UK – TYPE EXAMINATION CERTIFICATE

RADIO EQUIPMENT REGULATIONS 2017 (SI 2017/1206)
Schedule 3 Module B

MANUFACTURER

Name	:	Juniper Systems INC
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PRODUCT DESCRIPTION

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

APPROVED BODY

Certificate issued by	:	Approved Body 1177, TIMCO Engineering, Inc.	
Certificate number	:	U1177-232399	
Name and Signature	:	Bruno Clavier	Date: February 5, 2024

The device shall be marked as follows: UKCA

Based on the evidence presented in the Technical Documentation, TIMCO Engineering, Inc., as appointed Approved Body, has issued this UK-Type Examination Certificate in accordance with Schedule 3, Module B. The product described appears to be in conformity with the essential requirements Regulation 6.2 of RER 2017 (SI 2017/1206). 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to Timco Engineering, Inc. and is valid up to (1) the date of cessation of presumption of conformity of any of the superseded standards which were used for testing this product and assessed by Approved Body or (2) the date of modifications to the approved type that may affect the conformity of the apparatus with the essential requirements of SI 2017/1206 or the conditions for validity of that certificate, whichever comes first.

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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 (Regulation 6.2)	:	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 (Regulation 6.1b)	:	Assessment not requested
Health (Regulation 6.1a)	:	Assessment not requested
Safety (Regulation 6.1a)	:	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)	☑
2.	Operational Description of the product/device.	☑
3.	External Photos of the device	☑
4.	Internal Photos of the device	☑
5.	User manual and information and installation instructions	☑
6.	Schematic drawings	☑
7.	Block Diagrams	☑
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)	☑
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.	☐
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.	☐

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 Regulations 2017 (SI 2017/1206) of the Statutory Instruments of the UK:

1. **Regulation 7**: Before placing radio equipment on the market, a manufacturer must ensure that it has been designed and manufactured in accordance with the essential requirements
2. **Regulation 8:** Before placing radio equipment on the market, a manufacturer must ensure it has been constructed so that the radio equipment can be operated without causing an infringement of the applicable requirements on the use of the radio spectrum.
3. **Regulation 11:** A manufacturer must, for a period of 10 years beginning on the day on which the radio equipment is placed on the market, keep and, upon request, make available to an enforcing authority the following in relation to radio equipment—
   (a)a copy of the declaration of conformity, and
   (b)the technical documentation.
4. **Regulation 15:**
   (1) A manufacturer who considers, or has reason to believe, that radio equipment which they have placed on the market is not in conformity with Part 2, if appropriate, must immediately take the corrective measures necessary to—
   (a) bring the radio equipment into conformity,
   (b) withdraw the radio equipment, or
   (c) recall the radio equipment.
   (2) Where the radio equipment presents a risk, the manufacturer must immediately inform the market surveillance authority, of the risk, giving details of—
   (a) the respect in which the radio equipment is considered not to be in conformity with Part 2, and
   (b) any corrective measures taken and the results of those measures.
5. **Regulation 12:**
   (1) Before placing radio equipment on the market, a manufacturer must ensure that the radio equipment bears—
   (a) a type, batch or serial number, or
   (b) another element which allows the radio equipment to be identified.
   (2) Before placing radio equipment on the market, a manufacturer must indicate on the radio equipment—
   (a) the name, registered trade name or registered trade mark of the manufacturer,
   (b) a postal address at which the manufacturer can be contacted.
   (3) The information specified in paragraph (2) must be in a language which can be easily understood by end-users and the enforcing authority.
   (4) Where the size or nature of the radio equipment prohibits a manufacturer from complying with the requirement in paragraph (1) or paragraph (2), the manufacturer must provide the required information either on the radio equipment's packaging or in a document which accompanies the radio equipment.
   (5) The manufacturer's postal address must indicate a single point at which the manufacturer can be contacted.
6. **Regulation 23:**
   (1) Before placing radio equipment on the market, an importer must indicate on the radio equipment—
   (a) the name, registered trade name or registered trade mark of the importer, and
   (b) a postal address at which the importer can be contacted.
   (2) The information specified in paragraph (1) must be in a language which can be easily understood by end-users and the enforcement authority.
   (3) Paragraph (1) does not apply where—
   (a) either—
   (i) it is not possible to set out the information referred to in paragraph (1) on the radio equipment, or
   (ii) the importer has imported the radio equipment from an EEA state and places it on the market within the period of 18 months beginning with exit day, and
   (b) before placing the radio equipment on the market, the importer sets out the information referred to in paragraph (1)-
   (i) on the packaging; or
   (ii) in a document accompanying the safety component.

7. **Regulation 13:**
(1) When placing radio equipment on the market, a manufacturer must ensure that radio equipment is accompanied with instructions and safety information which—
(a) are clear, legible and in easily understandable English
(b) include information required to use the radio equipment in accordance with its intended use and
(c) include a description of accessories and components, including software, which allow the radio equipment to operate as intended.
(2) In the case of radio equipment which can intentionally emit radio waves, the manufacturer must also include information about—
(a) the frequency band or bands in which the radio equipment can operate, and
(b) the maximum radio-frequency power transmitted in the frequency band or bands in which the radio equipment operates.
(3) When placing radio equipment on the market, a manufacturer must ensure that each item of radio equipment is accompanied by either a copy of the declaration of conformity or a simplified declaration of conformity drawn up in accordance with regulation 43 (simplified declaration of conformity).
(4) Where the radio equipment is to be made available to consumers and other end-users in the United Kingdom, the language which can be easily understood is English.
8. **Regulation 14:**
(1) Where there are restrictions on putting into service or requirements for authorisation of use, a manufacturer must include information on the packaging of the radio equipment which identifies the geographical area in the United Kingdom where the restrictions on putting into service or the requirements for authorisation of use exist.
(2) The information referred to in paragraph (1) must—
(a) be completed in the instructions required by regulation 13,
(b) subject to paragraph (3), be presented in the manner and form specified in the Implementing Regulation how to present the information provided for in Article 10(10) of Directive 2014/53/EU of the European Parliament and the Council (EU) 2017/1354 (Regulation 14 of the 2017 Regulations).
(3) Paragraph (2)(b) of this Regulation applies to radio equipment placed on or after exit day.
9. **Regulation 16:**
(1) Following a request from the enforcing authority, the manufacturer must, within such reasonable period as the authority may specify, provide the authority concerned with all the information and documentation necessary to demonstrate that the radio equipment is in conformity with Part 2
(2) A request referred to in paragraph (1)—
(a) is one that was made during the period of 10 years beginning on the day that the manufacturer places the radio equipment on the market, and
(b) must be accompanied by the reasons for making the request.
(3) The information referred to in paragraph (1)—
(a) may be provided in electronic form, and
(b) must be in a language which can be easily understood by the authority concerned.
(4) A manufacturer must, at the request of the authority concerned, cooperate with that authority on any action taken to—
(a) evaluate radio equipment in accordance with regulation 59 (evaluation of radio equipment presenting a risk),
(b) eliminate the risks posed by radio equipment which the manufacturer has placed on the market.
10. **Regulation 17:**
(1) A manufacturer must ensure, before placing radio equipment on the market, that procedures are in place to ensure that series production remains in conformity with Part 2.
(2) In doing so, the manufacturer must take adequate account of—
(a) any change in radio equipment design or characteristics, and
(b) any change in a designated standard or in another technical specification by reference to which the declaration of conformity was drawn up.

11. **Regulation 43:**
    (1) Where only a simplified declaration of conformity is provided pursuant to regulation 13(3), it must contain the elements specified and have the model structure set out in Schedule 7 (simplified declaration of conformity).
    (2) The full text of the declaration of conformity must be made available at the internet address referred to in the simplified declaration of conformity.
    Schedule 7:
    1. The simplified declaration of conformity referred to in regulation 13(3) (instructions and information to be included with the radio equipment) must be provided as follows—
        *Hereby, **[Name of manufacturer]** declares that the radio equipment type **[designation of type of radio equipment]** is in compliance with the relevant statutory requirements.*
        The full text of the declaration of conformity is available at the following internet address:xxxxxx
12. **Regulation 44:**
    (1) The UK marking must 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 the radio equipment.
    (2) The UK marking must be affixed visibly and legibly to the radio equipment packaging.
    (3) On account of the nature of the radio equipment, the height of the UK marking affixed to radio equipment may be lower than 5 mm, provided that the marking remains visible and legible.
    (4) When the conformity assessment procedure in Schedule 4 (conformity assessment module H) has been applied, the UK marking must be followed by the identification number of the approved body which carried out the relevant conformity assessment procedure for the radio equipment.
    (5) The identification number in paragraph (4) must have the same height as the UK marking and be affixed—
    (a) by the approved body itself, or
    (b) under the instructions of the approved body, by the manufacturer or the manufacturer's authorised representative.
13. **Schedule 6 Declaration of Conformity, Paragraph 8:** Where applicable, description of accessories and components, including software, which allow the radio equipment to operate as intended and covered by the Declaration of conformity
14. **Schedule 3 Module B, Paragraph 7(2):** The manufacturer must 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 these Regulations or the conditions for validity of that certificate. Such modifications require additional approval in the form of an addition to the original Type examination certificate.
15. **Product Specifications:** The antenna gain and any other data is provided by the applicant.