1 # EU TYPE EXAMINATION CERTIFICATE

2 # Radio Equipment Directive 2014/53/EU – Annex III

3 EU Type Examination Certificate No.: **ENW19RED1035 V1**

4 Equipment: **Wireless Expander Module, Model: ARF-WL8-EXP**

5 Manufacturer: **ASI Oy Ltd**

6 Address: **Laitaatsillantie 3, Savonlinna, 57170, Finland**

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

8 Element Materials Technology Portland-Evergreen, Inc. (hereafter referred to as Element Materials Technology) Notified Body number 0981 in accordance with Article 26 of the Council Directive 2014/53/EU of 16 April 2014, certifies that this equipment has been found to comply with the Essential Requirements relating to the design and construction of radio equipment given in the following Articles of the Directive:

3.2 – Radio spectrum.

The manufacturer is responsible for additional assessment to all other applicable articles.

The examination and test results are recorded in the confidential report: **TRA-045579-45-08C**

9 Compliance with the Essential Requirements, with the exception of those listed in section 19 of the schedule to this certificate, has been assured by compliance with:

EN 300 220-1 V3.1.1

EN 300 220-2 V3.2.1

10 This EU-Type Examination certificate relates only to the design and construction of the specified equipment in accordance with Directive 2014/53/EU. Further requirements of this Directive apply to the manufacture and supply of this equipment. These are not covered by this certificate.

11 This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the rules of the Element Materials Technology Radio Certification Scheme and remains valid for only so long as the equipment conforms to the type described herein.

12 Any deviation to the design and construction of the specified equipment that is not certified by Element Materials Technology shall render this certificate invalid.

Philip Thompson

Digitally signed by Philip Thompson
DN: cn=Philip Thompson, o=Element Materials Technology, ou=Connected Technologies, email=philip.thompson@element.com, c=US
Date: 2025.03.14 10:43:35 Z

P. Thompson, Senior Certification Engineer
Signed for and on behalf of Element
Issue date:2025-03-14

6775 NE Evergreen Parkway, Suite 400, Hillsboro, OR 97124, United States of America
Element Materials Technology Portland-Evergreen Inc.

13 **SCHEDULE TO EU TYPE EXAMINATION CERTIFICATE**

14 **ENW19RED1035 V1**

15 **General description of equipment or protective system included within the scope of this certificate**

ARF-WL8-EXP is an expander module which is used for repeating signals and building a wireless network. The expander receives signals from nearby detectors and sends them to the translator module, which then informs the main control panel about the system events. The signal can also travel through a number of expanders.

16 **Technical description**

Frequency bands:	866 MHz – 869.85 MHz
Transmit power:	16.0 mW ERP
Channel spacing:	600 kHz
Duty cycle:	< 1 %
Type of modulation:	GFSK BT=0.5, 100kb/s, deviation 50 kHz
Type of antenna and gain:	2x Embedded Whip λ/4 Antennas, Declared Gain: 3 dBi
Firmware version:	12 & 15

17 **Technical Documents describing the certified equipment**

The list of technical documents is given in Appendix A to this schedule.

18 **Test report No. (associated with this certificate issue): TRA-045579-45-08C**

19 **Essential Requirements (Directive Article 3)**

Covered by application of the standards listed in section 9 of this certificate and the assessment conducted in the test report/s listed in section 8 of this certificate.

20 **"Restrictions on Use", if any:**

None.

21 **"Routine tests", if any:**

None.

22 **Other information, if any:**

The final firmware version is 16. No testing was performed on this version.

The spurious response rejection test was performed on version 15, while all other tests were performed on version 12. The full firmware history and the modification details are listed below.

RF-MCU version 16

- If the amplitude and phase adjusted and stored in the external ROM after EOL they are loaded into the transceivers.
- In RSSI devices added a sign of which modem was the reception of the packet.
- When WEx has changed route his detectors takes 5 minutes to search for a new route (previously there were 2 minutes).

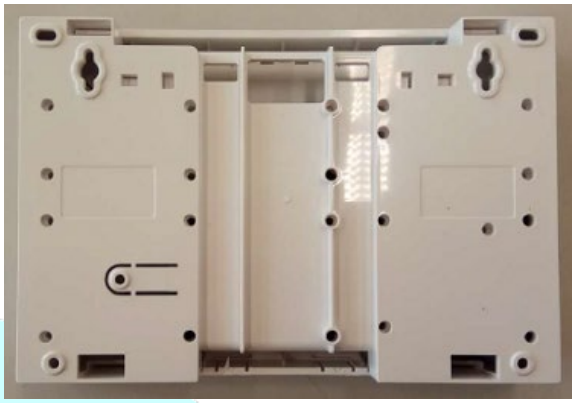
RF-MCU version 15

- Improved Image Rejection calibration algorithm (Errata SX1232)
- Changed the PLL registers for Image rejection. Made them different for TX and RX.
- The table of frequencies is located in the program memory at the following address: (Russian 0x200, Europe 0x300).

RF-MCU version 12

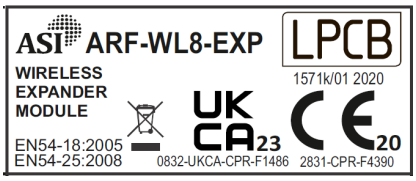
- Version sent to BRE approvals

23 **Photographs**



24 Details of markings

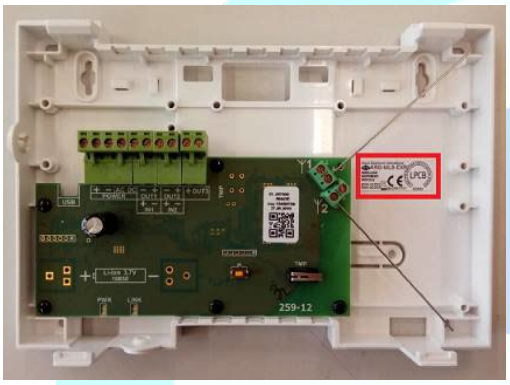
Product Labels:



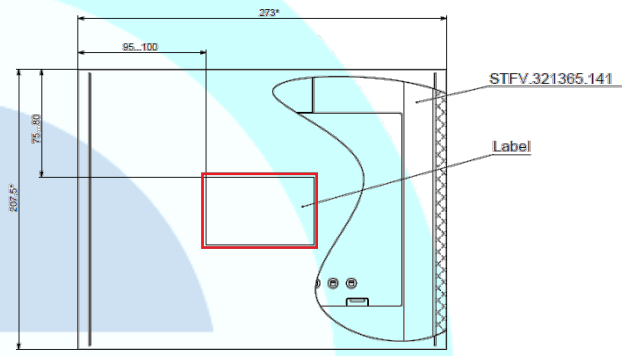
Packaging Labels: Individual

Packaging Labels: Group

Product Label Location



Packaging Label Location



25 Details of variations to this certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

- Original – ASIQ-0009, 2019-12-19.
- Variation V1 - Model number reference prefix to change from ARG to ARF reference. Ownership to be transferred from Argus Spectrum International to ASI Oy Ltd with immediate effect. Address to change from Argus Spectrum International, Serdobolskaya Sreet 65A, St Petersburg, 197342, Russian Federation to ASI Oy Ltd, Laitaatsillantie 3, Savonlinna, 57170, Finland.

26 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

27 Notes to this certificate

Element Materials Technology certification reference: TRA-065843-01 Li 21 (GS-ASIQ-0019).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body 0981 is the designation for Element Materials Technology, Portland-Evergreen Inc..

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations.

28 Conditions for the validity of this certificate

This certificate remains valid for 18 months after the date of issue so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the technical documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Requirements relating to the design and construction of radio equipment given in the Articles of the Directive listed in section 8 of this certificate and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

SCHEDULE TO EU TYPE EXAMINATION CERTIFICATE

ENW19RED1035 V1

APPENDIX A - LIST OF TECHNICAL DOCUMENTS

Title:	**Document/file name:**	**Rev. Level:**	**Issue date:**
Technical file	RED TDF attestation_documentation summary_ARF-WL8-EXP - 14403	3	2025-01-31