

## FCC MPE calculation Report

Product name : SCRS-REC  
Applicant : Siemens Industry Software Netherlands B.V.  
FCC ID : 2AF88-SCRSREC1

Test report No. : 200400935 014 MPE calculation report v1.00

## Laboratory information

### Accreditation

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### Documentation

The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 10 years at Telefication Netherlands.

### Testing Location

<b>Test Site</b>	Kiwa Telefication BV
<b>Test Site location</b>	Wilmersdorf 50 7327 AC Apeldoorn The Netherlands  Tel. +31 88998 3393
<b>Test Site FCC</b>	NL0001
<b>CABID</b>	NL0001

**Revision History**

Version	Date	Remarks	By
v1.00	07-06-2022	Release version	RvB

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## 1 General Description

### 1.1 Applicant

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**Contact name:** Mr. T. Schrijer

### 1.2 Manufacturer

**Manufacturer name:** Siemens Industry Software Netherlands B.V.  
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**E-mail:** Tom.schrijer@siemens.com  
**Contact name:** Mr. T. Schrijer

### 1.3 Tested Equipment Under Test (EUT)

**Product name:** SCRS-REC  
**Brand name:** Siemens  
**Product Description** Simcenter SCADAS Rugged Series  
**FCC ID:** 2AF88-SCRSREC1  
**Model number:** SCRS-REC "see chapter 1.4"  
**Software version:** --  
**Hardware version:** --

### 1.4 Observations and remarks

The EUT is part of the SCADAS RS system. This systems consists of 5 different units (see table below).

Model info:

Type:	Description	Family name	Trademark
OEM	SCRS-UPS	SCRS	Simcenter
OEM	SCRS-REC	SCRS	Simcenter
OEM	SCRS-B24-120	SCRS	Simcenter
OEM	SCRS-B24-350	SCRS	Simcenter
OEM	SCRS-S24	SCRS	Simcenter
OEM	SCRS-U12	SCRS	Simcenter

## 1.5 SAR Measurement Evaluation

### 1.5.1 Maximum Output Power

The maximum radiated power including antenna gain is shown as below.

Technology	Output power (dBm)
WLAN 2.4 GHz	*18.3
WLAN 5 GHz	*15.4

\* from Telefication report 200400935 008

### 1.5.2 MPE Limits

Limits for occupational/controlled exposure

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
0.3 – 3.0	614	1.63	100 (see note 1)	≤6
3.0 – 30	1842/f	4.89/f	900/f <sup>2</sup> (see note 1)	≤6
30 – 300	61.4	0.163	1.0	≤6
300 – 1500	--	--	f/300	≤6
1500 – 100000	--	--	5	≤6

Limits for general population/uncontrolled exposure

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
0.3 – 1.34	614	1.63	100 (see note 1)	≤30
1.34 – 30	824/f	2.19/f	180/f <sup>2</sup> (see note 1)	≤30
30 – 300	27.5	0.073	0.2	≤30
300 – 1500	--	--	f/1500	≤30
1500 – 100000	--	--	1.0	≤30

Notes :

f = frequency in MHz

1: plane wave equivalent power density

### 1.5.3 MPE calculation

As declared by the Applicant, the EUT is a wireless device used in a fixed application, at least 20 cm from any body part of the user or nearby persons.

Calculation method of RF Safety Distance:

$$PD = \frac{P_{out} * G}{4\pi r^2} = \frac{P(eirp)}{4\pi r^2}$$

Where:

PD = Power Density in  $mW/cm^2$

Pout = Output power in mW

G = Gain of antenna

R = Distance between observation point and centre of the radiator in cm

#### Calculation results

Technology	Frequency (MHz)	Max radiated power (mW)	Distance (cm)	Power density ( $mW/cm^2$ )	Limit ( $mW/cm^2$ )
WLAN 2.4 GHz	2402 – 2483.5	67.6	20	0.013	1
WLAN 5 GHz	5150 - 5350	34.67	20	0.0069	1
WLAN 5 GHz	5470 - 5725	25.11	20	0.049	1
WLAN 5 GHz	5725 – 5875	18.2	20	0.0036	1

### 1.6 Summary

Since MPE calculation shows all modes are below the MPE limits no SAR testing is required.