


<b>Prüfbericht-Nr.:</b> <i>Test report no.:</i>	<b>60500395-002</b>	<b>Auftrags-Nr.:</b> <i>Order no.:</i>	23870517 030	Seite 1 von 6 <i>Page 1 of 6</i>
<b>Kunden-Referenz-Nr.:</b> <i>Client reference no.:</i>	-	<b>Auftragsdatum:</b> <i>Order date:</i>	2021.03.10	
<b>Auftraggeber:</b> <i>Client:</i>	Schneider Electric			
<b>Prüfgegenstand:</b> <i>Test item:</i>	SpaceLogic Insight-Sensor			
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type no.:</i>	FCC ID: DVE-IS1			
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	RF Exposure Evaluation			
<b>Prüfgrundlage:</b> <i>Test specification:</i>	FCC 47 CFR 2.1091 IEEE Std. C95.1:2005			
<b>Wareneingangsdatum:</b> <i>Date of sample receipt:</i>	2021.03.10			
<b>Prüfmuster-Nr.:</b> <i>Test sample no.:</i>	N/A			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	N/A – N/A			
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	Lund, Sweden			
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland Sweden			
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Siehe Sonstiges / See Other			
<b>überprüft von:</b> <i>reviewed by:</i>		<b>genehmigt von:</b> <i>authorized by:</i>		
<b>Datum: 2022.02.16</b> <i>Date:</i>	Signed by: Sam Ebadeh	<b>Datum: 2022.02.16</b> <i>Date:</i>	Signed by: Hakan Ahlberg	
<b>Stellung / Position:</b>	Technical Expert	<b>Stellung / Position:</b>	Lab Manager	
<b>Sonstiges / Other:</b>				
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend N/T = nicht getestet
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts.</i></p>				

v05

## Revision History 60500395-002 60500395-002

Revision	Date	Remarks	Author
001	2022.01.19	First release	Sam Ebadeh
002	2022.02.08	Removed Zigbee as technology + updated antenna gain value and other values.	Sam Ebadeh
Note: Latest revision report will replace all previous reports			
This report based on RF Exposure FCC 47CFR 2-1091 IEEE C95 Template version 1.1			

## Statement of Compliance

Evaluation was performed based on FCC 47 CFR 2.1091 and IEEE C95.1:2005, together with the “General Population / Uncontrolled” requirements set out in FCC 47 CFR 1.1310 Table 1 (B)

The calculations below show that the SpaceLogic Insight-Sensor is compliant with these requirements at a distance of 20cm for all supported wireless transmitter technologies

## Table of Contents

1. GENERAL INFORMATION .....	3
1.1 Test Site .....	3
1.2 Client Information .....	3
2. PRODUCT INFORMATION .....	4
2.1 General Description .....	4
2.2 Device Usage and Evaluation Distance .....	4
2.3 Wireless Technologies and Bands Supported by the EUT .....	4
2.4 Simultaneous Transmission Configurations .....	4
2.5 Conducted Power and Antenna Gain .....	4
3. TEST METHODS .....	5
3.1 Test Standards .....	5
3.2 Additional references .....	5
3.3 Limits .....	5
4. EVALUATION DETAILS .....	6
4.1 Power Density (S) at 20cm Distance for Each Band and Technology .....	6

## 1. GENERAL INFORMATION

### 1.1 Test Site

Test Facility:	TÜV Rheinland Sweden AB
Address:	Mobilvägen 10
	223 62 Lund
	Sweden
Swedac Registration Number:	10325
FCC Test Firm Registration Number:	517458
ISED Test Site Registration Number:	24753

### 1.2 Client Information

Company Name:	Schneider Electric
Address:	Mobilvägen 10
	223 62 Lund
	Sweden
Contact Person:	Fredrik Göth
Contact e-Mail / Telephone	<a href="mailto:Fredrik.Goth@se.com">Fredrik.Goth@se.com</a> / +46 104 78 25 91

## 2. PRODUCT INFORMATION

### 2.1 General Description

<b>Model name:</b>	SpaceLogic Insight sensor
<b>Manufacturer:</b>	Schneider Electric
<b>Model number / Marketing name:</b>	RP-C-EXT-IS-BLE
<b>FCC ID:</b>	DVE-IS1
<b>Description:</b>	Ceiling sensor for controlling HVAC, light and blind applications
<b>Ancillary Equipment:</b>	N/A

### 2.2 Device Usage and Evaluation Distance

Device is placed on the ceiling for controlling HVAC, light and blind applications. An evaluation distance of 20cm has been selected

### 2.3 Wireless Technologies and Bands Supported by the EUT

Technology	Band	Frequency Range (Tx)	Evaluation Performed
Bluetooth LE	2.4 GHz	2402 MHz – 2480 MHz	YES

### 2.4 Simultaneous Transmission Configurations

No simultaneous transmission configurations are supported by the device.

### 2.5 Conducted Power and Antenna Gain

Technology	Band	Max. Conducted Output Power (dBm)	Max. Time-Averaged Output Power (dBm)*	Antenna Gain (dBi)
Bluetooth LE	2.4 GHz	2.85	2.85	2.64

### 3. TEST METHODS

#### 3.1 Test Standards

Testing was performed according to the following standards / references

Standard	Version	Description
47 CFR 2.1091	-	Radiofrequency radiation exposure evaluation: mobile devices.

#### 3.2 Additional references

Standard	Version	Description
IEEE Std. C95.1	2005	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz

#### 3.3 Limits

Extract from 47 CFR § 1.1310 - Radiofrequency radiation exposure limits

Table 1B  
Limits for Maximum Permissible Exposure (MPE)  
(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	30
1.34 - 30	824/f	2-19/f	*180/f <sup>2</sup>	30
30 - 300	27.5	0.073	0.2	30
300 - 1500	-	-	f/1500	30
1500 - 10000	-	-	1.0	30

Notes:

1.  $f$  = frequency in MHz
2. \* = Plane-wave equivalent power density

## 4. EVALUATION DETAILS

### 4.1 Power Density (S) at 20cm Distance for Each Band and Technology

The Power Density at 20cm separation distance has been calculated for each of the transmitter technologies supported by the device according to a re-arrangement of the Friis formula, as below:

$$S = \frac{P * G}{4\pi * r^2}$$

Where:

- “S” is power density in mW/cm<sup>2</sup>
- “P” is maximum avg. conducted power (incl. tolerances) in mW according to data from the manufacturer
- “G” is the peak antenna gain (numerical) according to data from the manufacturer
- “r” is the separation distance (20 cm)

Technology	Band	Freq* (MHz)	Power (dBm)	P (mW)	Gain (dBi)	G (Num.)	r (cm)	S (mW/cm <sup>2</sup> )	Limit ** (mW/cm <sup>2</sup> )
Bluetooth LE	2.4 GHz	2402	2.85	1.93	2.64	1.84	20	0.00070	1.0

\*The lowest frequency in each band has been chosen, to give the most conservative limit

\*\*The limits listed are from FCC 47 CFR §1.1310 Table 1 (B): “Limits for General Population/Uncontrolled”

From 300MHz to 1500MHz, the limit is  $f/1500$  mW/cm<sup>2</sup> where “f” is the frequency in MHz

From 1500MHz to 100000MHz, the limit is 1.0 mW/cm<sup>2</sup>