



EU – TYPE EXAMINATION CERTIFICATE
RADIO EQUIPMENT DIRECTIVE 2014/53/EU
Annex III Module B

MANUFACTURER

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PRODUCT DESCRIPTION

Trademark/Trade Name	:	Juniper Systems
Model Number	:	MS4W
Product Description	:	Mesa 4

NOTIFIED BODY

Certificate issued by	:	Notified Body 1177, TIMCO Engineering, Inc.	
Certificate number	:	E1177-233657	
Name and Signature	:	Bruno Clavier <i>Bruno Clavier</i>	Date: February 5, 2024

The device shall be marked as follows: **CE**

Based on the evidence presented in the Technical Documentation, TIMCO Engineering, Inc., as appointed Notified Body, has issued this EU-Type Examination Certificate in accordance with Annex III Module B. The product described appears to be in conformity with the essential requirements Article 3.2 of RED 2014/53/EU. This certificate relates only to the documents as provided to Timco Engineering, Inc. and is valid up to (1) the date of cessation of presumption of conformity of any of the superseded standards which were used for testing this product and assessed by Notified Body or (2) the date of modifications to the approved type that may affect the conformity of the apparatus with the essential requirements of this Directive or the conditions for validity of that certificate, whichever comes first.

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EU – TYPE EXAMINATION CERTIFICATE E1177-233657

Date: February 5, 2024

PRODUCT SPECIFICATIONS

Intended Use / Category	: Bluetooth for module AX211D2W
RF output power	: 11.78 dBm EIRP
Frequency range (MHz)	: 2402-2480 MHz
Modulation	: GFSK (1Mbps)/ π /4DQPSK(2Mbps) /8DPSK(3Mbps)
Antenna type	: PIFA Antenna

Intended Use / Category	: Bluetooth-LE for module AX211D2W
RF output power	: 9.35 dBm EIRP
Frequency range (MHz)	: 2402-2480 MHz
Modulation	: GFSK
Antenna type	: PIFA Antenna

Intended Use / Category	: 2.4GHz WLAN for module AX211D2W
RF output power	: 18.95 dBm EIRP
Frequency range (MHz)	: 802.11b/g/n/ax-20 MHz: 2412-2472 MHz 802.11n/ax-40 MHz: 2422-2462 MHz
Modulation	: 802.11b: DSSS, DBPSK, DQPSK, CCK 802.11g/n/ax: OFDM, OFDMA, BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Antenna type	: PIFA Antenna

Intended Use / Category	: 5GHz WLAN for module AX211D2W
RF output power	: 20.39 dBm EIRP
Frequency range (MHz)	: 802.11a/n/ac/ax-20 MHz: 5180-5320 MHz, 5500-5700 MHz 802.11n/ac/ax-40 MHz: 5190-5310 MHz, 5510-5670 MHz 802.11ac/ax-80 MHz: 5210-5290 MHz, 5530-5610 MHz 802.11ac/ax-160 MHz: 5250 MHz, 5570 MHz
Modulation	: 802.11a/n/ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna type	: PIFA Antenna

Intended Use / Category	: 5.8GHz WLAN for module AX211D2W
RF output power	: 11.73 dBm EIRP
Frequency range (MHz)	: 802.11a/n/ac/ax-20:5745-5865 MHz 802.11n/ac/ax-40:5755-5835 MHz 802.11ac/ax-80: 5775 MHz
Modulation	: 802.11a/n/ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna type	: PIFA Antenna

Intended Use / Category	: 6GHz WLAN for module AX211D2W
RF output power	: 20.05 dBm EIRP
Frequency range (MHz)	: 802.11ax-20 MHz: 5955-6415 MHz 802.11ax-40 MHz: 5965-6405 MHz 802.11ax-80 MHz: 5985-6385 MHz 802.11ax-160 MHz: 6025-6345 MHz
Modulation	: 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna type	: PIFA Antenna

Intended Use / Category	: WCDMA Band I for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 1920 - 1980 MHz Receive: 1920 - 1980 MHz
Modulation	: QPSK
Antenna type	: Monopole

Intended Use / Category	: WCDMA Band VIII for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 880 - 915 MHz Receive: 880 - 915 MHz
Modulation	: QPSK
Antenna type	: Monopole

Intended Use / Category	: LTE Band 1 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 1920 - 1980 MHz Receive: 1920 - 1980 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 3 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 1710 - 1785 MHz Receive: 1710 - 1785 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 7 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 2500 - 2570 MHz Receive: 2500 - 2570 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 8 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 880 - 915 MHz Receive: 880 - 915 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 20 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 832 - 862 MHz Receive: 832 - 862 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 28 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 703 - 748 MHz Receive: 703 - 748 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 38 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 2570 - 2620 MHz Receive: 2570 - 2620 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 40 for module EM7590
RF output power	: 24 dBm rated
Frequency range (MHz)	: Transmit: 2300 - 2400 MHz Receive: 2300 - 2400 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 42 for module EM7590
RF output power	: 23 dBm rated
Frequency range (MHz)	: Transmit: 3400 - 3600 MHz Receive: 3400 - 3600 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: LTE Band 43 for module EM7590
RF output power	: 23 dBm rated
Frequency range (MHz)	: Transmit: 3600 - 3800 MHz Receive: 3600 - 3800 MHz
Modulation	: QPSK, 16QAM, 64QAM
Antenna type	: Monopole

Intended Use / Category	: GNSS Receiver
RF output power	: N/A
Frequency range (MHz)	: 1559 - 1610 MHz
Modulation	: N/A
Antenna type	: Internal

Intended Use / Category	: RFID for module M6e-Micro
RF output power	: 28.85 dBm ERP
Frequency range (MHz)	: 865 - 868 MHz
Modulation	: ASK
Antenna type	: Patch

Intended Use / Category :	Bluetooth for module WT41u-E
RF output power :	16.78 dBm EIRP
Frequency range (MHz) :	2402-2480 MHz
Modulation :	GFSK / π /4DQPSK /8DPSK
Antenna type :	PIFA

According to the Technical Documentation compiled by the Manufacturer, the following standards were used:

ESSENTIAL REQUIREMENTS

Essential Requirement	Standard Number & Version
Radio (Article 3.2) :	EN 300 328 V2.2.2 EN 301 893 V2.1.1 EN 300 440 V2.2.1 EN 303 687 V1.1.1 EN 302 208 V3.3.1 EN 301 908-1 V15.1.1 EN 301 908-2 V13.1.1 EN 301 908-13 V13.1.1 EN 303 413 V1.2.1
EMC (Article 3.1b) :	Assessment not requested
Health (Article 3.1a) :	Assessment not requested
Safety (Article 3.1a) :	Assessment not requested
Emergency Service (Article 3.3g) :	Assessment not requested
Mobile phones/Galileo (Articles 3.3g)	Assessment not requested
Common Chargers (Article 3.4)	Assessment not requested

TECHNICAL DOCUMENTATION

Item	Exhibits Description	
1.	Copy of the EU Declaration of Conformity (Draft is acceptable) - If applicable a Copy of the UK Declaration of Conformity (Draft is acceptable)	<input checked="" type="checkbox"/>
2.	Operational Description of the product/device.	<input checked="" type="checkbox"/>
3.	External Photos of the device	<input checked="" type="checkbox"/>
4.	Internal Photos of the device	<input checked="" type="checkbox"/>
5.	User manual and information and installation instructions	<input checked="" type="checkbox"/>
6.	Schematic drawings	<input checked="" type="checkbox"/>
7.	Block Diagrams	<input checked="" type="checkbox"/>
8.	Risk Assessment. RED Annex III module B/RER Schedule 3 module B - Analysis and assessment of the risk(s) (See TGN 30 for guidance)	<input checked="" type="checkbox"/>
9.	If Applicable: Previous Copy of the EU/UK-type examination certificate and annexes as delivered by other notified bodies involved in the conformity assessment (e.g., original certificates in case of product modifications, modules certificates, etc.) Where applicable.	<input type="checkbox"/>
10.	If Applicable: Modification/Standard Update/Applicant or Manufacturer cover letter explaining the changes to the existing version of the product along with supporting exhibits.	<input type="checkbox"/>

TEST REPORTS

Type of Test Report	Test Report Number	Issue Date/Rev. No.
Radio 2.4GHz Wi-Fi	2380757R-RFNAV03S-1	Nov. 07, 2023 / 1.0
Radio BT	2380757R-RFNAV03S-2	Nov. 07, 2023 / 1.0
Radio BLE	2380757R-RFNAV03S-3	Nov. 07, 2023 / 1.0
Radio 5GHz Wi-Fi	2380757R-RFNAV03S-4	Nov. 07, 2023 / 1.0
Radio 5.8GHz Wi-Fi	2380757R-RFNAV03S-5	Nov. 07, 2023 / 1.0
Radio 6GHz Wi-Fi	2380757R-RFNAV03S-6	Nov. 07, 2023 / 1.0
Radio RFID	2380757R-RFNAV03S-5	Nov. 07, 2023 / 1.0
Radio BT	300489-1-10	Dec. 14, 2020 / 1.0
Radio EN 301 908-1	EM242018	Nov. 13, 2022 / 01
Radio 3G/4G	EZ242018	Aug. 04, 2022 / 01
Radio GNSS	ER242018	Jul. 13, 2022 / 00
Radio RFID	2401TWG901-E1	Feb. 01, 2024 / 1.0

This certificate is issued under the following additional and non-exhaustive list of provisions of the Radio Equipment Directive (2014/53/EU) of the European Parliament and the Council of the European Union:

1. **Article 10(1):** When placing their radio equipment on the market, manufacturers shall ensure that it has been designed and manufactured in accordance with the essential requirements set out in Article 3.
2. **Article 10(2):** Manufacturers shall ensure that radio equipment shall be so constructed that it can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum.
3. **Article 10(4):** Manufacturers shall keep a copy of the EU-type examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for 10 years after the apparatus has been placed on the market.
4. **Article 10(5):** Manufacturers shall ensure that procedures are in place for series production to remain in conformity with this Directive. Changes in radio equipment design or characteristics and changes in the harmonised standards or in other technical specifications by reference to which conformity of radio equipment is declared shall be adequately taken into account.
When deemed appropriate with regard to the risks presented by radio equipment, manufacturers shall, to protect the health and safety of end-users, carry out sample testing of radio equipment made available on the market, investigate, and, if necessary, keep a register of complaints, of non-conforming radio equipment and radio equipment recalls, and shall keep distributors informed of any such monitoring.
5. **Article 10(6):** 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.
6. **Article 10(7):** 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.

Excerpts from Blue Guide:

- If the manufacturer (declaring himself as a manufacturer by putting his name and address on the product) is **outside the EU** and the products are placed on the Union market by an importer, the product will bear two addresses: the one of the manufacturer and the one of the importer.
Indicate the following three elements: his (1) name, (2) registered trade name or registered trade mark and (3) a single contact postal address at which they can be contacted on the product or when not possible because of the size or physical characteristics of the products, on its packaging and/or on the accompanying documentation. The single contact point may not necessarily be located in the Member State where the product is made available on the market.
(Notes: However, if the importer acts as the manufacturer's Authorised Representative, then only the importer's address is required on the product.)
- If the original manufacturer is **outside the EU** and the importer places the product on the market under his own name or trademark or modifies the product already placed on the market (in such a way that compliance with the applicable requirements may be affected), the importer is considered the manufacturer. The only address that in this case will figure on the product (or packaging or accompanying document) is the address of the importer who is considered as the manufacturer.
- If the manufacturer is **within the EU**, the product will bear only one (manufacturer's) address as there is no importer involved.
- If the manufacturer is **within the EU** (a company located in the EU declaring itself to be a manufacturer by putting its name and address on the product) although the products are manufactured outside the EU, that company is considered to be the manufacturer who places the product on the Union market, even if actual importation is done by another company. In this case there is no importer in the meaning of the importer's definition and it is sufficient to put only the manufacturer's address.

7. **Article 10(8):** 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 Member State concerned. 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.
- 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.
8. **Article 10(9):** Manufacturers shall ensure that each item of radio equipment is accompanied by a copy of the EU declaration of conformity or by a simplified EU declaration of conformity. Where a simplified EU declaration of conformity is provided, it shall contain the exact internet address where the full text of the EU declaration of conformity can be obtained. The simplified EU declaration of conformity is to be placed in the user's manual:
- Hereby, [Name of manufacturer] declares that the radio equipment type [designation of type of radio equipment] is in compliance with Directive 2014/53/EU.*
The full text of the EU declaration of conformity is available at the following internet address:xxxx
9. **Article 10(10):** In cases of restrictions on putting into service or of requirements for authorisation of use, information available on the packaging shall allow the identification of the Member States or the geographical area within a Member State where restrictions on putting into service or requirements for authorisation of use exist. Such information shall be completed in the instructions accompanying the radio equipment. The Commission may adopt implementing acts specifying how to present that information. Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 45(2).
10. **Article 10(11):** Manufacturers who consider or have reason to believe that radio equipment which they have placed on the market is not in conformity with this Directive shall immediately take the corrective measures necessary to bring that radio equipment into conformity, to withdraw it or recall it, if appropriate. Furthermore, where the radio equipment presents a risk, manufacturers shall immediately inform the competent national authorities of the Member States in which they made the radio equipment available on the market to that effect, giving details, in particular, of the non-compliance, of any corrective measures taken and of the results thereof.
11. **Article 10(12):** Manufacturers shall, further to a reasoned request from a competent national authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the radio equipment with this Directive, in a language which can be easily understood by that authority. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by radio equipment which they have placed on the market.
12. **Article 19(2):** On account of the nature of radio equipment, the height of the CE marking affixed to radio equipment may be lower than 5 mm, provided that it remains visible and legible.
13. **Article 20(1):** The CE 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 CE marking shall also be affixed visibly and legibly to the packaging.
14. **Annex III Module B, Point 7, Declaration of Conformity:** The manufacturer shall inform the notified body that holds the technical documentation relating to the EU-type examination certificate of all modifications to the approved type that may affect the conformity of the radio equipment with the essential requirements of this Directive or the conditions for validity of that certificate. Such modifications shall require additional approval in the form of an addition to the original EU-type examination certificate.
15. **Annex VI Declaration of Conformity, Point 8:** Where applicable, description of accessories and components, including software, which allow the radio equipment to operate as intended and covered by the EU declaration of conformity
16. **Product Specifications:** The antenna gain and any other data is provided by the applicant.