

# RF Exposure and Maximum ERP/EIRP Assessment

For

## VEGAPULS AIR42

FCC ID: O6QAIR4142

IC: 3892A-AIR4142

**Assessment Reference:** MDE\_VEGA\_1905\_MPE\_06

### **Test Laboratory:**

7layers GmbH  
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Germany

#### **Note:**

The following test results relate only to the devices specified in this document. This report shall not be reproduced in parts without the written approval of the test laboratory.

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## 1. Administrative Data

### Laboratory

Company Name: 7layers GmbH  
Address Borsigstr. 11  
40880 Ratingen  
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### Project Data

Responsible for assessment and report: Mr. Abdellah Ahakki  
Date of Report: 2021-11-22

### Applicant Data

Company Name: VEGA Grieshaber KG  
Address: Am Hohenstein 113  
77761 Schiltach  
Germany  
Contact Person: Mr. Patrick Friedmann

### Manufacturer Data

Company Name: please see applicant data  
Address:  
Contact Person:

## 2. Test object Data

### General EUT Description

|                                       |                                                                                                                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kind of Device<br>product description | The EUT is an autarkic radar sensor with radio technology for continuous level measurement on vessels and tanks.<br>The device is suitable for almost all liquids as well as for bulk solids |
| Product name                          | VEGAPULS                                                                                                                                                                                     |
| Type                                  | VEGAPULS Air 42                                                                                                                                                                              |

The main components of the EUT are listed and described in chapter 3.2 EUT Main components.

### EUT Main components

| Sample Name      | Sample Code   | Description |
|------------------|---------------|-------------|
| EUT A            | DE1373008ab01 |             |
| Sample Parameter | Value         |             |
| Serial No.       | 50363996      |             |
| HW Version       | 1.3.0         |             |
| SW Version       | 1.0.0         |             |
| Comment          | -             |             |

### 3. Evaluation Results

RF According to the RSS-102, issue 5 Standard and to FCC §15.247(b)(4) and §1.1307(b)(1), systems operation under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

#### MPE Prediction

| Frequency range (MHz) | Power density (mW/cm <sup>2</sup> ) |
|-----------------------|-------------------------------------|
| 400 – 1500            | f/1500                              |
| 1500 - 100000         | 1 mW/cm <sup>2</sup>                |

Equation for calculation

$$S = P * G / (4\pi R^2)$$

Where: S – Power density  
P – Power input to antenna  
G – Antenna gain relative to isotropic radiator  
R – Distance to antenna

Maximum peak output power at antenna terminal: 26.3 dBm

Antenna gain: 0 dBi

Prediction distance: 20 cm

MPE limit for General Population/Uncontrolled Exposure: 1 mW/cm<sup>2</sup>

#### Calculation's results:

Power density at 20cm distance: **0.0489 mW/cm<sup>2</sup>**

Abdellah Ahakki

