



# Digi WR54

---

Hardware Reference

## Revision history—90002298

Revision	Date	Description
A	December 2018	Initial release.
B	January 2019	Miscellaneous corrections.
C	June 2019	Added ANATEL (Brazil) certification. Updated temperature warning.
D	July 2019	Added <a href="#">Battery power management</a> section.

## Trademarks and copyright

Digi, Digi International, and the Digi logo are trademarks or registered trademarks in the United States and other countries worldwide. All other trademarks mentioned in this document are the property of their respective owners.

© 2019 Digi International Inc. All rights reserved.

## Disclaimers

Information in this document is subject to change without notice and does not represent a commitment on the part of Digi International. Digi provides this document “as is,” without warranty of any kind, expressed or implied, including, but not limited to, the implied warranties of fitness or merchantability for a particular purpose. Digi may make improvements and/or changes in this manual or in the product(s) and/or the program(s) described in this manual at any time.

## Warranty

To view product warranty information, go to the following website:

[www.digi.com/howtobuy/terms](http://www.digi.com/howtobuy/terms)

## Customer support

**Gather support information:** Before contacting Digi technical support for help, gather the following information:

- ✓ Product name and model
- ✓ Product serial number (s)
- ✓ Firmware version
- ✓ Operating system/browser (if applicable)
- ✓ Logs (from time of reported issue)
- ✓ Trace (if possible)

- ✔ Description of issue
- ✔ Steps to reproduce

**Contact Digi technical support:** Digi offers multiple technical support plans and service packages. Contact us at +1 952.912.3444 or visit us at [www.digi.com/support](http://www.digi.com/support).

## Feedback

To provide feedback on this document, email your comments to

[techcomm@digi.com](mailto:techcomm@digi.com)

Include the document title and part number (Digi WR54 Hardware Reference, 90002298 C) in the subject line of your email.

# Contents

---

## Welcome

Digi WR54 features and specifications .....	7
Digi WR54 accessories .....	7
Digi WR54 front view .....	8
Digi WR54 LEDs .....	9
Single cellular models .....	9
Dual cellular models .....	9
Dual Wi-Fi models .....	9
Power .....	9
GNSS Service .....	9
Wi-Fi Service .....	10
WWAN Signal .....	10
WWAN Service .....	10
Ethernet 1-4 Link and Activity (on rear panel) .....	10
Power sensor and button behavior .....	11
Digi WR54 back view .....	11
Digi WR54 serial connector pinout .....	12
Reset the device to factory defaults .....	13
Tips for improving cellular signal strength .....	14

## Quick start

Step 1: What's in the box .....	15
Step 2: Gather accessories .....	15
Step 3: Connect hardware and power up .....	16
Step 4: Access the WR54 local web interface .....	16
Next steps .....	16
Quick start using the Digi Remote Manager mobile app .....	17

## Hardware setup

Install SIM cards .....	19
Connect data cables .....	19
Connect antennas .....	19
Connect power .....	20
Mount and ground chassis .....	20
WR54 electrical rating .....	21
WR54 power connector .....	21
Battery power management .....	22

## Digi Remote Manager

Log into Digi Remote Manager .....	24
Configure remote management .....	24
View and manage a WR54 .....	24
Configure multiple devices .....	24
Learn more .....	25

## Digi WR54 regulatory and safety statements

RF exposure statement .....	26
Federal Communication (FCC) Part 15 Class B .....	26
Radio Frequency Interference (RFI) (FCC 15.105) .....	26
European Community - CE Mark Declaration of Conformity (DoC) .....	26
CE mark (Europe) .....	27
ANATEL (Brazil) .....	28
Maximum transmit power for radio frequencies .....	29
Innovation, Science, and Economic Development Canada (IC) certifications .....	29
RoHS compliance statement .....	30
Safety statements .....	30
Special safety notes for wireless routers .....	31
Product disposal instructions .....	32

## Certifications

International EMC (Electromagnetic Compatibility) and safety standards .....	33
--	----

## Welcome

---

Digi WR54 features and specifications .....	7
Digi WR54 accessories .....	7
Digi WR54 front view .....	8
Digi WR54 LEDs .....	9
Power sensor and button behavior .....	11
Digi WR54 back view .....	11
Digi WR54 serial connector pinout .....	12
Reset the device to factory defaults .....	13
Tips for improving cellular signal strength .....	14

## Digi WR54 features and specifications

The Digi WR54 key features include:

- LTE-CAT 11 cellular with dual SIM for carrier failover/flexibility
- 802.11ac Wi-Fi with support for hotspots and content filtering
- 4 gigabit Ethernet ports for high-speed connectivity

For a detailed list of WR54 hardware specifications, see [Digi WR54 specifications](#).

## Digi WR54 accessories

Digi offers the following WR54 accessories and accessory kits:

Digi part number	Description
24000140	Power supply: Standard temp AC/DC power for installations up to +40° C
76002079	Power supply: Extended temp AC/DC power supply for installations up to +70° C
76002081	Accessory kit: Extended temp AC/DC power supply for installations up to +70° C Ethernet cable Cellular antennas (2)

---

**Note** For installations up to +74° C, use TRACO Power TPP-30-112J, TPP-30-115J, TPP-30-124J, and TEX120-112.

---

## Digi WR54 front view

The following figure shows the front view of the WR54 dual cellular model. Other models will look slightly different.



Item	Description
<b>SIM gasket</b>	See <a href="#">Install SIM cards</a>
<b>LEDs</b>	See <a href="#">Digi WR54 LEDs</a>
<b>Power button</b>	See <a href="#">Power sensor and button behavior</a>



## Digi WR54 LEDs

The WR54 LEDs are located on the top front panel. The number of LEDs varies by model. During bootup, the front-panel LEDs light up in sequence to indicate boot progress.

### Single cellular models



### Dual cellular models



### Dual Wi-Fi models



### Power

- **Off:** No power.
- **Blinking Blue:** Unit is powering on.
- **Blue:** Unit has power.

### GNSS Service

- **Solid Green:** GNSS is enabled and has a valid fix.
- **Blinking Green:** GNSS is enabled but does not have a valid fix.
- **Off:** GNSS is not enabled.

## Wi-Fi Service

- **Solid Green:** Wi-Fi interface is enabled.
- **Off:** Wi-Fi interface is disabled.

## WWAN Signal

Indicates strength of cellular signal.

- **Off:** No service.
- **Yellow:** Poor / Fair signal.
- **Green:** Good / Excellent signal.

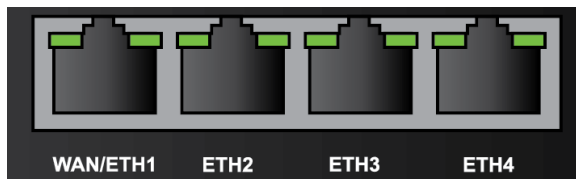
## WWAN Service

Indicates the presence and level of cellular service running on the device.

- **Off:** No service.
- **Blinking Green:** 2G/3G/4G connection is coming up.
- **Solid Yellow:** 2G or 3G connection is up.
- **Solid Green:** 4G connection is up.

## Ethernet 1-4 Link and Activity (on rear panel)

The LEDs on the **WAN/ETH1**, **ETH2**, **ETH3**, and **ETH4** ports indicate that the Ethernet network interface is up and there is activity on the network interface.



Left LED (on top of port connector)

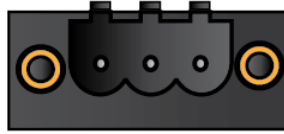
- **Off:** No Ethernet link detected.
- **Blinking amber:** Indicates Ethernet traffic.

Right LED (on top of port connector)

- **Off:** No Ethernet link detected.
- **Solid green:** 10/100 Mbps link detected.
- **Solid amber:** 1000 Mbps link detected.

## Power sensor and button behavior

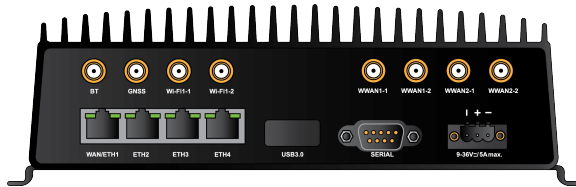
The WR54 has an ignition sensor that can automatically power on the device when the ignition line is on.



You can also power on the WR54 using the **Power** button.

## Digi WR54 back view

The following figure shows the back view of the WR54 dual cellular model. Other models will look slightly different.



- Antenna connectors
- WAN/ETH1
- ETH2/ETH3/ETH4
- USB 3.0
- Serial
- Power

## Digi WR54 serial connector pinout

The WR54 is a DTE device. The pinout for the DB9 serial connector is as follows:

Signal name	RS232 signal	DTE signal direction	DB9 pin number
Transmit Data	TxD	In	3
Receive Data	RxD	Out	2
Ready To Send	RTS	In	7
Clear to Send	CTS	Out	8
Data Set Ready	DSR	Out	6
Ground	GND	N/A	5
Data Carrier Detect	DCD	Out	1
Data Terminal Ready	DTR	In	4
Ring Indicate	RI	Out	9

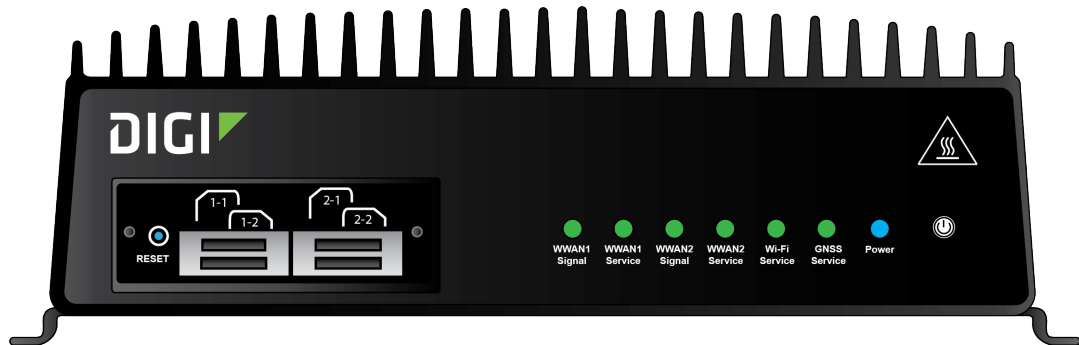
## Reset the device to factory defaults

Resetting the device to factory defaults performs the following actions:

- Clears all configuration settings. When the device boots up again, it uses the configuration in file **config.fac**. If the **config.fac** file has been deleted, the device will regenerate it with the default Digi configuration.
- Deletes all user files including Python scripts.
- Regenerates SSH keys.
- Clears event and system log files.
- Creates a new event in the event log indicating a factory reset.

To reset the device to factory defaults:

1. Locate the reset button on your device. For the **WR54**, the **Reset** button is located on top of the SIM card slots on the front panel. Remove the SIM cover to access the **Reset** button.



2. Press and hold the **Reset** button for **15** seconds. The device reboots automatically. The device resets to factory defaults. Follow the instructions in [Quick start](#) to reconfigure the device.

## Tips for improving cellular signal strength

If the signal strength LEDs or the signal quality for your device indicate **Poor** or **No service**, try the following things to improve signal strength:

- Move the device to another location.
- Try connecting a different set of antennas, if available.
- Purchase a Digi Antenna Extender Kit:
  - [Antenna Extender Kit, 1m](#)
  - [Antenna Extender Kit, 3m](#)

## Quick start

---

Congratulations on your Digi WR54 purchase. The following steps guide you through the setup.

### Step 1: What's in the box

When you open the WR54 package, look for the following:

- **Welcome Card**
- **The WR54 device**
- **The WR54 label**

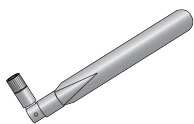
### Step 2: Gather accessories

---

**Note** Digi offers several WR54 accessory kits so you to purchase exactly what you need to support your WR54. See [WR54 support](#).

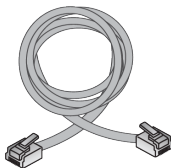
---

Here's the list of accessories used in this *Quick start*:



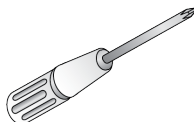
#### **Antennas**

Use antennas provided by a Digi accessory kit or use alternate antennas that complies with the WR54 antenna requirements.



#### **Ethernet cable**

Use an Ethernet cable to connect the WR54 ETH2, ETH3, or ETH4 port to a laptop or PC to access the local web interface via a browser or connect to a WAN.



#### **Phillips-head screwdriver**

Use a # 1 Phillips-head screwdriver to remove and replace the SIM gasket cover when installing SIM cards.



#### **Power supply**

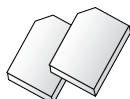
Use a power supply provided by a Digi accessory kit or use an alternate power supply that complies with the power supply requirements.

**Smart phone or tablet**

Use a smart phone or tablet to automatically register your WR54 in your Digi Remote Manager account and connect to your cellular network.

**Laptop or personal computer**

If you intend to access the WR54 local web interface via a browser, use an Ethernet cable to connect your WR54 to a laptop or PC.

**SIM card(s)**

Acquire SIM cards as needed. Note the carrier, network APN (Access Point Name), and SIM pin (if any) for each card.

## Step 3: Connect hardware and power up

- Install SIM card(s). See [Install SIM cards](#).
- Attach antenna(s).
- Connect DC power. See [WR54 power connector](#) for details.
- Power on the WR54 by pressing the **Power** button on the front panel.
- Indicator LEDs blink to show status during startup.
- Wait for the power LED to stop blinking. The device is ready.

## Step 4: Access the WR54 local web interface

- Use an Ethernet cable to connect the WR54 ETH2, ETH3, or ETH4 port to your PC.
- Open a browser and go to **192.168.1.1**.
- Log into the WR54:

**User name:** Use the default user name: **admin**

**Password:** Use the unique password printed on the bottom label of the device (or the printed label included in the package)

The WR54 **Getting Started Wizard** appears.

## Next steps

Congratulations! You have completed the Quick start.

- ✓ To manage and configure your WR54 remotely using Digi Remote Manager, see [Digi Remote Manager User Guide](#).



- ✓ To manage and configure your WR54 locally using the local web interface, see [Digi WR Routers User Guide](#).

## Quick start using the Digi Remote Manager mobile app

After connecting your hardware and powering up, you can use the Digi Remote Manager mobile app to quickly register your WR54 into your Digi Remote Manager account.

Here's how:

### If you already have a Digi Remote Manager account:

- Download the **Digi Remote Manager** mobile app from the [App Store](#) (iPhone) or [Google Play](#) (Android).
- Click **Log in or Sign Up** and log in to your account.
- From the menu, select **Install a device with a QR or bar code** and scan the installation QR code on the label.
- Follow the prompts to complete your WR54 registration.

### If you need to sign up for a Digi Remote Manager account:

- Click [here](#) to create a new account. You'll receive an email with login instructions.
- On your smartphone or tablet, download the **Digi Remote Manager** mobile app from the [App Store](#) (iPhone) or [Google Play](#) (Android).
- Open the **Digi Remote Manager** mobile app, click **Log in** and log into your new account.
- From the menu, select **Install a device with a QR or bar code** and scan the installation QR code on the label.
- Follow the prompts to complete your WR54 registration.

## Hardware setup

---

Install SIM cards .....	19
Connect data cables .....	19
Connect antennas .....	19
Connect power .....	20

## Install SIM cards

To install SIM cards:

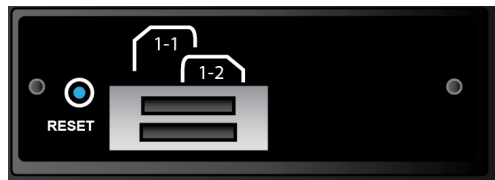
1. On the WR54 front panel, use a Philips screwdriver to remove the SIM slot cover.
2. For high-vibration environments, apply a thin layer of dielectric grease to the SIM contacts.

---

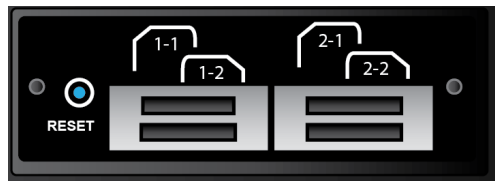
**Note** If the WR54 device is used in an environment with high vibration levels, SIM card contact fretting may cause unexpected SIM card failures. To protect the SIM cards, Digi strongly recommends that you apply a thin layer of dielectric grease to the SIM contacts prior to installing the SIM cards.

---

3. Insert the SIM card(s) into the SIM sockets in the positions shown on the SIM gasket:
  - Single cellular models:



- Dual cellular models:



4. After all SIM cards are in place, replace the SIM slot cover.

## Connect data cables

The WR54 provides three types of data ports:

- **Ethernet** (RJ-45): Use a Cat 5e or Cat 6 Ethernet cable.
- **USB**: Use a Micro-AB cable.
- **Serial** (9-pin RS-232): Use a serial cable with a 9-pin RS-232 connector.

## Connect antennas

Connect antennas to the appropriate antenna connector:

- GNSS
- Wi-Fi
  - Single Wi-Fi models: Wi-Fi-1/Wi-Fi-2
  - Dual Wi-Fi models: Wi-Fi1-1/Wi-Fi1-2 and Wi-Fi2-1/Wi-Fi2-2

- WWAN:
  - Single cellular models: WWAN-1/WWAN-2
  - Dual cellular models: WWAN1-1/WWAN1-2 and WWAN2-1/WWAN2-2

## Connect power

Connect the WR54 power cable to a power source.

### **Vehicle installation**

The WR54 shall be powered from a 5 A fused circuit or shall be installed with an in-line Slow Blow fuse rated at 5 A.

Maximum ambient operating temperature is limited to 74°C.

---

**Note** Always follow the vehicle manufacturer recommendations for electrical accessories connections. All components used in the electrical connection to the vehicle should be UL listed. See also [Mount and ground chassis](#).

---

### **Alternate installations**

The WR54 shall be powered by a Certified ITE LPS power supply or a Direct Plug-in Class 2 output transformer rated at either 12 VDC/2.5 A or 24 VDC/1.25 A minimum. Supplies shall be suitable for the ambient for which they are installed.

Maximum ambient operating temperature is limited to the lower of the maximum ambient operating temperature of the power supply or 74° C.

Digi recommends the power supplies in the following accessory kits:

- Installations up to +40° C: Digi part number 24000140
- Installations up to +70° C: Digi part number 76002079 or 76002081
- Installations up to +74° C: TRACO Power TPP-30-112J, TPP-30-115J, TPP-30-124J, and TEX120-112

## Mount and ground chassis

If you intend to install the WR54 in a vehicle, follow these directions for mounting and grounding the device.

---

**Note** Always follow the vehicle manufacturer recommendations for electrical accessories connections.

---

### **Mount the device following these general guidelines:**

- Device position allows easy access to all ports located on the back of the device.
- Device position allows you to easily view the LEDs located on the front of the device.
- Device location is away from direct exposure to the elements, such as sun, rain, dust, and so on.
- Device and cables should not be near high amperage or exposed to extreme temperatures.
- Device and cables should be installed in an area with adequate airflow.

The WR54 has two mounting brackets located on the left and right sides of the device.

For DC installations (with a fixed system ground reference), ground the WR54 chassis to the system ground reference.

For proper grounding reference:

- Attach the device to a grounded metal surface.
- Connect one end of a short AWG or larger gauge wire to the upper-right grounding hole and connect the other end to the vehicle chassis.

## Special considerations

- Separate Ethernet and power cables from other wiring in the vehicle and route the cables away from sharp edges.
- Use cable strain relief for installations in high-vibration environments.

## WR54 electrical rating

WR54 devices require connection to a conditioned power system that meets these requirements:

- Tolerance within maximum operating voltage range 9 VDC to 36 VDC.
- [WR54 power connector](#) on the back of the device requires wiring terminals with the following specifications:

Wire size: 30-12 AWG

Wire type: copper wire only

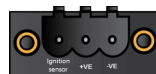
Terminal blocks torque: 5-7 pounds per inch

For supply connections, use wires suitable for at least 85° C.

- Power installation must be performed by a qualified electrician, following the National Electrical Code, ANSI/NFPA 70 and Canadian Electrical Code, Part I, CSA C22.1.
- There must be a disconnect device in front of WR54 devices to protect maintenance workers. Use a 20 A circuit-breaker as the disconnect device.
- Before doing any maintenance, the maintenance worker must use caution and close the general power supply.

## WR54 power connector

The WR54 has a power connector located on the back of the device:



Pin	Connection
1	Ignition sensor
2	Positive
3	Negative

See [WR54 electrical rating](#) for information on connecting power to the device.

## Battery power management

The WR54 power input range is 9-36 VDC. In addition, the WR54 includes a battery saver function. The WR54 Power Management Unit (PMU) continuously monitors the power input ( $V_{in}$ ) and applies the predefined 10.5 V "turn-off" and 11.5 V "turn-on" supply voltage levels. Once low supply voltage is detected during operation, the PMU applies the following timeout values before powering off the WR54:

- If  $9\text{ V} < V_{in} < 10.5\text{ V}$  "turn-off" voltage, the unit powers off after 360 seconds.
- If  $6\text{ V} < V_{in} < 9\text{ V}$ , the unit powers off after 30 seconds.
- If  $V_{in} < 6\text{ V}$ , the unit powers off after 3 seconds.

Once the WR54 is powered off, it will power on again only if  $V_{in} > 11.5\text{ V}$  "turn-on" voltage.

## Digi Remote Manager

---

Log into Digi Remote Manager .....	24
Configure remote management .....	24
View and manage a WR54 .....	24
Configure multiple devices .....	24
Learn more .....	25

## Log into Digi Remote Manager

To start Digi Remote Manager

1. If you have not already done so, click [here](#) to sign up for a Digi Remote Manager account.
2. Check your email for Digi Remote Manager login instructions.
3. Go to [remotemanager.digi.com](https://remotemanager.digi.com).
4. Log into your Digi Remote Manager account.

## Configure remote management

Digi Remote Manager is enabled by default. Once the WR54 device has a WAN connection, it automatically connects to Digi Remote Manager.

### Register device in Digi Remote Manager

- If you registered your device with Digi Remote Manager when you went through the **Getting Started Wizard**:
  1. Enter your credentials to log in to your Remote Manager account and click **Log In**.
  2. A message appears showing the group into which your device has been registered in the **Remote Manager Status** section of the Digi Remote Manager page.
- If you skipped the registration step in the **Getting Started Wizard**:
  1. On the menu, click **System > Administration > Remote Manager**.
  2. Enter your credentials to log in to your Digi Remote Manager account and click **Log In**.
  3. Select a group for your device in your Digi Remote Manager account, then click **Register Device**.
  4. If the registration succeeds, a message appears indicating that your device has been registered in your Digi Remote Manager account; for example:

---

This device is registered in your Digi Remote Manager account  
Group location: Group C

---

## View and manage a WR54

To view and manage your device:

1. If you have not already done so, connect to your Digi Remote Manager account.
2. Click **Device Management** to display a list of your devices.
3. Use the Search bar to locate and select the WR54 you want to manage.
4. Click **Properties** to view general information for your WR54.
5. Click the **More** menu to perform a task.

## Configure multiple devices

Digi recommends you take advantage of Digi Remote Manager profiles to manage multiple WR54 routers. Typically, if you want to provision multiple WR54 routers:



1. Using the WR54 local web UI, configure one WR54 router to use as the model configuration for all subsequent WR54s you need to manage.
2. Register the configured WR54 in your Digi Remote Manager account.
3. In Digi Remote Manager, create a profile based on the configured WR54.
4. Apply the profile to the WR54 routers you need to configure.

Digi Remote Manager provides multiple methods for applying profiles to registered devices. You can also include site-specific settings with a profile to override settings on a device-by-device basis.

## Learn more

- For information on using Digi Remote Manager to configure and manage WR54 routers, see the [Digi Remote Manager User Guide](#).
- For information on using Digi Remote Manager APIs to develop custom applications, see the [Digi Remote Manager Programmer Guide](#)

## **Digi WR54 regulatory and safety statements**

---

### **RF exposure statement**

In order to comply with RF exposure limits established in the ANSI C95.1 standards, the distance between the antenna or antennas and the user should not be less than **20 cm**.

### **Federal Communication (FCC) Part 15 Class B**

#### **Radio Frequency Interference (RFI) (FCC 15.105)**

The WR54 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 correct the interference by one or more of the following measures:

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

#### **Labeling Requirements (FCC 15.19)**

The WR54 complies with Part 15 of 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.

If the FCC ID is not visible when installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module FCC ID.

#### **Modifications (FCC 15.21)**

Changes or modifications to this equipment not expressly approved by Digi may void the user's authority to operate this equipment.

### **European Community - CE Mark Declaration of Conformity (DoC)**

Digi has issued Declarations of Conformity for the Digi WR54 concerning emissions, EMC, and safety. For more information, see [www.digi.com/resources/certifications](http://www.digi.com/resources/certifications).

#### **Important note**

Digi customers assume full responsibility for learning and meeting the required guidelines for each country in their distribution market. Refer to the radio regulatory agency in the desired countries of operation for more information.

## CE mark (Europe)

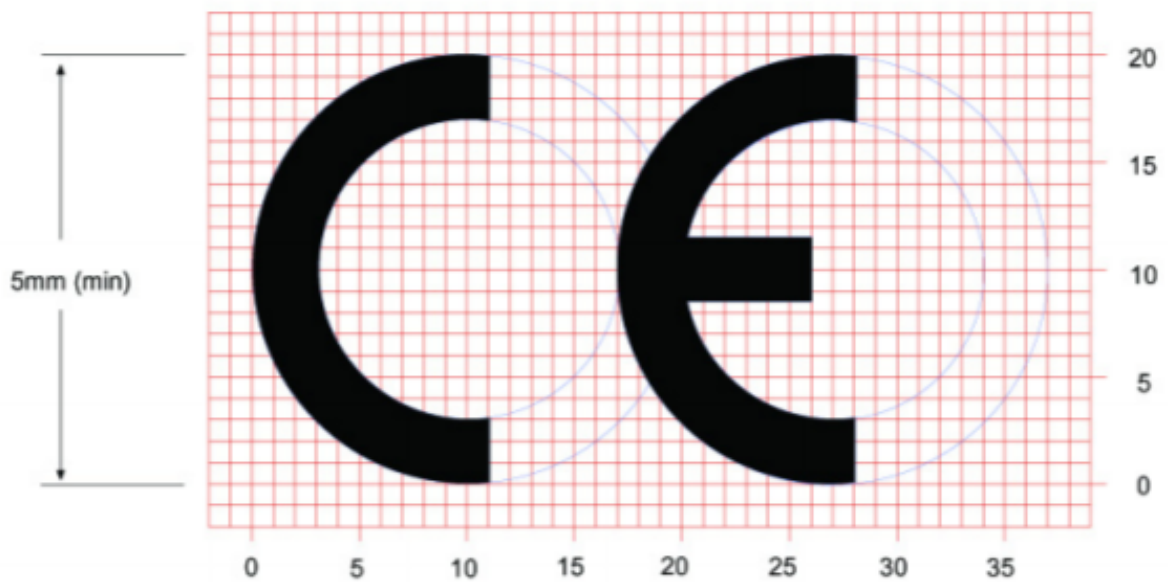
The Digi WR54 is certified for use in several European countries. For information, visit [www.digi.com/resources/certifications](http://www.digi.com/resources/certifications).

If the Digi WR54 is incorporated into a product, the manufacturer must ensure compliance of the final product with articles 3.1a and 3.1b of the RE Directive (Radio Equipment Directive). A Declaration of Conformity must be issued for each of these standards and kept on file as described in the RE Directive (Radio Equipment Directive). Furthermore, the manufacturer must maintain a copy of the (product name) user manual documentation and ensure the final product does not exceed the specified power ratings, antenna specifications, and/or installation requirements as specified in the user manual.

### OEM labeling requirements

The 'CE' marking must be affixed to a visible location on the OEM product.

### CE labeling requirements



The CE mark shall consist of the initials “CE” taking the following form:

- If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
- The CE marking must have a height of at least 5mm except where this is not possible on account of the nature of the apparatus.
- The CE marking must be affixed visibly, legibly, and indelibly.

## ANATEL (Brazil)

Modelo: WR54-A106/WR54-A206



04208-19-01209

Para maiores informações, consulte o site da ANATEL [www.anatel.gov.br](http://www.anatel.gov.br)

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

## Maximum transmit power for radio frequencies

The following tables show the maximum transmit power for frequency bands.

### Cellular frequency bands

Frequency bands	Maximum transmit power
Cellular LTE 700 MHz Cellular LTE 800 MHz Cellular LTE 850 MHz Cellular LTE 900 MHz Cellular LTE 1700 MHz Cellular LTE 1800 MHz Cellular LTE 1900 MHz Cellular LTE 2100 MHz	200 mW
Cellular LTE 2600 MHz Cellular LTE 2300 MHz Cellular LTE 2500 MHz	158.49 mW

### Wi-Fi frequency bands

Frequency bands	Maximum transmit power
The WR54 device supports 11 overlapping channels (channels 1-11) at 22 MHz or 40 MHz wide spaced at 5 MHz. Centered at 2.412 MHz to 2.462 MHz.	79 mW
The WR54 device supports 4 overlapping channels (channels 36, 40, 44, and 48) at 22 MHz or 40 MHz or 80 MHz wide spaced at 5 MHz. Centered at 5180 MHz to 5240 MHz	63 mW

## Innovation, Science, and Economic Development Canada (IC) certifications

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## RoHS compliance statement

All Digi International Inc. products that are compliant with the RoHS Directive (EU Directive 2002/95/EC and subsequent amendments) are marked as **RoHS COMPLIANT**. RoHS COMPLIANT means that the substances restricted by the EU Directive 2002/95/EC and subsequent amendments of the European Parliament are not contained in a finished product above threshold limits mandated by EU Directive 2002/95/EC and subsequent amendments, unless the restrictive substance is subject of an exemption contained in the RoHS Directive. Digi International Inc., cannot guarantee that inventory held by distributors or other third parties is RoHS compliant.

## Safety notices

- Read all instructions before installing and powering the router. You should keep these instructions in a safe place for future reference.
- If the power supply shows signs of damage or malfunction, stop using it immediately, turn off the power and disconnect the power supply before contacting your supplier for a repair or replacement.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Use only the accessories, attachments, and power supplies provided by the manufacturer-connecting non-approved antennas or power supplies may damage the router, cause interference or create an electric shock hazard, and will void the warranty.
- Do not attempt to repair the product. The router contains no electronic components that can be serviced or replaced by the user. Any attempt to service or repair the router by the user will void the product warranty.
- Ports that are capable of connecting to other apparatus are defined as SELV ports. To ensure conformity with IEC60950 ensure that these ports are only connected to ports of the same type on other apparatus.

## Safety statements



**WARNING!** RISK OF EXPLOSION IF BATTERY IS REPLACED BY INCORRECT BATTERY TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

---



**ATTENTION!** IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS

---



**WARNING!** For ambient temperatures above 60° C, this equipment must be installed in a Restricted Access Location only.

---



**AVERTISSEMENT!** Cet équipement est destiné à être installé dans un lieu d'accès restreint uniquement.



**WARNING!** Hot parts!  
To avoid burns when handling device parts, wait at least one half hour after switching off the device before handling parts.



**CAUTION!** Hot parts!  
To avoid burns when handling device parts, wait at least one half hour after switching off the device before handling parts.



**PRUDENCE!** Pièces chaudes!  
Doigts brûlés lors de la manipulation des pièces. Attendez une demi-heure après la mise hors tension avant de manipuler les pièces

## Special safety notes for wireless routers

Digi International products are designed to the highest standards of safety and international standards compliance for the markets in which they are sold. However, cellular-based products contain radio devices which require specific consideration. Take the time to read and understand the following guidance. Digi International assumes no liability for an end user's failure to comply with these precautions.



Wireless routers incorporate a wireless radio module. Users should ensure that the antenna(s) is (are) positioned at least 1 meter away from themselves and other persons in normal operation. When in a hospital or other health care facility, observe the restrictions on the use of mobile phones. Do not use the router in areas where guidelines posted in sensitive areas instruct users to switch off mobile phones. Medical equipment may be sensitive to RF energy. The operation of cardiac pacemakers, other implanted medical equipment and hearing aids can be affected by interference from cellular terminals such as the wireless routers when placed close to the device. If in doubt about potential danger, contact the physician or the manufacturer of the device to verify that the equipment is properly shielded. Pacemaker patients are advised to keep the wireless router away from the pacemaker while it is on.



Wireless routers must NOT be operated on aircraft. The operation of wireless appliances in an aircraft is forbidden to prevent interference with communications systems. Failure to observe these instructions may lead to the suspension or denial of cellular services to the offender, legal action, or both.



As with any electrical equipment, do not operate the router in the presence of flammable gases, fumes or potentially explosive atmospheres. Do not use radio devices anywhere that blasting operations occur.



Wireless routers receive and transmit radio frequency energy when power is on. Interference can occur when using the router close to TV sets, radios, computers or inadequately shielded equipment. Follow any special regulations and always power off your router wherever forbidden or when it may cause interference or danger.



**SOS IMPORTANT!** Wireless routers operate using radio signals and cellular networks cannot be guaranteed to connect in all possible conditions. Therefore, never rely solely upon any wireless device for life critical communications.

## Product disposal instructions

The WEEE (Waste Electrical and Electronic Equipment: 2002/96/EC) directive has been introduced to ensure that electrical/ electronic products are recycled using the best available recovery techniques to minimize the impact on the environment.



This product contains high quality materials and components which can be recycled. At the end of its life this product **MUST NOT** be mixed with other commercial waste for disposal. Check with the terms and conditions of your supplier for disposal information.

Digi International Ltd WEEE Registration number: WEE/HF1515VU



## Certifications

---

### International EMC (Electromagnetic Compatibility) and safety standards

This product complies with the requirements of the following Electromagnetic Compatibility standards.

There are no user-serviceable parts inside the product. Contact your Digi representative for repair information.

Certification category	Standards
Electromagnetic Compatibility (EMC) compliance standards	<ul style="list-style-type: none"><li>■ EN 300 328 v1.8.1</li><li>■ EN 301 893 v1.7.2</li><li>■ EN 301 489</li><li>■ FCC Part 15 Subpart B Class B</li><li>■ FCC Part 15 Subpart C certification (Integrated Wi-Fi + Cellular Modules)</li></ul>
Safety compliance standards	EN 62368
E-UTRA CA, E-UTRA FDD, E-UTRA TDD, UMTS FDD	PTCRB
Cellular carriers	See the current list of carriers on the WR54 datasheet, available on the <a href="#">Digi WR54 Specifications page</a> .