ADTRAn 17600021F1 834-5 Service Delivery Gateway User Guide

Quick Start
ADTRAN
834-5 Service Delivery Gateway
Wi-Fi 5 Gigabit Router
617600021-13A
P/N: 17600021F1

Contents [hide

Overview

WARNING!
Read all warnings, cautions, notes, and installation instructions before installing or servicing this equipment. The ADTRAN® 834-5 is a carrier-class Dual-Band Wi-Fi 5 Gigabit Ethernet router, built to deliver top-end Wi-Fi 5 performance, true gigabit routing throughput, and advanced service delivery capabilities. This quickstart describes

how to install ADTRAN's 834-5 Home Gateway Unit.
The 834-5 WiFi 5 Gigabit Router is an indoor gateway for delivering premium Gigabit services.

Figure 1 illustrates the front and back of the 834-5 gateway.

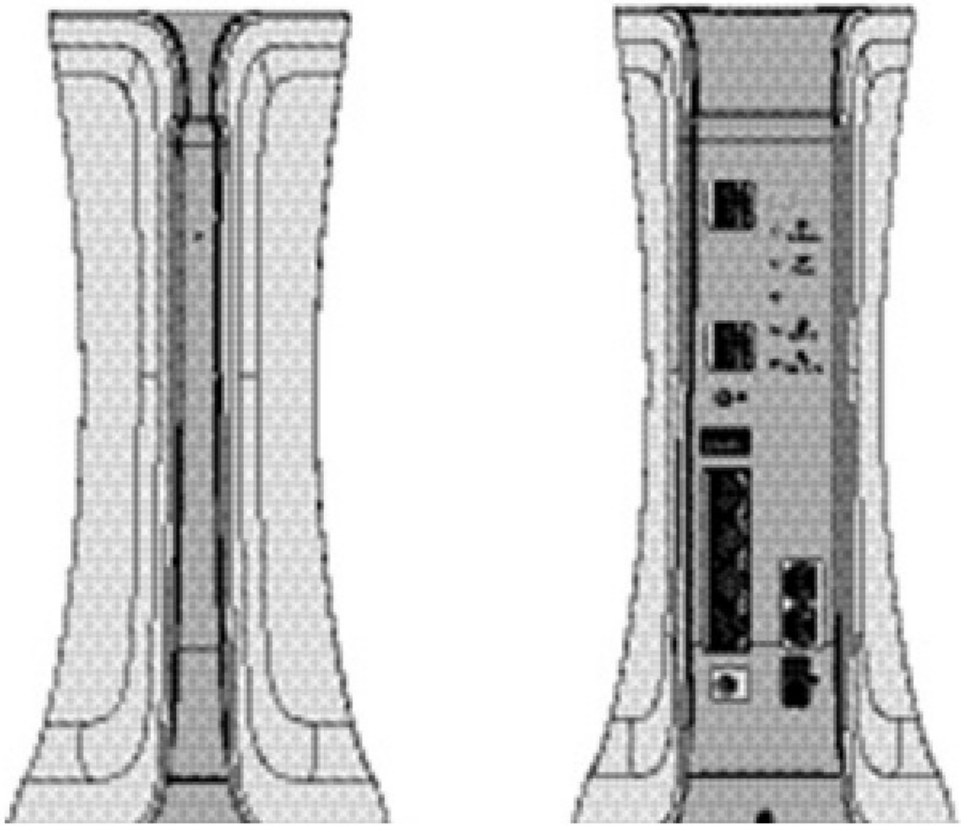

Figure 1. Front and Back of the 834-5 Gateway (placeholder)

WARNING!
WARNING indicates a hazard that, if not avoided, could result in death, injury or serious property damage.

CAUTION!
CAUTION indicates a hazard that, if not avoided, could result in service interruption, damage to the equipment, or minor property damage.

NOTE
NOTES inform the user of additional, but important, information or features.

Features
The features of the 834-5 gateway include the following:

- 1x Gigabit Ethernet (RJ-45) WAN interface
- Subscriber interfaces
- 4×4 802.11ac @ 2.4GHz
- 4×4 802.11ac @ 5GHz
- 4x Gigabit Ethernet (RJ-45) LAN interfaces
- 1x USB 3.0 (Type A) Host port

Installing the 834-5 Gateway

The following are guidelines for the basic installation of the 834-5.

NOTE
Refer to the national, state and local electrical codes for the requirements for power, grounding, wiring, and installation methods.

CAUTION!

The product is intended for indoor use only. Ethernet cables and attached equipment are intended for use within the same building with equipotential bonding and are not intended to be placed in separate buildings or structures. Failure to deploy as described could result in permanent damage from lightning or other electrical events and void the warranty. Furthermore, all connections from outside of the building, such as old POTS wiring, must be disconnected prior to use.

Package Contents

- ADTRAN's 834-5 WiFi 5 Gigabit Router
- 12V DC power adapter

Prior to Installation

Before installing the equipment, inspect the gateway. If damage has occurred during shipping, file a claim with the carrier, and then contact ADTRAN
Customer Support. For more information, refer to the product warranty available online at **https://portal.adtran.com/web/page/portal/Adtran/wp_support_warranty**

Required Tools

Standard technician tools and, if installing the gateway on a wall, a #2 Phillips-head screwdriver, are required for installing the 834-5.

Mounting Options

There are two options to install the 834-5: desktop and wall mount. Be sure to route and secure the fiber and cables in a manner that will prevent damage.
These options are described below.

Desktop Installation

The 834-5 can be placed on a desk or table. The following table shows the recommended minimum distance (in feet and meters) between the gateway and household appliances to reduce interference.

Household Appliance	Recommended Minimum Distance (in feet and meters)
Microwave ovens	30 feet / 9 meters
Baby monitor – analog	20 feet / 6 meters
Baby monitor – digital	40 feet / 12 meters
Cordless phone – analog	20 feet / 6 meters

Household Appliance	Recommended Minimum Distance (in feet and meters)
Cordless phone – digital	30 feet / 9 meters
Bluetooth devices	20 feet / 6 meters
ZigBee	20 feet / 6 meters

WARNING!
Ensure that the 834-5 does not come in contact with water or other liquids.

CAUTION!
Ensure that the 834-5 is not located in direct sunlight or next to any thermal obstructions.

Wall Mount Installation

The 834-5 can be mounted on a wall. Wall Mount Kit (17600192F1) can be ordered for mounting the 834-5. Instructions are provided in the related Quick Start Guide (617600192F1-13A).

Connecting the 834-5 Gateway

Figure 2 illustrates the installation (connection) options for the 834-5 gateway.

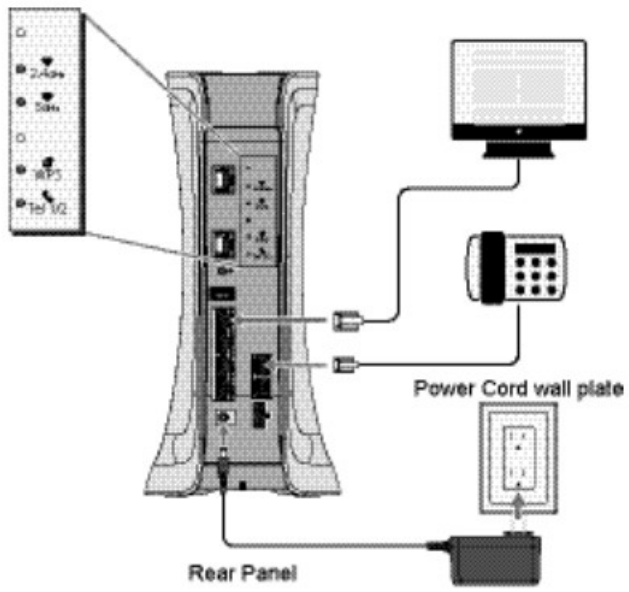

Figure 2. 834-5 Gateway Installation Options (placeholder)

The following subscriber connections are available on the rear of the 834-5:

- 4x Gigabit Ethernet (RJ-45 Connectors) – LAN 1- 4 ports

- 1x Gigabit Ethernet port (RJ-45 Connector) -WAN port
- 4×4 802.11ax @ 2.4GHz
- 4×4 802.11ax @ 5GHz
- 1x USB 3.0 (Type A Connector) SS port

To connect the subscriber Ethernet interfaces, refer to Figure 2 and insert a Category 5E (or better) RJ-45 cable into one of the LAN ports (labeled LAN 1- 4) or the Gigabit Ethernet port (WAN) until there is an audible “click”.
Connecting the Power Supply

1. Connect the end of the power adapter to the Power port on the rear panel of the gateway
2. Plug another end of the power adapter into the wall outlet.
3. Confirm that the power is connected properly. The Power LED should be lit on the front of the gateway.

NOTE
Alternately, the device may be powered by a supported third-party UPS which may be connected via a 7-pin Molex connector, labeled UPS.

Resetting the Gateway
A reset button is available if the 834-5 needs to be rebooted. To reboot the 834-5, press the Reset button on the rear panel of the gateway for 5 seconds or less. To reset the device to custom defaults, press the Reset button for 5 seconds or more.

Understanding the Status LEDs

The LEDs on the back panel of the 834-5 gateway enable you to monitor the device status. This section describes the three types of LEDs available on the 834-5 gateway. See Figure 3 for details.

Figure 3. Status LEDs (placeholder)

2.4 GHz / 5 GHz Status LEDs
The 2.4 GHz and 5 GHz status LEDs indicate the state of the wireless connections on the gateway.

LED	Color	State	Description
2.4 GHz 5 GHz	Green	On	Wi-Fi radio is UP.
		Flashing	Wi-Fi radio is transferring data.
	None	Off	The Wi-Fi connection is DOWN.

WPS Status LED
The WPS status LED indicates the status of WPS (Wi-Fi protected setup).

LED	Color	State	Description
WPS	Green	On	WPS is enabled.
		Flashing	WPS is passing traffic.
	None	Off	WPS is not active.

Product Specifications
Electrical

- Power is provided by a 12V DC Power Adapter that is included with the 834-5. The power adapter operates from a power source of 100 to 240V AC, 50 – 60 Hz. The nominal output is 12V DC +\–5% with a maximum current rating of 4.0 Amps. For US and Canadian applications, a UL Listed limited power source (LPS) is required. For deployment outside of North America, an LPS specifically approved for that country, such as a CE Mark, is required.

NOTE
It is strongly suggested that the power supply (a 5-foot (1.5 m) power cord) included with the 834-5 be connected to a surge suppressor device that can have its own extension cable. The surge protection device should provide L-N, L-G, and N-G protection. It is also recommended that the device contains a visual ‘GOOD’ indicator.

Environment

- Operating Temperature: 32°F to 104°F (0°C to 40°C)
- Storage Temperature: -40°F to 158°F (-40°C to 70°C)
- Relative Humidity: 10 to 95 percent, non-condensing

NOTE
Changes or modifications not expressly approved by ADTRAN will void the warranty.

Safety and Regulatory

This product meets the following compliance requirements:

- UL /cUL Listed
- FCC Part 15, Class B
- ICES-003 (Class B)
- IEC 62368-1
- EN 62368-1, AS/NZS 60950.1
- RoHS Compliant

This equipment contains no parts that can be serviced by the user.

Refer to the Safety and Regulator Notice for this product (P/N: 617600021F1-17) for detailed safety and regulatory information.
Documentation for ADTRAN Network Solutions products is available for viewing and download directly from the ADTRAN
Support Community website.
Go to: **https://supportcommunity.adtran.com**
ADTRAN offers training courses on our products, including customized training and courses taught at our facilities or at customer sites. For inquiries, go to: **http://adtran.com/training**

Warranty: ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at **www.adtran.com/warranty**.

Access additional safety information and product documentation using the QR code or website.

https://supportcommunity.adtran.com/

ADTRAN CUSTOMER CARE:
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From outside the U.S. +1 256.963.8716
PRICING AND AVAILABILITY 1.800.827.0807

CX Documentation
Approval Stamp Sheet

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Safety and Regulatory Notice
834-5 Service Delivery Gateway
WiFi 5 Gigabit Router
July 2021
617600021F1-17a
P/N: 17600021F1

WARNING!

- Read all warnings, cautions, notes, and installation instructions before installing or servicing this equipment.
- Refer to the national, state, and local electrical codes for the requirements for power, grounding, wiring, and installation methods.
- This product may be powered by multiple sources. Disconnect all sources of power prior to servicing.

CAUTION!

- Connect the DC power inputs to an approved Limited Power Source (LPS) power supply ONLY.
- This equipment contains no parts that can be serviced by the user.
- This product is intended to operate in ambient temperatures up to 40°C.
- It is recommended that an external AC Surge Protection Device be installed at the AC input connection to the local AC-Powered product. The Surge Protection device should provide L-N, L-G, and N-G protection. It is also recommended that the device contains a visual 'GOOD' indicator.
- The product is intended for indoor use only. Ethernet, Voice, and attached equipment are intended for use within the same building with equipotential bonding and are not intended to be placed in separate buildings or structures. Failure to deploy as described could result in permanent damage from lightning or other electrical events and void the warranty.

NOTES

This product meets the following compliance requirements:

- This equipment contains no parts that can be serviced by the user.
- This product meets EU RoHS Directive. Refer to **www.adtran.com/environmental** for further information on RoHS/WEEE.
- This product is UL Listed to the applicable UL/CSA Standards.

- This product has also been evaluated to applicable international standards including CE and RCM marking.
- The AC branch circuit socket-outlet must be installed near the equipment and must be easily accessible.
- The RJ-45 jacks are not used for telephone line connections.

This radio transmitter (IC: 2250A-W338E0) has been approved by Industry Canada to operate with the antenna types listed below. Antenna types not included in this list are strictly prohibited for use with this device.

- Dynamic Frequency Selection (DFS) for devices operating in the bands 5250 – 5350 MHz, 5470 – 5600 MHz and 5650 – 5725 MHz.
- The device for the band 5150-5250 MHz is only for indoor usage to reduce the potential for harmful interference to co-channel mobile satellite systems.
- Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650- 5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.
- The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the equivalent isotropically radiated power (EIRP). limit.
- The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the EIRP limits specified for point-to-point and non-point-to-point operation as appropriate.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Regulatory Compliance Information
This section includes user requirements for operating this product in accordance with National laws for the usage of radio spectrum and operation of radio devices. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user by the applicable National regulatory authority.
This product’s firmware limits operation to only the channels allowed in a particular Region or Country. Therefore, all options described in this user’s guide may not be available in your version of the product.

Europe – EU Declaration of Conformity
Products bearing the marking comply with the following EU directives:

- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- WEEE Directive reference: 2012/19/EU

  If this product has telecommunications functionality, it also complies with the requirements of the following EU Directive:
- RED 2014/53/EU

Compliance with these directives implies conformity to harmonized European standards that are noted in the EU Declaration of Conformity.
For indoor use only. Valid in all EU member states, EFTA states, and Switzerland.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information, the end-user should contact the national spectrum authority in France.

FCC Requirements for Operation in the United States

FCC Information to User

This product does not contain any user-serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals.

FCC Guidelines for Human Exposure

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

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

FCC Declaration of Conformity

We, ADTRAN, Inc., 901 Explorer Blvd, Huntsville, AL 35806, declare under our sole responsibility that the 865-v6 complies with Part 15 Subpart B of FCC CFR47 Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings & Instructions

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.

CAN ICES-3(B)/NMB-3(B)

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (Wi-Fi 6 GPON HGU Model 814-v6) does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Industry Canada

This device complies with RSS-247 of the Industry Canada 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.

IMPORTANT NOTE: Radiation Exposure Statement:

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

CAUTION!

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
(ii) the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
(iii) the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
(iv) the worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) shall be clearly indicated.
(v) Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 56505850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Installation Instructions:

Refer to the QuickStart or Job Aid for this product (P/N: 61181501G8-13) for detailed installation instructions.

ADTRAN CUSTOMER CARE:
From within the U.S. 1.800.726.8663
From outside the U.S. +1 256.963.8716
PRICING AND AVAILABILITY 1.800.827.0807

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Documents / Resources

	ADTRAn 17600021F1 834-5 Service Delivery Gateway [pdf] User Guide 17600021F1, HDC17600021F1, 17600021F1, 834-5 Service Delivery Gateway, 17600021F1 834-5 Service Delivery Gateway