

EU-type examination (Module B) certificate

No: 192140127/AA/01

In compliance with the procedure specified in RD_061, Telefication declares as designated Notified Body 0560 for the European Radio Equipment Directive, that the stated product, complies with the essential requirements, in accordance with Article 3 of Directive 2014/53/EU, as indicated under Annex 1 of this certificate, based on the applicable Technical Standards and Specifications as listed under Annex 2 of this Certificate.

Product description: **Enterprise LoRa Gateway**
Trademark: **RAK**
Type designation: **RAK7240-13-142**
Hardware / Software version: **VA / 1.1.0024_Release**
Variants: **See Annex 3**

This certificate is granted to manufacturer:

Name: **Shenzhen RAKwireless Technology Co., Ltd.**
Address: **Room 506, Bldg B, New Compark, Pingshan First Road, Taoyuan Street, XiLi town Nanshan District**
City: **Shenzhen**
Country: **China**

This certificate remains valid as long as the stated product stays in compliance with the essential requirements of the Radio Equipment Directive.

This certificate has THREE Annexes.

Apeldoorn, 13 October 2021



Gürhan Vural
Product Assessor



General Conditions

For each product to which this EU-type examination relates, it has complied to the essential requirements as follows:

Article 3.1

Radio equipment shall be constructed so as to ensure:

- C (a) The protection of health and safety of persons and of domestic animals and the protection of property, including the objectives with respect to safety requirements set out in Directive 2014/35/EU, but with no voltage limit applying;
- C (b) An adequate level of electromagnetic compatibility as set out in Directive 2014/30/EU.

Article 3.2

- C Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

Article 3.3

Radio equipment within certain categories or classes shall be so constructed that it complies with the following essential requirements:

- NA (a) Radio equipment interworks with accessories, in particular with common chargers;
- NA (b) Radio equipment interworks via networks with other radio equipment;
- NA (c) Radio equipment can be connected to interfaces of the appropriate type throughout the Union;
- NA (d) Radio equipment does not harm the network or its functioning nor misuse network resources, thereby causing an unacceptable degradation of service;
- NA (e) Radio equipment incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected;
- NA (f) Radio equipment supports certain features ensuring protection from fraud;
- NA (g) Radio equipment supports certain features ensuring access to emergency services;
- NA (h) Radio equipment supports certain features in order to facilitate its use by users with a disability;
- NA (i) Radio equipment supports certain features in order to ensure that software can only be loaded into the radio equipment where the compliance of the combination of the radio equipment and software has been demonstrated.

Legend

- C = Conform
- NC = Not Conform
- NA = Not applicable (for this equipment)
- NP = Not performed (for this certificate)

- This EU-type examination certificate is limited to the Radio Equipment Directive.
- This EU-type examination certificate is part of the Conformity Assessment procedure Module B and C, as described in annex III of the Radio Equipment Directive.
- The validity of this EU-type examination certificate is limited to products, which are equal to the one(s) assessed for this EU-type examination.
- When the manufacturer (or holder of this EU-type examination certificate) is placing the listed products on the European market or the countries of the EEA, he is obliged to label the products with the prescribed CE logo. The CE logo stands for conformity to all applicable Directives. Next to the CE logo the manufacturer has to draw up and issue a Declaration of Conformity, declaring that the product(s) described in this EU type-examination certificate, are in compliance with Directive 2014/53/EU and any other applicable EU harmonization legislation.
- Each product shall be identified by means of type, batch and/or serial numbers and the name of the manufacturer and/or importer.
- If the equipment is to be modified, Telefication shall be notified immediately. Depending on the modifications, Telefication may have additional examinations carried out in consultation with the applicant.
- Enforcement of a new amending directive voids the validity of this EU-type examination certificate.
- In case any referenced standard in this EU-type examination certificate is withdrawn or superseded and the presumption of conformity with the essential requirements has ceased, investigation by Telefication is needed to determine the validity of this EU-type examination.

Remarks and observations

The following conditions are applicable:

AA/01: Added GPS antenna, updated report standard version

The equipment incorporates the following LTE module, model EG95-E by Quectel, which has obtained a Module-B by Telefication (NB: 0560) under certificate number: 182140036/AA/00.

The equipment incorporates the following LoRa module, model RAK2247 by RAK, which has obtained a Module-B by BACL (NB: 1313) under certificate number: B1901082.

The equipment incorporates the following GPS module, model L70 by Quectel, which has obtained a Module-B by Siemec (NB: 2200) under certificate number: RE-17062704.

Above modules have been approved and therefore only relevant supplementary test reports regarding these modules have been assessed for this application.

Power supply: POE 48V.

Model differences:

RAK7240-13-142 incorporates two RAK2247 LoRa modules,

RAK7240-03-142 and RAK 7249 has one LoRa module,

RAK7249 has different enclosure with RAK7240-03-142.

Documentation lodged for this EU-type examination

Test Reports:

- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-101 Rev.02, 09 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-401, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-402, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-501, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-502, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-503, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-601, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-602, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-603, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ18B0320-701, 08 April 2019
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-101, 28 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-401, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-402, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-501, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-502, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-503, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-601, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-602, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-603, 30 September 2021
- Shenzhen BALUN Technology Co.,Ltd.: BL-SZ2170692-701, 30 September 2021

Product Documentation:

- Assembly drawings
- Bill of materials
- Block diagram
- Electrical diagrams
- Internal photos
- External photos
- Manual
- Label and label placement
- Test setup photos
- Risk assessment
- Packaging information
- RED declarations

Technical Standards and Specifications

The product is compliant with:

EN 301 489-17	September , 2020	V3.2.4
EN 303 413	April, 2021	V1.2.1
Draft EN 301 489-19	September, 2020	V2.2.0
Draft EN 301 489-3	March, 2021	V2.1.2
Draft EN 301 489-52	Dec, 2020	V1.1.2
EN 300 220-1	February, 2017	V3.1.1

EN 300 220-2	June, 2018	V3.2.1
EN 300 328	July, 2019	V2.2.2
EN 301 489-1	November, 2019	V2.2.3
EN 301 511	March, 2017	V12.5.1
EN 301 908-1	Nov, 2019	V13.1.1
EN 301 908-13	November, 2019	V13.1.1
EN 301 908-2	June, 2020	V13.1.1
EN 55024	November, 2010	
EN 55024/A1	June, 2015	
EN 55032:2015+A11:2020	March, 2020	
EN 55035:2017+A11:2020	May, 2020	
EN 60950-1	2006	
EN 60950-1/A1	March, 2010	
EN 60950-1/A11	March, 2009	
EN 60950-1/A12	February, 2011	
EN 60950-1/A2	August, 2013	
EN 62311	January, 2008	
EN 62368-1	August, 2014	
EN 62368-1/A11	January, 2017	
EN IEC 62311	January, 2020	

Technical features and characteristics

The product includes the following features and characteristics:

GPS receiver

- Operating frequency range: 1559-1610 MHz

SRD Equipment

- Operating frequency range: 864-869 MHz
- Maximum output power: 4.41 dBm ERP
- Maximum antenna gain: 4.6 dBi

IEEE 802.11b/g/n (20/40 MHz)

- Operating frequency range: 2412-2472 MHz (13/9 channels)
- Maximum output power: 18.2 dBm EIRP average (calculated)
- Maximum antenna gain: 5.34 dBi

GSM 900

- Operating frequency range: 880-915, 925-960 MHz
- Maximum output power: 33 dBm rated

GSM 1800

- Operating frequency range: 1710-1785, 1805-1880 MHz
- Maximum output power: 30 dBm rated

WCDMA Band I

- Operating frequency range: 1920-1980, 2110-2170 MHz
- Maximum output power: 24 dBm rated

WCDMA Band VIII

- Operating frequency range: 880-915, 925-960 MHz
- Maximum output power: 24 dBm rated

LTE FDD Band 1

- Operating frequency range: 1920-1980, 2110-2170 MHz
- Maximum output power: 23 dBm rated

LTE FDD Band 3

- Operating frequency range: 1710-1785, 1805-1880 MHz
- Maximum output power: 23 dBm rated

LTE FDD Band 7

- Operating frequency range: 2500-2570, 2620-2690 MHz
- Maximum output power: 23 dBm rated

LTE FDD Band 8

- Operating frequency range: 880-915, 925-960 MHz
- Maximum output power: 23 dBm rated

LTE FDD Band 20

- Operating frequency range: 832-862, 791-821 MHz
- Maximum output power: 23 dBm rated

LTE FDD Band 28

- Operating frequency range: 703-748, 758-803 MHz
- Maximum output power: 23 dBm rated

The product as described in this EU-type examination includes the following type designations:

- Product description: Enterprise LoRa Gateway
- Trademark: RAK
- Type designation: RAK7240-13-142
- Hardware version: VA
- Software version: 1.1.0024_Release

- Product description: Enterprise LoRa Gateway
- Trademark: RAK
- Type designation: RAK7240-03-142
- Hardware version: VA
- Software version: 1.1.0024_Release

- Product description: Enterprise LoRa Gateway
- Trademark: RAK
- Type designation: RAK7249
- Hardware version: VA
- Software version: 1.1.0024_Release