


# Approved Body Type Examination Certificate

Manufacturer company name: VEGA Grieshaber KG  
Manufacturer address: Am Hohenstein 113, 77761 Schiltach, Germany  
Description of the radio equipment: Radar sensors for continuous level measurement of liquids  
Trade name/brand name: VEGA  
Model/type indication: VEGAPULS C 11; VEGAPULS C 21  
VEGAPULS C 22; VEGAPULS C 23  
Software version: 1.2.0 (for C21, C22, C23 SDI-12)  
1.2.1 (for all other variants)  
Hardware version: 1.4.0 (C11)  
1.4.0 (C21, C22, C23 HART-Ex ia)  
1.3.0 (C21, C22, C23 HART-Ex mb)  
1.1.0 (C21, C22, C23 Modbus)  
1.1.0 (C21, C22, C23 SDI-12)  
Frequency bands of operation: Bluetooth LE  
FMCW Radar sensor  
TD reference: VEGAPULS C series  
ACB project number: ATCB027897  
Certificate number: ATCB027897

ACB, Inc. is designated as an Approved Body under the  
U.S.-UK Mutual Recognition Agreement (Telecommunications Equipment & EMC Annexes)

**ACB, Inc.**  
**Approved Body Number 1588**  
6731 Whittier Avenue, Suite C110  
McLean, VA 22101, USA

In the opinion of ACB, Inc., the examination of the technical documentation as drawn up by the manufacturer demonstrates that the essential requirements of Regulation 6 (1)(a), Regulation 6 (1)(b) and Regulation 6 (2) of the Radio Equipment Regulations 2017 (S.I. No. 1206) have been met. The conformity assessment on the radio equipment listed above and as described in Annex 1 to this type examination certificate has been carried out in accordance with Schedule 3, Module B, of the Radio Equipment Regulations 2017 (S.I. No. 1206). This type examination certificate relates only to the documents as provided to ACB, Inc. A list of documentation forming the basis for the type examination is provided in Annex 2 to this type examination certificate.

  
Approved Body: Kerwin Chen

18 February 2022, issue 2  
Date



The radio equipment as described and documented in the technical documentation as drawn up by the manufacturer is a Radar sensor for level measurement.

It supports FMCW Radar technology in the 80 GHz band.

It supports Bluetooth Wireless PAN technology in the 2.4 GHz band with BLE.

### Details of operation:

Description of service:	Bluetooth Low Energy (BLE)
Transmit frequency:	2402 MHz to 2480 MHz
Receive frequency:	2402 MHz to 2480 MHz
Modulation:	GFSK
Transmit power:	2.2 dBm, e.i.r.p.

Description of service:	FMCW
Transmit frequency:	78 GHz to 82 GHz
Receive frequency:	78 GHz to 82 GHz
Modulation:	FMCW
Transmit power:	27.46 dBm, maximum peak power

**Annex 2 to type examination certificate for the Radio Equipment Regulations 2017 (S.I. No. 1206)**

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**1 Test report:**

**Report number:**

**Dated:**

EMC	5-1_PULS C21H_F1_1	14 February 2019
EMC	5-1_PULS C21H1_F1_1	10 July 2019
EMC	5-1_PULS C21-MB_F1_1	26 March 2019
EMC	5-1_PULS C21-SDI-12_F1_1	18 June 2019
EMC	5-2_BAR19-3LB_MC_Anz_F1_1	15 July 2019
EMC	5-2_PULS C21-MB_F1_1	12 April 2019
EMC	5-2_PULS C21-SDI-12_F1_1	26 June 2019
EMC	5-2_PULS C21H_F1_1	15 February 2019
EMC	4-1_PULS C21H_F1_1	19 February 2019
EMC	4-1_PULS C21H_F1_2	19 February 2019
EMC	4-2_PULS C21H_F1_1	22 February 2019
EMC	4-3_PULS C21H_F1_2	13 February 2019
EMC	4-3_PULS C21H_F2_1	08 October 2019
EMC	4-4_PULS C21H_F1_2	08 March 2019
EMC	4-4_PULS C21H_F2_1	09 October 2019
EMC	4-5_PULS C21H_F1_1	19 February 2019
EMC	4-6_PULS C21_F2_2	15 February 2019
EMC	4-8_PULS C21H_F1_1	16 April 2019
EMC	MDE_VEGA_1902_EMC02_REV01	19 January 2022
Radio	MDE_VEGA_1902_RADIO_01_REV02	12 August 2021
Radio	MDE_VEGA_1902_RADIO_03_REV01	18 May 2020
Radio	MDE_VEGA_1902_RADIO_05_REV01	18 May 2020
RF safety	MDE_VEGA_1902_MPE_01	04 February 2022
Product safety	20TH0161-62368-1_0	10 February 2020
Product safety	2-01_PULS C21H_F1_1	12 April 2019
Product safety	2-02_PULS C21H_F1_1	11 April 2019
Product safety	2-03_PULS C21H_F1_1	15 April 2019
Product safety	2-04_PULS C21H_F1_1	12 April 2019
Product safety	2-06_PULS C21H_F1_1	15 April 2019

**2 Technical documentation provided:**

Antenna details  
External photographs  
Operational description  
Risk assessment  
User manual

Block diagram  
Internal photographs  
Parts list/bill of materials  
Test reports  
Declaration of conformity

Circuit diagram/schematics  
Label drawing/location  
PCB layout  
Test setup photographs



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**3 Standards used to demonstrate conformity with the essential requirements of the Radio Equipment Regulations 2017 (S.I. No. 1206):**

Radio spectrum (Regulation 6 (2)):	EN 300 328 V2.2.2 EN 302 372 V2.1.1	EN 302 729 V2.1.1
EMC (Regulation 6 (1)(b)):	EN 301 489-1 V2.1.1 EN 301 489-33 V2.1.1 EN 61326-1: 2013	EN 301 489-17 V3.1.1 EN 61326-2-3: 2013
RF safety (Regulation 6 (1)(a)):	EN 62311: 2008	
Product safety (Regulation 6 (1)(a)):	EN 62368-1: 2014 + AC: 2015 + A11: 2017 EN 61010-1: 2010	

**4 Additional information:**

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 11: Manufacturers shall keep the technical documentation and the declaration of conformity for 10 years after the radio equipment has been placed on the market.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 12 (1): Manufacturers shall ensure that radio equipment which they have placed on the market bears a type, batch or serial number or other element allowing its identification, or, where the size or nature of the radio equipment does not allow it, that the required information is provided on the packaging, or in a document accompanying the radio equipment.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 12 (2)-(5): Manufacturers shall indicate on the radio equipment their name, registered trade name or registered trade mark and the postal address at which they can be contacted or, where the size or nature of radio equipment does not allow it, on its packaging, or in a document accompanying the radio equipment. The address shall indicate a single point at which the manufacturer can be contacted. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 13 (1): Manufacturers shall ensure that the radio equipment is accompanied by instructions and safety information in a language which can be easily understood by consumers and other end-users, as determined by the UK. Instructions shall include the information required to use radio equipment in accordance with its intended use. Such information shall include, where applicable, a description of accessories and components, including software, which allow the radio equipment to operate as intended. Such instructions and safety information, as well as any labelling, shall be clear, understandable and intelligible.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 13 (2): The following information shall also be included in the case of radio equipment intentionally emitting radio waves:

- (a) frequency band(s) in which the radio equipment operates;
- (b) maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates.



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Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 13 (3): Manufacturers shall ensure that each item of radio equipment is accompanied by a copy of the declaration of conformity or by a simplified declaration of conformity drawn up in accordance with regulation 43 (simplified declaration of conformity). Where a simplified declaration of conformity is provided, it shall contain the exact internet address where the full text of the declaration of conformity can be obtained.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 14: In cases of restrictions on putting into service or of requirements for authorization of use, information available on the packaging shall allow the identification of the geographical area within the UK where restrictions on putting into service or requirements for authorization of use exist. Such information shall be completed in the instructions accompanying the radio equipment.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 44 (1)-(2): The UK marking shall be affixed visibly, legibly and indelibly to the radio equipment or to its data plate, unless that is not possible or not warranted on account of the nature of radio equipment. The UK marking shall also be affixed visibly and legibly to the packaging.

Radio Equipment Regulations 2017 (S.I. No. 1206), Regulation 44 (3): On account of the nature of radio equipment, the height of the UK marking affixed to radio equipment may be lower than 5 mm, provided that it remains visible and legible.

Radio Equipment Regulations 2017 (S.I. No. 1206), Schedule 7 (2): The manufacturer shall inform the approved body that holds the technical documentation relating to the type examination certificate of all modifications to the approved type that may affect the conformity of the radio equipment with the essential requirements of the Radio Equipment Regulations 2017 (S.I. No. 1206) or the conditions for validity of that certificate. Such modifications shall require additional approval in the form of an addition to the original type examination certificate.

Non-designated standards were used to demonstrate conformity with parts of the essential requirements in Regulation 6 (1)(a), Regulation 6 (1)(b) and Regulation 6(2).

In accordance with Approved Body guidance; if there are no changes, an Approved Body type examination certificate has a validity of 10 years from the date of issue.

**5 Contact information:**

For contact with ACB or questions regarding this type examination certificate:

Web: [www.acbcert.com](http://www.acbcert.com)

<http://acbcert.com/contact>

Tel.: (+1) 703 847 4700

