

## FCC RF Exposure Report

Product name : Water quality detection system  
Applicant : Neways Technologies  
FCC ID (1) : 2AO8D-SENSOR  
FCC ID (2) : 2AO8D-IOT

Test report No. : 170600688 FCC RF exposure Ver 1.00

## Laboratory information

### Accreditation

Telefication complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2005. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

Telefication is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Designation number is: NL0001.

Telefication is a Wireless Device Testing laboratory recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements. The Industry Canada registration number for the 3 meter test chamber of Telefication is: 4173A-1.

### 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

|                    |                                                                                                       |
|--------------------|-------------------------------------------------------------------------------------------------------|
| Test Site          | Telefication BV                                                                                       |
| Test Site location | Edisonstraat 12a<br>6902 PK Zevenaar<br>The Netherlands<br><br>Tel. +31316583180<br>Fax. +31316583189 |
| Test Site FCC      | NL0001                                                                                                |

## Revision History

| Version | Date       | Remarks         | By |
|---------|------------|-----------------|----|
| v1.00   | 31-07-2019 | Release version | PS |
|         |            |                 |    |

## Table of Contents

|                                             |   |
|---------------------------------------------|---|
| Revision History .....                      | 2 |
| 1 General Description .....                 | 4 |
| 1.1 Applicant .....                         | 4 |
| 1.2 Manufacturer .....                      | 4 |
| 1.3 Tested Equipment Under Test (EUT) ..... | 4 |
| 1.4 MPE Calculation Method .....            | 5 |
| 1.5 System description .....                | 5 |
| 1.6 MPE calculation result .....            | 5 |

## 1 General Description

### 1.1 Applicant

|               |                                                                                                  |
|---------------|--------------------------------------------------------------------------------------------------|
| Client name:  | Neways Technologies                                                                              |
| Address       | Voltaweg 10                                                                                      |
| Zip code:     | 6101XK, Echt, the Netehrlands                                                                    |
| Telephone:    | +31(0) 646287548                                                                                 |
| E-mail:       | <a href="mailto:Tim.van.der.loo@newayselectronics.com">Tim.van.der.loo@newayselectronics.com</a> |
| Contact name: | Mr. Tim van der Loo                                                                              |

### 1.2 Manufacturer

|                    |                                   |
|--------------------|-----------------------------------|
| Manufacturer name: | BekoSense                         |
| Address:           | Hoofdstraat 100                   |
| Zip code:          | 4265HA, Genderen, the Netherlands |
| Telephone:         | +31 90) 653272390                 |
| E-mail:            | BekoSense                         |
| Contact name:      | Mr. Tim van der Loo               |

### 1.3 Tested Equipment Under Test (EUT)

|                   |                                |
|-------------------|--------------------------------|
| Product name:     | Water quality detection system |
| Brand name:       | H2O-ALERT                      |
| FCC ID (1):       | 2AO8D-SENSOR                   |
| FCC ID (2):       | 2AO8D-IOT                      |
| Model(s):         | 1003300; 1003310               |
| Software version: | 1.4.0                          |
| Hardware version: | 1.4.1                          |

## 1.4 MPE Calculation Method

Calculation method of RF Safety Distance:

$$PD = 10 * \frac{P_{out} * G}{4\pi r^2}$$

Where:

PD = Power Density in  $W/m^2$

Pout = Output power in mW

G = Gain of antenna

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

## 1.5 System description

The system has one or more sensors and a gateway.

The sensor ,FCC ID (1), measures every minute the temperature and the conductivity of the water. If these values are within the alarm trigger range, an data transfer over the air by use of LORA will happen in the first available timeslot. The gateway, FCC ID (2), receives this data and will transmit it over GPRS to a webserver which triggers the alarm and inform the end user.

## 1.6 MPE calculation result

| Technology  | Frequency (MHz) | Power (mW eirp) FCC ID (1) | Power (mW eirp) FCC ID (2) | Distance (cm) | Max power density ( $mW/cm^2$ ) | Limit ( $mW/cm^2$ ) |
|-------------|-----------------|----------------------------|----------------------------|---------------|---------------------------------|---------------------|
| Proprietary | 915             | 30.9                       | 18.2                       | 20            | 0.47                            | 0.6                 |