

EU-type examination (Module B) certificate

No: 212140538/AA/00

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: **5G NR Router IAD**
Trademark: **ZYXEL**
Type designation: **NR5101**
Software version: **V1.00(ABVC.0)b7**

This certificate is granted to manufacturer:

Name: **Zyxel Communications Corporation**
Address: **No. 2, Industry East Road IX, Science Park**
City: **Hsinchu**
Country: **Taiwan**

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, 23 August 2021

A handwritten signature in blue ink that reads "George Lo".

George Lo
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:

- NA (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;
- NA (b) An adequate level of electromagnetic compatibility as set out in Directive 2014/30/EU.

Article 3.2

- NA 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:

The certificate is valid unless the essential test suites covering in the standards are amended or superseded. The manufacturer needs to confirm the latest version with Notified Body and update the type examination. This grant is used in conjunction with the assessed radio module, RG520Q-EA, issued by ACB, Inc. #1588 / Certificate number: ATCB025559, issue 1

Device is restricted to indoor use only when operating within 5150-5350 MHz frequency range.

DFS: Master with TPC functionality

MIMO with 2T2R, including beamforming capability

The test with regards to 5G NR are based on 3GPP 38.521-1 v15.3.0, 3GPP 38.521-3 v15.4.1 (RF)
EN-DC is supported

In EU, NR UE operation in Band 41 is restricted to 2500 MHz - 2690 MHz (2570-2620MHz in TDD) frequency range.
In EU, NR UE operation in Band 77/78 is restricted to 3400 MHz - 3800 MHz frequency range.

Documentation lodged for this EU-type examination

Test Reports:

- International Certification Corp.: EM0N0401AA, 16 June 2021
- International Certification Corp.: EM0N0401NR, 26 March 2021
- International Certification Corp.: ER0N0401AC, 26 March 2021
- International Certification Corp.: ER0N0401AN, 26 March 2021
- International Certification Corp.: EW0N0401, 26 March 2021
- International Certification Corp.: EY0N0401, 26 March 2021
- International Certification Corp.: EA0N0401, 25 June 2021
- Wendell Electrical Testing Lab.: WL20J2206-L0, 26 February 2021
- MRT Technology (Suzhou) Co., Ltd: 2004RSU055-E1, 23 July 2020
- MRT Technology (Suzhou) Co., Ltd: 2004RSU055-E2, 05 August 2020

Product Documentation:

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

Technical Standards and Specifications

The product is compliant with:

EN 301 489-17	September , 2020	V3.2.4
Draft EN 301 489-52	November, 2016	V1.1.0
Draft EN 301 908-25	March, 2020	V15.1.1_15.0.2
EN 300 328	July, 2019	V2.2.2
EN 301 489-1	November, 2019	V2.2.3
EN 301 893	May, 2017	V2.1.1
EN 301 908-1	November, 2019	V13.1.1
EN 301 908-13	November, 2019	V13.1.1
EN 301 908-2	June, 2020	V13.1.1
EN 50385	October, 2017	
EN 50665	November, 2017	
EN 62368-1	August, 2014	
EN 62368-1/A11:2017	January, 2017	
EN 62368-1:2014/AC:2015	September, 2015	
EN IEC 62311	January, 2020	

Technical features and characteristics

The product includes the following features and characteristics:

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

- Operating frequency range: 2412-2472 MHz (13/9 channels)
- Maximum output power: 19.55 dBm EIRP average (calculated)
- Maximum antenna gain: 2.81 dBi

IEEE 802.11a/n/ac/ax (20/40/80 MHz)

- Operating frequency range: 5180-5240 MHz (4/2/1 channels)
- Maximum output power: 22.38 dBm EIRP average (calculated)
- Maximum antenna gain: 4.51 dBi

IEEE 802.11a/n/ac/ax (20/40/80 MHz)

- Operating frequency range: 5260-5320 MHz (4/2/1 channels)
- Maximum output power: 22.49 dBm EIRP average (calculated)
- Maximum antenna gain: 4.52 dBi

IEEE 802.11a/n/ac/ax (20/40/80 MHz)

- Operating frequency range: 5500-5700 MHz (11/5/2 channels)
- Maximum output power: 26.55 dBm EIRP average (calculated)
- Maximum antenna gain: 4.82 dBi

WCDMA Band I

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

WCDMA Band III

- Operating frequency range: 1710-1785, 1805-1880 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

LTE FDD Band 32

- Operating frequency range: 1542-1496 MHz
- Maximum antenna gain: Only Receiver

LTE FDD band 34

- Operating frequency range: 2010-2025 MHz
- Maximum output power: 23 dBm rated

LTE TDD Band 38

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

LTE TDD Band 40

- Operating frequency range: 2300-2400 MHz
- Maximum output power: 23 dBm rated

LTE TDD Band 42

- Operating frequency range: 3400-3600 MHz
- Maximum output power: 23 dBm rated

LTE TDD Band 43

- Operating frequency range: 3600-3800 MHz
- Maximum output power: 23 dBm rated

5G NR Band 41

- Operating frequency range: 2496-2690 MHz
- Maximum output power: 23 dBm rated

5G NR Band 77

- Operating frequency range: 3300-4200 MHz
- Maximum output power: 23 dBm rated

5G NR Band 78

- Operating frequency range: 3300-3800 MHz
- Maximum output power: 23 dBm rated

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

- Product description: 5G NR Router IAD
- Trademark: ZYXEL
- Type designation: NR5101
- Software version: V1.00(ABVC.0)b7