.1310** (E)(i) Limits for Occupational/Controlled Exposure.

| Freq. Band (MHz) | Ant Gain (dBi) | Numeric Gain (numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Calculated Power Density (mW/cm <sup>2</sup> ) @ 20cm | Power Density Limit (mW/cm <sup>2</sup> ) | Min Calculated safe distance for Limit (cm) | Calculated Power Density (mW/cm <sup>2</sup> ) @ Safe Distance |
|------------------|----------------|------------------------|-------------------------|------------------------|---|---|---|--|
| 410.0 - 470.0    | 4.0            | 2.51                   | 29.97                   | 993.12                 | 0.496   | 1.367                                     | 12.05                                       | 1.367  |
| 410.0 - 470.0    | 14.0           | 25.12                  | 29.97                   | 993.12                 | 4.963   | 1.367                                     | 38.11                                       | 1.367  |
| 902.0 - 928.0    | 6.0            | 3.98                   | 29.10                   | 812.83                 | 0.644   | 3.05                                      | 9.19  | 3.05   |

Note: for mobile or fixed location transmitters the minimum separation distance is 0.20m, even if calculations indicate the MPE distance to be less.

Based on the calculations above the minimum safe distance for the 14 dBi antenna gain is 39 cm.

### Specification

#### Maximum Permissible Exposure Limits

**FCC §1.1310 Limits for power density 300-1,500 MHz = f/300**

(where f = frequency in MHz. \* = Plane-wave equivalent power density)

410 MHz to 470 MHz: 1.367 mW/cm<sup>2</sup> and 902 MHz to 930 MHz 3.05 mW/cm<sup>2</sup>



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