SIEMENS

SCALANCE WxM766-1 0

SCALANCE WxM763-1 0

SIMATIC NET

Industrial Wireless LAN Approvals SCALANCE W700 802.11ax

Reference Manual

05/2023
C79000-G8976-C621-06

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION
indicates that minor personal injury can result if proper precautions are not taken.

NOTICE
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Siemens AG
Digital Industries
Postfach 48 48
90026 NÜRNBERG
GERMANY

C79000-G8976-C621-06
Ⓟ 05/2023 Subject to change

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Current approvals on the Internet

You will find the current approvals for the product on the Internet pages of Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert).

Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit
https://www.siemens.com/industrialsecurity (https://www.siemens.com/industrialsecurity).

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under
https://www.siemens.com/cert (https://www.siemens.com/cert).

SCALANCE WxM766-1

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Note

Issued approvals on the type plate of the device

The specified approvals apply only when the corresponding mark is printed on the product. You can check which of the following approvals have been granted for your product by the markings on the type plate.

1.1 Type designations

Scope of validity

The approvals listed in this section apply to the following products:

Product	Certification ID	Article number
Access points		
SCALANCE WAM766-1	MSAX65-W1-M12-E2	6GK5766-1GE00-7DA0 6GK5766-1GE00-7DB0 (US) 6GK5766-1GE00-7DC0 (ME)
SCALANCE WAM766-1 EEC	MSAX65-W1-M12-E2	6GK5766-1GE00-7TA0 6GK5766-1GE00-7TB0 (US) 6GK5766-1GE00-7TC0 (ME)
Client		
SCALANCE WUM766-1	MSAX65-W1-M12-E2	6GK5766-1GE00-3DA0 6GK5766-1GE00-3DB0 (US) 6GK5766-1GE00-3DC0 (ME)

1.2 EC declaration of conformity

The EC Declaration of Conformity is available for all responsible authorities at:

Siemens Aktiengesellschaft
Digital Industries
Process Automation
DE-76187 Karlsruhe
Germany

You can find the current EU declaration of conformity for these products on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert).

The SIMATIC NET products described in this document meet the requirements of the following EU directives:

- ATEX directive 2014/34/EU

  Directive of the European Parliament and the Council of 26 February 2014 on the approximation of the laws of the member states concerning equipment and protective systems intended for use in potentially explosive atmospheres, official journal of the EU L96, 29/03/2014, pages 309–356

- RoHS directive 2011/65/EU

  Directive of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, official journal of the EC L174, 01/07/2011, pages 88-110

- Radio equipment directive 2014/53/EU (RED, Radio Equipment Directive)

  Directive of the European Parliament and of the Council of 16 April 2014 on the harmonization of the laws of the member states relating to placing radio equipment on the market; official journal of the EU L153, 22/05/2014, pages 62–106

1.2.1 ATEX

ATEX directive (correct usage in potentially explosive atmospheres)

The SIMATIC NET product meets the requirements of the EU Directive 2014/34/EU "Equipment and Protective Devices for Use in Potentially Explosive Atmospheres".

1. EN IEC 60079-0
   Hazardous areas - Part 0: Equipment - General requirements
2. EN 60079-7
   Explosive atmospheres - Part 7: Equipment protection through increased safety "e"

1.2.2 RoHS

RoHS directive (restriction of the use of certain hazardous substances)

The SIMATIC NET product meets the requirements of the EU Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment:

Applied standard:

3. EN IEC 63000
   Technical documentation for the assessment electrical and electronic products with respect to restriction of hazardous substances

1.2.3 RED

1.2.3.1 Protection of health and safety

Article 3 (1) a) protection of health and safety

4 EN IEC 62368-1
Equipment for audio, video, information and communication technology - Part 1: Safety requirements

5 EN IEC / IEC 62311
Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)

6 EN IEC 62368-3
Equipment for audio, video, information and communication technology - Safety - Part 3: DC power transfer through information technology communication cabling

1.2.3.2 EMC

Art. 3 (1) b - EMC

7 EN 50121-3-2
Railway applications - Electromagnetic compatibility - part 3-2: Railway Vehicles - Devices

8 EN 50121-4
Railway applications - Electromagnetic compatibility - part 4: Interference emissions and immunity of signal telecommunications equipment

9 ETSI EN 301 489-1
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 1 : Common technical requirements

10 ETSI EN 301 489-3
Electromagnetic compatibility and radio spectrum matters (ERM) – Electromagnetic compatibility (EMC) for radio equipment and services – Part 3: Specific conditions for wireless devices with a low range (SRD) for use on frequencies between 9 kHz and 246 GHz

11 ETSI EN 301 489-17
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 17: Specific conditions for broadband data transmission systems

12 EN 55032
Electromagnetic compatibility of multimedia equipment – Emission requirements

13 EN 55035
Electromagnetic compatibility of multimedia equipment - Immunity requirements

14 EN 61000-6-1
Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

15 EN 61000-6-2

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments

16 EN 61000-6-3

Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

17 EN 61000-6-4

Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

18 EN IEC 61000-6-8

Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

1.2.3.3 Efficient use of the radio spectrum

Art. 3 (2) Efficient use of the radio spectrum

19 ETSI EN 300 328

Broadband transmission systems – Data transmission equipment operating in the 2.4 GHz ISM band and using broadband modulation techniques. Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

20 ETSI EN 300 440 V2.1.1

Electromagnetic compatibility and radio spectrum matters (ERM) – short range devices (SRD) – Radio equipment to be used in the 1 GHz to 40 GHz frequency range - Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

21 ETSI EN 301 893

Broadband Radio Access Networks (BRAN) – 5 GHz high performance RLAN – Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

1.2.4 Other technical standards

22 CISPR 11

Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

23 CISPR 32

Electromagnetic compatibility of multimedia equipment. Emission requirements

24 CISPR 35

Electromagnetic compatibility of multimedia equipment - Immunity requirements

25 EN IEC / IEC 61000-6-1

Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

26 EN IEC / IEC 61000-6-2

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments

27 EN/ IEC 61000-6-3
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

28 EN IEC / IEC 61000-6-4
Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

29 EN IEC / IEC 61000-6-8
Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

30 NAMUR NE21
Automation engineering of modular systems in the process industry - Modelling of module services

1.2.5 Products

CE conformity

The standards applying to the product are described in ATEX (Page 8), RoHS (Page 8) and RED (Page 9).

Product	Standards
SCALANCE WAM 766-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26, 27,28
SCALANCE WAM 766-1 EEC	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25, 26,27,28
SCALANCE WUM 766-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26, 27,28

1.3 UK Declaration of Conformity

The UK declaration of conformity is available to all responsible authorities at:

Siemens Aktiengesellschaft
Digital Industries
Process Automation
DE-76187 Karlsruhe
Germany

Importer UK:
Siemens plc,
Manchester M20 2UR
United Kingdom

You can find the current UK Declaration of Conformity for these products on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert).

The SIMATIC NET products described in this document meet the requirements of the following directives:

- UK Regulation

  SI 2016/1107 The Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016, and related amendments

- RoHS Regulation

  SI 2012/3032 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, and related amendments

- Radio Equipment Regulation

  SI 2017/1206 The Radio Equipment Regulations 2017

1.3.1 Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016

Correct usage in potentially explosive atmospheres

The SIMATIC NET product meets the requirements of "Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations ".

1. EN IEC 60079-0
   Hazardous areas - Part 0: Equipment - General requirements
2. EN 60079-7
   Explosive atmospheres - Part 7: Equipment protection through increased safety "e"

1.3.2 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Restriction of the use of certain hazardous substances

The SIMATIC NET product meets the requirements of "The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012".

Applied standard:

3. EN IEC 63000
   Technical documentation for the assessment electrical and electronic products with respect to restriction of hazardous substances

1.3.3 Radio Equipment Regulations 2017

1.3.3.1 Protection of health and safety

Article 3 (1) a) protection of health and safety

4 EN IEC 62368-1
Equipment for audio, video, information and communication technology - Part 1: Safety requirements

5 EN IEC 62311
Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)

6 EN IEC 62368-3
Equipment for audio, video, information and communication technology - Safety - Part 3: DC power transfer through information technology communication cabling

1.3.3.2 EMC

Art. 3 (1) b - EMC

7 EN 50121-3-2
Railway applications - Electromagnetic compatibility - part 3-2: Railway Vehicles - Devices

8 EN 50121-4
Railway applications - Electromagnetic compatibility - part 4: Interference emissions and immunity of signal telecommunications equipment

9 ETSI EN 301 489-1
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 1 : Common technical requirements

10 ETSI EN 301 489-3
Electromagnetic compatibility and radio spectrum matters (ERM) – Electromagnetic compatibility (EMC) for radio equipment and services – Part 3: Specific conditions for wireless devices with a low range (SRD) for use on frequencies between 9 kHz and 246 GHz

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Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 17: Specific conditions for broadband data transmission systems

12 EN 55032
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13 EN 55035
Electromagnetic compatibility of multimedia equipment - Immunity requirements

14 EN 61000-6-1
Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

15 EN 61000-6-2

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments

16 EN 61000-6-3

Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

17 EN 61000-6-4

Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

18 EN IEC 61000-6-8

Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

1.3.3.3 Efficient use of the radio spectrum

Art. 3 (2) Efficient use of the radio spectrum

19 ETSI EN 300 328

Broadband transmission systems – Data transmission equipment operating in the 2.4 GHz ISM band and using broadband modulation techniques. Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

20 ETSI EN 300 440 V2.1.1

Electromagnetic compatibility and radio spectrum matters (ERM) – short range devices (SRD) – Radio equipment to be used in the 1 GHz to 40 GHz frequency range - Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

21 ETSI EN 301 893

Broadband Radio Access Networks (BRAN) – 5 GHz high performance RLAN – Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

1.3.4 Other technical standards

Art. 3 (3) a)-i) Delegated acts for radio equipment

22 CISPR 11

Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

23 CISPR 32

Electromagnetic compatibility of multimedia equipment. Emission requirements

24 CISPR 35

Electromagnetic compatibility of multimedia equipment - Immunity requirements

25 EN IEC / IEC 61000-6-1

Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

26 EN IEC / IEC 61000-6-2
Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments

27 EN/ IEC 61000-6-3
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

28 EN IEC / IEC 61000-6-4
Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

29 EN IEC / IEC 61000-6-8
Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

30 NAMUR NE21
Automation engineering of modular systems in the process industry - Modelling of module services

1.3.5 Products

UK conformity

The standards applying to the product are described in Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016 (Page 12), The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (Page 12) and Radio Equipment Regulations 2017 (Page 13).

Product	Standards
SCALANCE WAM766-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26, 27,28
SCALANCE WAM766-1 EEC	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25, 26,27,28
SCALANCE WUM766-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26, 27,28

1.4 Supplier's declaration of conformity

The RCM declaration of conformity is available to all responsible authorities at:

Siemens Aktiengesellschaft
Digital Industries
Process Automation
DE-76187 Karlsruhe
Germany

You can find the current Supplier's declaration of conformity for these products on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert)

As required by the following Notices:

- Radiocommunications (Compliance Labelling - Devices) Notice 2014 made under section 182 of the Radiocommunications Act 1992;
- Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017 made under section 182 of the Radiocommunications Act 1992
- Radiocommunications (Compliance Labelling – Electromagnetic Radiation) Notice 2014 made under section 182 of the Radiocommunications Act 1992
- Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015 made under section 407 of the Telecommunications Act 1997.

Including the standard

- ETSI EN 301 489-1
- ETSI EN 301 489-3
- ETSI EN 301 489-17
- ETSI EN 300 328
- ETSI EN 300 440
- ETSI EN 301 893

1.5 General approvals

ATEX, IECEx, UKEX and CCC Ex certification

WARNING

Risk of explosion in hazardous areas

When using SIMATIC NET products in hazardous area zone 2, make absolutely sure that the associated conditions in the following document are adhered to:

"SIMATIC NET Product Information Use of subassemblies/modules in a Zone 2 Hazardous Area".

You will find this document

- on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/view/78381013).

The markings of the electrical devices are:

II 3G Ex ec IIC T4 Gc
DEKRA 18ATEX0026 X
DEKRA 21UKEX0002 X
IECEx DEK 18.0018X
Importer UK:
Siemens plc,
Manchester
M20 2UR, UK

(Ex ec IIC T4 Gc, not on the nameplate)

The product meets the requirements of the standards:

- EN/IEC 60079-7, GB 3836.3
- EN IEC/IEC 60079-0, GB 3836.1

You will find the current versions of the standards in the currently valid certificates.

NEMA TS2 (EEC)

EEC versions meet the requirements of the standard

NEMA TS2 (Traffic Controller Assemblies with NTCIP Requirements)

Railway approval

EEC variants of the device meet the requirements of the standards:

- EN 45545
- EN 50155
- EN 50121-3-2
- EN 50121-4

Note

When used on railway stock, a stabilized power supply must be used to comply with EN50155.

E1

The device meets the requirements of the ECE R10 directive.

Test number 10 R - 057876

FM

The product meets the requirements of the standards:

- Factory Mutual Approval Standard Class Number 3611 / 3600 / 3810 / ANSI ISA-61010-1
- FM Hazardous (Classified) Location Electrical Equipment:
  Non Incendive / Class I / Division 2 / Groups A,B,C,D / T4 and
  Non Incendive / Class I / Zone 2 / Group IIC / T4

cULus Approval for Information Technology Equipment

cULus Listed I. T. E.

Underwriters Laboratories Inc. complying with

- UL 62368-1
- CSA C22.2 No. 62368-1

Report no. E115352

cULus approval for industrial control equipment

cULus Listed PROG-CNTLR.

Underwriters Laboratories Inc. complying with

- UL 61010-1
- UL 61010-2-201
- CSA C22.2 NO 61010-1
- CSA C22.2 NO 61010-2-201

Report no. E115352

cULus Approval Hazardous Location

cULus Listed I. T. E. FOR HAZ. LOC.

Underwriters Laboratories Inc. complying with

- UL 121201 (Non Incendive electrical equipment) approved for use in Class I, Division 2, Groups A, B, C, D, T4.
- UL CSA C22.2 NO 213 (Non Incendive electrical equipment) approved for use in Class I, Zone 2, Group IIC, T4.

FCC approval

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

IEEE 802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Professional Installation Notice:

To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Mexico approval

La operación de este equipo está sujeta a las siguientes dos condiciones:

(1) Es posible que este equipo o dispositivo no cause interferencia perjudicial y

(2) Este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Este equipo ha sido diseñado para operar con las antenas enlistadas en el manual de instrucciones en el capítulo "Accesorios > Antenas" y para una ganancia máxima de antena de 14.2 dBi. Con este equipo no está permitido usar antenas que no figuren en las instrucciones de servicio o tengan una ganancia de más de 14.2 dBi. La impedancia requerida de la antena es de 50 Ω.

RSS-247 of Industry Canada

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed in the respective Operating Instructions with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note for Australia - RCM

The product meets the requirements of the RCM standard.

Applied standard:

- AS/NZS 4417.1 (Class A)

You will find the current versions of the standards in the currently valid RCM SDoCs (Self-Declaration of Conformity).

Marking for the customs union

EAC (Eurasian Conformity)

Eurasian Economic Union of Russia, Belarus, Armenia, Kazakhstan and Kyrgyzstan

Declaration of conformity according to the technical regulations of the customs union (TR ZU)

1.6 National approvals

The following table lists the countries in which the SCALANCE WxM766-1 product is approved.

All countries or frequency ranges in which only time-limited approval applies are marked with the rhombus symbol (♦). This marking is for information purposes. Time-limited approvals are usually extended by Siemens in the time between delivery release and product phase-out of the devices.

Depending on the antenna settings in use, a special regulation of the transmit power may be required in some countires.

The current status of the approvals can be found on the Internet at the following address: Approvals (https://www.siemens.com/wireless-approvals).

Column	Meaning
Country	Country
Mode	IEEE 802.11 standard and the DFS functionality, where required
CH	IEEE 802.11 channel
MHz	IEEE 802.11 frequency
PWR (EIRP)	Maximum permitted effective isotropic radiated power
Max. permitted gain	Maximum permissible antenna gain with [3] or without additional attenuation [4]
Use	Permitted use indoors and / or outdoors

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Albania Andorra Austria Belgium Bosnia and Herzegovina Bulgaria Croatia Denmark Germany Estonia Finland France Greece Ireland Iceland Italy Latvia Liechtenstein Lithuania Luxembourg Malta Monaco Montenegro Netherlands Norway North Macedonia Poland Portugal Romania San Marino Sweden Switzerland Slovakia Serbia ♦ Slovenia Spain Czech Republic Hungary Vatican Cyprus CE	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Egypt [7]	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Angola ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Argentina ♦	11ax 11g 11n	1 - 13	2412 - 2472	4000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	52 - 64	5260 - 5320	1000 mW	-	Indoor + Outdoor
		100 - 116	5500 - 5580	1000 mW	-	Indoor + Outdoor
		132 - 140	5660 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	4000 mW	-	Indoor + Outdoor
Bahrain ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
China ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n DFS	52 - 64	5260 - 5320	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	2000 mW	-	Indoor + Outdoor
Costa Rica	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3)] 14 dBi (1 Tx) [3)]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1)]	5260 - 5320	200 mW	11 dBi (2 Tx) [3)] 14 dBi (1 Tx) [3)]	Indoor only
		100 - 140 [1)]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3)] 13 dBi (1 Tx) [3)]	Indoor + Outdoor
Ivory Coast ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3)] 14 dBi (1 Tx) [3)]	Indoor only

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Guatemala	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
India [5]	11ax 11g 11n	1 - 11	2412 - 2462	500 mW [2]	14 dBi [4]	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	1000 mW [2]	14 dBi [4]	Indoor + Outdoor
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5640	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	4000 mW [2]	14 dBi [4]	Indoor + Outdoor
Canada [5]	11ax 11g 11n	1 - 11	2412 - 2462	500 mW [2]	14 dBi [4]	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	14 dBi [4]	Indoor only
		149 - 165	5745 - 5825	4000 mW [2]	14 dBi [4]	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Qatar	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor only
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor only
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor only
Colombia	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Republic of Korea	11ax 11g 11n	1 - 13	2412 - 2472	200 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 44	5180 - 5220	200 mW	-	Indoor + Outdoor
		48	5240	50 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n DFS	52 - 64	5260 - 5320	200 mW	-	Indoor + Outdoor
		100 - 144	5500 - 5720	200 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	200 mW	-	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Kuwait ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
Macau, China	11ax 11g 11n	1 - 13	2412 - 2472	200 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	-	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	-	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	1000 mW	-	Indoor + Outdoor
Madagascar	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Mozambique ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
New Zealand	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Oman	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Philippines [5]	11ax 11g 11n	1 - 11	2412 - 2462	500 mW [2]	14 dBi [4]	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	1000 mW [2]	14 dBi [4]	Indoor + Outdoor
		149 - 165	5745 - 5825	4000 mW [2]	14 dBi [4]	Indoor + Outdoor
Russian Federation	11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 64	5180 - 5320	200 mW	-	Indoor only
		132 - 144	5660 - 5720	200 mW	-	Indoor only
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	200 mW	-	Indoor only
Saudi Arabia ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Singapore	11ax 11g 11n	1 - 13	2412 - 2472	200 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	1000 mW	-	Indoor + Outdoor
South Africa	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Thailand	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	1000 mW	-	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Turkey	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Uruguay ♦	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	100 mW	-	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	100 mW	-	Indoor only
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	100 mW	-	Indoor + Outdoor
USA [5] [6]	11g 11n	1 - 11	2412 - 2462	750 mW [2]	14 dBi [4]	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	1000 mW [2]	14 dBi [4]	Indoor only
		52 - 64	5260 - 5320	1000 mW [2]	14 dBi [4]	Indoor + Outdoor
		100 - 144	5500 - 5720	1000 mW [2]	14 dBi [4]	Indoor + Outdoor
		149 - 165	5745 - 5825	4000 mW [2]	14 dBi [4]	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
United Kingdom	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) 3) 14 dBi (1 Tx) 3)	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 1)	5260 - 5320	200 mW	11 dBi (2 Tx) 3) 14 dBi (1 Tx) 3)	Indoor only
		100 - 144 1)	5500 - 5720	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	200 mW	11 dBi (2 Tx) 3) 14 dBi (1 Tx) 3)	Indoor + Outdoor
Vietnam ♦	11ax 11g 11n	1 - 13	2412 - 2472	200 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	-	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64	5260 - 5320	200 mW	-	Indoor + Outdoor
		100 - 140	5500 - 5700	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	1000 mW	-	Indoor + Outdoor

1) In this country, the use of 80 MHz channel width is not permitted in the channels 52 ... 140/144.

2) The maximum permitted EIRP (Effective Isotropic Radiated Power) may only be reached with at least one 6 dBi antenna.

3) Maximum permissible gain: Antenna and additional attenuation elements

4) Maximum permissible gain of the antenna without additional attenuation elements

5) The use of the antenna ANT793-8DL and of IWLAN RCoax (ANT792-4DN, ANT793-4MN, IWLAN RCoax Cable 2.4 GHz and 5 GHz) is not approved for this country.

6) Use US device version

7) Use ME device version

Maximum permissible gain: Antenna and additional attenuation elements

When using antennas with a very high antenna gain, the maximum permitted EIRP (equivalent isotropic radiated power) of the device is often exceeded even at minimum transmit power. Additional attenuation elements must therefore be used between the device and the antennas. The "Max. permitted gain" column in the table above shows the maximum permitted antenna gain (total value) that can be connected to the antenna sockets of the devices. If the typical antenna gain of the antennas to be connected exceeds the maximum permissible value, you must compensate for the difference by using attenuation elements, for example, an attenuator or connecting cables.

The following table provides an overview of possible attenuation elements and their attenuation values:

Name	Attenuation	Article number
Attenuator	10 dB	6GK5798-0AP00-4CA0
Antenna connecting cable, 1 m long	1.0 dB	6XV1875-5xH10
Antenna connecting cable, 2 m long	1.8 dB	6XV1875-5xH20
Antenna connecting cable, 5 m long	4.3 dB	6XV1875-5xH50

Example

The antenna ANT793-8DL is used.

- Typical antenna gain: 14 dBi
- Maximum permissible gain for channel 36 in Germany: 11 dBi

In this case the typical antenna gain exceeds the maximum permissible gain by 3 dBi. This means you must use an attenuation element with at least 3 dB. This can be a connecting cable, for example, with a length of 5 meters.

Note

Issued approvals on the type plate of the device

The specified approvals apply only when the corresponding mark is printed on the product. You can check which of the following approvals have been granted for your product by the markings on the type plate.

1.7 Type designations

Scope of validity

The approvals listed in this section apply to the following products:

Product	Certification ID	Article number
Access points		
SCALANCE WAM763-1	MSAX-W1-RJ-E2	6GK5763-1AL00-7DA0 (DI/DO) 6GK5763-1AL00-7DB0 (US) (DI/DO)
Client		
SCALANCE WUM763-1	MSAX-W1-RJ-E2-NO	6GK5763-1AL00-3AA0 6GK5763-1AL00-3AB0 (US)
	MSAX-W1-RJ-E2	6GK5763-1AL00-3DA0 (DI/DO) 6GK5763-1AL00-3DB0 (US) (DI/DO)

1.8 EC declaration of conformity

The EC Declaration of Conformity is available for all responsible authorities at:

Siemens Aktiengesellschaft
Digital Industries
Process Automation
DE-76187 Karlsruhe
Germany

You can find the current EU declaration of conformity for these products on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert).

The SIMATIC NET products described in this document meet the requirements of the following EU directives:

- ATEX directive 2014/34/EU

  Directive of the European Parliament and the Council of 26 February 2014 on the approximation of the laws of the member states concerning equipment and protective systems intended for use in potentially explosive atmospheres, official journal of the EU L96, 29/03/2014, pages 309–356

- RoHS directive 2011/65/EU

  Directive of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, official journal of the EC L174, 01/07/2011, pages 88-110

- Radio equipment directive 2014/53/EU (RED, Radio Equipment Directive)

  Directive of the European Parliament and of the Council of 16 April 2014 on the harmonization of the laws of the member states relating to placing radio equipment on the market; official journal of the EU L153, 22/05/2014, pages 62–106

1.8.1 ATEX

ATEX directive (correct usage in potentially explosive atmospheres)

The SIMATIC NET product meets the requirements of the EU Directive 2014/34/EU "Equipment and Protective Devices for Use in Potentially Explosive Atmospheres".

1. EN IEC 60079-0
   Hazardous areas - Part 0: Equipment - General requirements
2. EN 60079-7
   Explosive atmospheres - Part 7: Equipment protection through increased safety "e"

1.8.2 RoHS

RoHS directive (restriction of the use of certain hazardous substances)

The SIMATIC NET product meets the requirements of the EU Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment:

Applied standard:

3. EN IEC 63000
   Technical documentation for the assessment electrical and electronic products with respect to restriction of hazardous substances

1.8.3 RED

1.8.3.1 Protection of health and safety

Article 3 (1) a) protection of health and safety

4 EN IEC 62368-1
Equipment for audio, video, information and communication technology - Part 1: Safety requirements

5 EN IEC / IEC 62311
Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)

6 EN IEC 62368-3
Equipment for audio, video, information and communication technology - Safety - Part 3: DC power transfer through information technology communication cabling

1.8.3.2 EMC

Art. 3 (1) b - EMC

7 EN 50121-3-2
Railway applications - Electromagnetic compatibility - part 3-2: Railway Vehicles - Devices

8 EN 50121-4
Railway applications - Electromagnetic compatibility - part 4: Interference emissions and immunity of signal telecommunications equipment

9 ETSI EN 301 489-1
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 1 : Common technical requirements

10 ETSI EN 301 489-3
Electromagnetic compatibility and radio spectrum matters (ERM) – Electromagnetic compatibility (EMC) for radio equipment and services – Part 3: Specific conditions for wireless devices with a low range (SRD) for use on frequencies between 9 kHz and 246 GHz

11 ETSI EN 301 489-17
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 17: Specific conditions for broadband data transmission systems

12 EN 55032
Electromagnetic compatibility of multimedia equipment – Emission requirements

13 EN 55035
Electromagnetic compatibility of multimedia equipment - Immunity requirements

14 EN 61000-6-1
Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

15 EN 61000-6-2

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments

16 EN 61000-6-3

Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

17 EN 61000-6-4

Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

18 EN IEC 61000-6-8

Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

1.8.3.3 Efficient use of the radio spectrum

Art. 3 (2) Efficient use of the radio spectrum

19 ETSI EN 300 328

Broadband transmission systems – Data transmission equipment operating in the 2.4 GHz ISM band and using broadband modulation techniques. Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

20 ETSI EN 300 440 V2.1.1

Electromagnetic compatibility and radio spectrum matters (ERM) – short range devices (SRD) – Radio equipment to be used in the 1 GHz to 40 GHz frequency range - Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

21 ETSI EN 301 893

Broadband Radio Access Networks (BRAN) – 5 GHz high performance RLAN – Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

1.8.4 Other technical standards

22 CISPR 11

Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

23 CISPR 32

Electromagnetic compatibility of multimedia equipment. Emission requirements

24 CISPR 35

Electromagnetic compatibility of multimedia equipment - Immunity requirements

25 EN IEC / IEC 61000-6-1

Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

26 EN IEC / IEC 61000-6-2

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments

27 EN/ IEC 61000-6-3
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

28 EN IEC / IEC 61000-6-4
Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

29 EN IEC / IEC 61000-6-8
Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

30 NAMUR NE21
Automation engineering of modular systems in the process industry - Modelling of module services

1.8.5 Products

CE conformity

The standards applying to the product are described in ATEX (Page 36), RoHS (Page 36) and RED (Page 37).

Product	Standards
SCALANCE WAM763-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
SCALANCE WUM763-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28

1.9 UK Declaration of Conformity

The UK declaration of conformity is available to all responsible authorities at:

Siemens Aktiengesellschaft
Digital Industries
Process Automation
DE-76187 Karlsruhe
Germany

Importer UK:
Siemens plc,
Manchester M20 2UR
United Kingdom

You can find the current UK Declaration of Conformity for these products on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert).

The SIMATIC NET products described in this document meet the requirements of the following directives:

- UK Regulation

  SI 2016/1107 The Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016, and related amendments

- RoHS Regulation

  SI 2012/3032 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, and related amendments

- Radio Equipment Regulation

  SI 2017/1206 The Radio Equipment Regulations 2017

1.9.1 Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016

Correct usage in potentially explosive atmospheres

The SIMATIC NET product meets the requirements of "Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations ".

1. EN IEC 60079-0
   Hazardous areas - Part 0: Equipment - General requirements
2. EN 60079-7
   Explosive atmospheres - Part 7: Equipment protection through increased safety "e"

1.9.2 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Restriction of the use of certain hazardous substances

The SIMATIC NET product meets the requirements of "The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012".

Applied standard:

3. EN IEC 63000
   Technical documentation for the assessment electrical and electronic products with respect to restriction of hazardous substances

1.9.3 Radio Equipment Regulations 2017

1.9.3.1 Protection of health and safety

Article 3 (1) a) protection of health and safety

4 EN IEC 62368-1
Equipment for audio, video, information and communication technology - Part 1: Safety requirements

5 EN IEC 62311
Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)

6 EN IEC 62368-3
Equipment for audio, video, information and communication technology - Safety - Part 3: DC power transfer through information technology communication cabling

1.9.3.2 EMC

Art. 3 (1) b - EMC

7 EN 50121-3-2
Railway applications - Electromagnetic compatibility - part 3-2: Railway Vehicles - Devices

8 EN 50121-4
Railway applications - Electromagnetic compatibility - part 4: Interference emissions and immunity of signal telecommunications equipment

9 ETSI EN 301 489-1
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 1 : Common technical requirements

10 ETSI EN 301 489-3
Electromagnetic compatibility and radio spectrum matters (ERM) – Electromagnetic compatibility (EMC) for radio equipment and services – Part 3: Specific conditions for wireless devices with a low range (SRD) for use on frequencies between 9 kHz and 246 GHz

11 ETSI EN 301 489-17
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 17: Specific conditions for broadband data transmission systems

12 EN 55032
Electromagnetic compatibility of multimedia equipment – Emission requirements

13 EN 55035
Electromagnetic compatibility of multimedia equipment - Immunity requirements

14 EN 61000-6-1
Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

15 EN 61000-6-2

Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments

16 EN 61000-6-3

Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

17 EN 61000-6-4

Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

18 EN IEC 61000-6-8

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1.9.3.3 Efficient use of the radio spectrum

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20 ETSI EN 300 440 V2.1.1

Electromagnetic compatibility and radio spectrum matters (ERM) – short range devices (SRD) – Radio equipment to be used in the 1 GHz to 40 GHz frequency range - Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

21 ETSI EN 301 893

Broadband Radio Access Networks (BRAN) – 5 GHz high performance RLAN – Harmonized EN covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU

1.9.4 Other technical standards

Art. 3 (3) a)-i) Delegated acts for radio equipment

22 CISPR 11

Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

23 CISPR 32

Electromagnetic compatibility of multimedia equipment. Emission requirements

24 CISPR 35

Electromagnetic compatibility of multimedia equipment - Immunity requirements

25 EN IEC / IEC 61000-6-1

Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

26 EN IEC / IEC 61000-6-2
Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments

27 EN/ IEC 61000-6-3
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28 EN IEC / IEC 61000-6-4
Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

29 EN IEC / IEC 61000-6-8
Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations

30 NAMUR NE21
Automation engineering of modular systems in the process industry - Modelling of module services

UK conformity

The standards applying to the product are described in Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016 (Page 40), Radio Equipment Regulations 2017 (Page 41) and The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (Page 40).

Product	Standards
SCALANCE WAM763-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27, 28
SCALANCE WUM763-1	1,2,3,4,5,6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27, 28

1.10 Supplier’s declaration of conformity

The RCM declaration of conformity is available to all responsible authorities at:

Siemens Aktiengesellschaft
Digital Industries
Process Automation
DE-76187 Karlsruhe
Germany

You can find the current Supplier's declaration of conformity for these products on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/28575/cert)

As required by the following Notices:

- Radiocommunications (Compliance Labelling - Devices) Notice 2014 made under section 182 of the Radiocommunications Act 1992;
- Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017 made under section 182 of the Radiocommunications Act 1992
- Radiocommunications (Compliance Labelling – Electromagnetic Radiation) Notice 2014 made under section 182 of the Radiocommunications Act 1992
- Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015 made under section 407 of the Telecommunications Act 1997.

Including the standard

- ETSI EN 301 489-1
- ETSI EN 301 489-3
- ETSI EN 301 489-17
- ETSI EN 300 328
- ETSI EN 300 440
- ETSI EN 301 893

1.11 General approvals

ATEX, IECEx, UKEX and CCC Ex certification

WARNING

Risk of explosion in hazardous areas

When using SIMATIC NET products in hazardous area zone 2, make absolutely sure that the associated conditions in the following document are adhered to:

"SIMATIC NET Product Information Use of subassemblies/modules in a Zone 2 Hazardous Area".

You will find this document

- on the Internet pages under Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/view/78381013).

The markings of the electrical devices are:

II 3G Ex ec IIC T4 Gc
DEKRA 18ATEX0026 X
DEKRA 21UKEX0002 X
IECEx DEK 18.0018X
Importer UK:
Siemens plc,
Manchester
M20 2UR, UK

(Ex ec IIC T4 Gc, not on the nameplate)

The product meets the requirements of the standards:

- EN/IEC 60079-7, GB 3836.3
- EN IEC/IEC 60079-0, GB 3836.1

You will find the current versions of the standards in the currently valid certificates.

NEMA TS2 (EEC)

EEC versions meet the requirements of the standard

NEMA TS2 (Traffic Controller Assemblies with NTCIP Requirements)

E1

The device meets the requirements of the ECE R10 directive.

Test number 10 R - 057876

FM

The product meets the requirements of the standards:

- Factory Mutual Approval Standard Class Number 3611 / 3600 / 3810 / ANSI ISA-61010-1
- FM Hazardous (Classified) Location Electrical Equipment:
  Non Incendive / Class I / Division 2 / Groups A,B,C,D / T4 and
  Non Incendive / Class I / Zone 2 / Group IIC / T4

cULus Approval for Information Technology Equipment

cULus Listed I. T. E.

Underwriters Laboratories Inc. complying with

- UL 62368-1
- CSA C22.2 No. 62368-1

Report no. E115352

cULus approval for industrial control equipment

cULus Listed PROG-CNTLR.

Underwriters Laboratories Inc. complying with

- UL 61010-1
- UL 61010-2-201
- CSA C22.2 NO 61010-1
- CSA C22.2 NO 61010-2-201

Report no. E115352

cULus Approval Hazardous Location

cULus Listed I. T. E. FOR HAZ. LOC.

Underwriters Laboratories Inc. complying with

- UL 121201 (Non Incendive electrical equipment) approved for use in Class I, Division 2, Groups A, B, C, D, T4.
- UL CSA C22.2 NO 213 (Non Incendive electrical equipment) approved for use in Class I, Zone 2, Group IIC, T4.

FCC approval

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

IEEE 802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Professional Installation Notice:

To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Note for Australia - RCM

The product meets the requirements of the RCM standard.

Applied standard:

- AS/NZS 4417.1 (Class A)

You will find the current versions of the standards in the currently valid RCM SDoCs (Self-Declaration of Conformity).

Marking for the customs union

EAC (Eurasian Conformity)

Eurasian Economic Union of Russia, Belarus, Armenia, Kazakhstan and Kyrgyzstan

Declaration of conformity according to the technical regulations of the customs union (TR ZU)

1.12 National approvals

The following table lists the countries in which the SCALANCE WxM763-1 product is approved.

Depending on the antenna settings in use, a special regulation of the transmit power may be required in some countires.

The current status of the approvals can be found on the Internet at the following address: Approvals (https://www.siemens.com/wireless-approvals).

Column	Meaning
Country	Country
Mode	IEEE 802.11 standard and the DFS functionality, where required
CH	IEEE 802.11 channel
MHz	IEEE 802.11 frequency
PWR (EIRP)	Maximum permitted effective isotropic radiated power
Max. permitted gain	Maximum permissible antenna gain [2]
Use	Permitted use indoors and / or outdoors

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Albania Andorra Austria Belgium Bosnia and Herzegovina Bulgaria Croatia Denmark Germany Estonia Finland France Greece Ireland Iceland	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
Italy Latvia Liechtenstein Lithuania Luxembourg Malta Monaco Montenegro Netherlands Norway Poland Portugal Romania San Marino Sweden Switzerland Slovakia Slovenia Spain Czech Republic Hungary Vatican Cyprus CE	11a 11ac 11ax 11n	149 - 165 [2]	5745 - 5825	25 mW	10 dBi (2 Tx) [3] 13 dBi (1 Tx) [3]	Indoor + Outdoor
Russian Federation	11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 64	5180 - 5320	200 mW	-	Indoor only
		132 - 144	5660 - 5720	200 mW	-	Indoor only
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	200 mW	-	Indoor only
Turkey	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
	11a 11ac 11ax 11n DFS	52 - 64 [1]	5260 - 5320	200 mW	11 dBi (2 Tx) [3] 14 dBi (1 Tx) [3]	Indoor only
		100 - 140 [1]	5500 - 5700	1000 mW	-	Indoor + Outdoor

Country	Mode	CH	MHz	PWR (EIRP)	Max. permitted gain	Use
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) 3) 13 dBi (1 Tx) 3)	Indoor + Outdoor
USA 5) 6) 7)	11ax 11g 11n	1 - 11	2412 - 2462	630 mW 2)	14 dBi 4)	Indoor + Outdoor
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	1000 mW 2)	9 dBi 4)	Indoor only
		149 - 165	5745 - 5825	3200 mW 2)	9 dBi 4)	Indoor + Outdoor
United Kingdom	11ax 11g 11n	1 - 13	2412 - 2472	100 mW	-	Indoor + Outdoor Indoor only
	11a 11ac 11ax 11n	36 - 48	5180 - 5240	200 mW	11 dBi (2 Tx) 3) 14 dBi (1 Tx) 3)	
	11a 11ac 11ax 11n DFS	52 - 64 1)	5260 - 5320	200 mW	11 dBi (2 Tx) 3) 14 dBi (1 Tx) 3)	Indoor only
		100 - 140 1)	5500 - 5720	1000 mW	-	Indoor + Outdoor
	11a 11ac 11ax 11n	149 - 165	5745 - 5825	25 mW	10 dBi (2 Tx) 3) 13 dBi (1 Tx) 3)	Indoor + Outdoor

1) In this country the use of 80 MHz channel width is not permitted in the channels 52 to 140.

2) The maximum permitted EIRP (Effective Isotropic Radiated Power) may only be reached with at least one 6 dBi antenna.

3) Maximum permissible gain: Antenna and additional attenuation elements

4) Maximum permissible gain of the antenna without additional attenuation elements

5) The use of the antennas ANT897-4ME, ANT897-5PN, ANT795-6MP, ANT793-8DK, ANT793-8DJ, ANT793-8DP, ANT793-8DL, ANT792-4DN, ANT793-4MN and IWLAN RCoax Cable 2.4 GHz and 5 GHz is not approved for this country.

6) Use US device version

7) The antennas ANT792-8DN, ANT795-6DC, ANT792-6MN, ANT793-6DG and ANT795-6MN may only be used together with a flexible connecting cable with a length of ≥ 2m.

Maximum permissible gain: Antenna and additional attenuation elements

When using antennas with a very high antenna gain, the maximum permitted EIRP (equivalent isotropic radiated power) of the device is often exceeded even at minimum transmit power. Additional attenuation elements must therefore be used between the device and the antennas. The "Max. permitted gain" column in the table above shows the maximum permitted antenna gain (total value) that can be connected to the antenna sockets of the devices. If the typical antenna gain of the antennas to be connected exceeds the maximum permissible value, you must compensate for the difference by using attenuation elements, for example, an attenuator or connecting cables.

The following table provides an overview of possible attenuation elements and their attenuation values:

Name	Attenuation	Article number
Attenuator	10 dB	6GK5798-0AP00-4CA0
Antenna connecting cable, 1 m long	1.0 dB	6XV1875-5xH10
Antenna connecting cable, 2 m long	1.8 dB	6XV1875-5xH20
Antenna connecting cable, 5 m long	4.3 dB	6XV1875-5xH50

Example

The antenna ANT793-8DL is used.

- Typical antenna gain: 14 dBi
- Maximum permissible gain for channel 36 in Germany: 11 dBi

In this case the typical antenna gain exceeds the maximum permissible gain by 3 dBi. This means you must use an attenuation element with at least 3 dB. This can be a connecting cable, for example, with a length of 5 meters.

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