

## 1 EU - Type Examination Certificate

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **ExVeritas 21ATEX0947X** Issue: 0

4 Equipment: gPIMS® Ex Wifi Field Control Unit – Autonomous Data Upload for Oil & Gas Applications

5 Manufacturer: Guided Ultrasonics Ltd.

6 Address: Wavemaker House, 3 Brentwaters Business Park, The Ham, Brentford, TW8 8HQ  
United Kingdom

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:


**EN IEC 60079-0: 2018**

**EN 60079-11:2012**

10 If the sign “X” is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance with the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:

 II 1 G Ex ia IIB T4 Ga

T<sub>amb</sub> -40 °C to +70 °C

On behalf of ExVeritas

A circular logo with the ExVeritas 'V' symbol and the text 'ExVeritas OFFICIAL SIGNATORY' around it.

Peter Lauritzen  
Managing Director

## Schedule

### 13 Description of Equipment or Protective System

The gPIMS® Ex Wifi Field Control Unit (GP-FCU-WIFI-EX-CM) samples data from Guided Ultrasonics Ltd.'s (GUL) permanently mounted gPIMS® Sensors that provide both thickness and large area monitoring data. It is an intrinsically safe equipment designed for autonomous data upload for oil and gas applications for use in Zone 0 explosive gas environment. The equipment external enclosure is made of stainless steel. It has an internal battery pack powered design fitted with Lithium cells. There are two external ports, one for the passive external antenna and the other to connect the external gPIMS® sensor. It comes with stainless steel mounting bracket that allows the equipment to be attached to a wall or a pole.

The intrinsically safe outputs are accessed via the 55-way connector. They are designed to be connected to certified gPIMS® sensor only. The entity connection parameters for the sensor port are listed below:

Signal pins combined w.r.t GND

$U_o = 7.8 \text{ V}$ ,  $I_o = 472 \text{ mA}$ ,  $P_o = 0.92 \text{ W}$ ,  $C_o = 67.3 \text{ }\mu\text{F}$ ,  $L_o = 0.638 \text{ mH}$

Logic pins combined w.r.t GND

$U_o = 5.88 \text{ V}$ ,  $I_o = 140 \text{ mA}$ ,  $P_o = 0.206 \text{ W}$ ,  $C_o = 937.3 \text{ }\mu\text{F}$ ,  $L_o = 7.25 \text{ mH}$

$U_m$  for RS485 = 5.9 V (Not to be connected in hazardous area)

### 14 Descriptive Documents

#### 14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3441/A/1	2022-05-30	0	Initial issue of the Prime Certificate

#### 14.2 Compliance Drawings:

Title:	Drawing No.:	Rev. Level:	Date:
Sampling module type C adapter board	SM-TYPEC-ADAPTOR_SCH	V1.1	2018-07-19
GUL Samling module Type C Adaptor PCB - Readme	SM-TYPEC-ADAPTOR_V1.0	V1.2	2018-10-03
Guided Ultrasonics gPIMS Core Board PCBA Bill of Materials	GE-0008-01	3.6	2021-08-17
Guided Ultrasonics gPIMS Core Board Schematics	GE-0006-01	3.6	2021-08-17
Guided Ultrasonics gPIMS Core Board Gerber Prints	GE-0007-01	3.5	2020-09-23
MTS TOP LABEL PLATE - 4AX CELLS (Sheet 1 of 2)	GP-0994-00	14	2022-05-05
MTS TOP LABEL PLATE - 4D CELLS (Sheet 2 of 2)	GP-0994-00	14	2022-05-05
MTS FCU TOP PLATE (EX CERTIFICATION LABEL)	GP-0999-00	04	2022-04-29

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Title:	Drawing No.:	Rev. Level:	Date:
BOM Upper Battery PCB R2	GE-0025-09	R2	2021-04
GE-0025 Upper Battery Gerber Prints	GE-0025 Upper Battery	R2	2021-05
Upper Battery Board Schematics	GE-0025-01	2	2021-05-04
BOM Lower Battery PCB	GE-0026-10 Lower Battery PCB R3	R3	2021-07
GE-0026 Lower Battery Gerber Prints	GE-0026 Lower Battery	R3	2021-07
Lower Battery Board Schematics	GE-0026-01	R3	2021-07-21
BOM EWPWRC	GE-0027-11 EWPWRC R2	R2	2021-09
EWPWRC GERBER PRINTS	GE-0027 EWPWRC GERBER PRINTS	R2	2021-09
EWPWRC PCB Schematics	GE-0027-01	2	2021-09
RF ISOLATOR R1 BOM	GE-0029-11 RF ISOLATOR R1 BOM	R1	2021-09
GE-0029 RF Isolator Gerber Prints	GE-0029 RF Isolator	R1	2021-09
RF ISOLATOR PCB Schematics	GE-0029-01 RF ISOLATOR PCB	1	2021-09
GUL Mux Board PCBA Bill of Materials	GE-0011-03	3.7	2020-10-07
GUL Mux Board Gerber Prints	GE-0010-01	3.6	2020-08-11
GUL Mux Board Schematics	GE-0009-01	3.6	2020-08-11
GUL Wireless Board PCBA Bill of Materials	GE-0017-01	1.2	2022-01-25
GUL Wireless Board Gerber Prints	GE-0016-06	1.2	2021-05-04
GUL Wireless Board Schematics	GE-0015-02	1.2	2022-01-25
User Instructions	UI-FCU-WIFI-EX-CM	1	2022-05-16
GP-FCU-WIFI-EX Assembly Drawing	GP-0980-00	04	2022-03-02
Potting Box Assembly	GP-0981-00	06	2022-03-21
FCU BATTERY LOCATOR SUB ASSEMBLY	GP-0985-00	05	2022-03-21
BATTERY MODULE ASSEMBLY 'BATM-EX-4D'	GP-0986-00 (Sheets 1-2 of 4)	11	2022-05-17
BATTERY MODULE ASSEMBLY 'BATM-EX-4AX'	GP-0986-00 (Sheets 3-4 of 4)	11	2022-05-17
WIFI-EX INTERFACE PLATE ASSEMBLY	GP-0987-00	06	2022-03-21

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### 15 Conditions of Certification

#### 15.1 Special Conditions for Safe Use

1. Only use passive antenna with the equipment that has a gain of less than 14.9 dBm such that the overall RF power transmission remains less than 3.5 W.
2. For battery module type with replaceable cells (BATM-EX-4D), use only new SAFT LS33600 as replacement cells, and all cells must be replaced at the same time. However, the cells shall only be accessed in non-hazardous areas.
3. The equipment hazardous area sensor connection may only be connected to a suitable gPIMS® Sensor specified in IECEx certificate reference IECEx BAS 14.0031X. The end installation shall consider the suitability of the choice of sensor along with its cable connection, for which the connection parameters would require to be matched.
4. Under certain extreme circumstances, the non-metallic parts incorporated on the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.

#### 15.2 Conditions for Use (Routine tests)

- None

### 16 Essential Health and Safety Requirements

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform the Notified Body of any modifications to the design of the product described by this schedule.

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