cradlepoint

USAT
Connect What's Critical™

Data Sheet
W1850-5GB

Designed for branches that require the higher performance of 5G and the flexibility of wireless, the Cradlepoint W1850 5GB Wideband Adapters usher in the next generation of Wireless WAN networking. The W-Series is designed to accommodate the diverse spectrums, multiple generations, and breadth of new technologies introduced in 5G while delivering enterprise-class standards of scalability, comprehensive management, and security.

Notable Features

— Increase the size and types of your WAN use cases with 5G performance

— Experience the dependability of dual connectivity with simultaneous 5G and 4G LTE connections

— Gain carrier-class connectivity using a software-defined modem and integrated multilevel test and recovery utilities

— Deploy an enterprise-class 5G solution with greater simplicity and confidence with the wizard-based installation application

— Manage the Cradlepoint router and 5G adapter as one entity for singular control and visibility

— Evaluate the benefits of your 5G service with value confirmation tools built into the NetCloud Platform

— Reduce truck rolls with advanced Out-of-Band Management

— Deploy within any existing networking or SD-WAN environment

High Performance Wideband

The W1850 5G Adapters are purpose-built for deployment in the new high-performance low-, mid-band 5G spectrum. To address the tradeoff of lower propagation, Cradlepoint designed the W-Series adapter to be placed separately from the router for optimal signal reception. The stylized W1850 5G Adapter is designated for optimal indoor placement.

Designed for Enterprise-Class Business

While the performance of 5G is top of mind, the W-Series was also designed with enterprise-class standards for high scalability, comprehensive management, and security. Because 5G is a collection of new spectrum, new technologies, and new network infrastructure that is rolling out over several years, the Cradlepoint 5G edge networking service and endpoints accommodate the diverse deployments of an organization with hundreds or even tens of thousands of sites.

Performance

IP Passthrough Mode Throughput:	Standard NAT Mode Throughput:	Captive Modem Mode Throughput:
2.0 Gbps	**2.0 Gbps**	**2.0 Gbps**

Performance testing was conducted based on requirements as defined in RFC2544 using fixed-frame 1518 byte packets. Throughput results reflect uni-directional UDP traffic with less than 1% packet loss as tested with wired connections.

Results do not reflect performance of the cellular wireless operator networks.

Carrier-Class Connectivity

Although each network operator conforms to 3GPP standards, they implement those standards differently to gain optimal efficiency and performance from their network. Additionally, software from modem manufacturers is designed to serve multiple operators within broad markets. The W-Series uses a customized software-defined modem, pre-programmed endpoints, and multilevel integrity testing to predict vulnerable connections and deliver carrier-class connectivity.

5G Spectrum Solutions

The W-series portfolio supports all spectrum layers ensuring that organizations have the right solution for every location. The W1850 5G Adapter supports low- and mid-band layers.
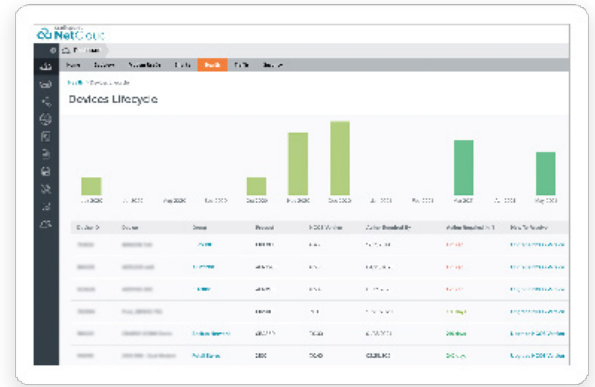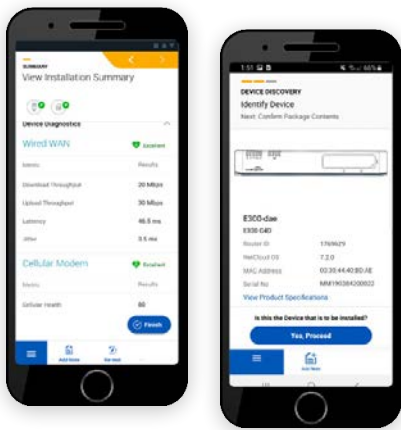
Support for a Full Range of Cellular Technologies

Cradlepoint 5G solutions support all cellular generations, from 4G LTE to Gigabit-Class LTE to 5G — with the ability to gracefully transition tens of thousands of sites between generations as technology becomes available in individual locations.

Complete Lifecycle Management

Cradlepoint 5G solutions help enterprises minimize complexity from installation to troubleshooting with tools and features such as the mobile installation application, the captive modem feature, 5G tools demonstrate 5G service value, and Out-of-Band Management.
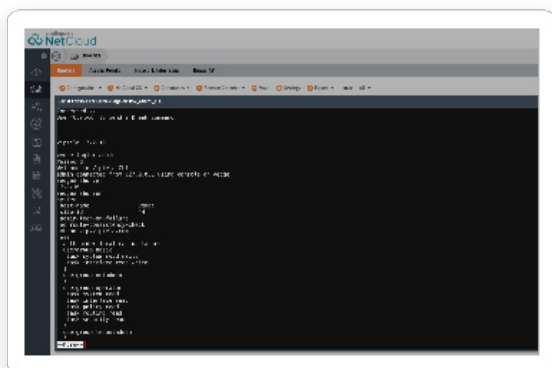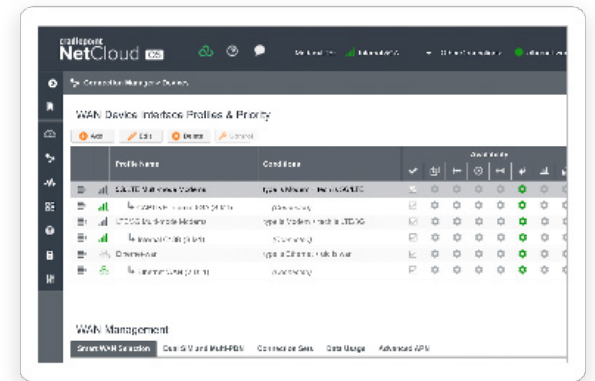
Intelligent Hybrid WAN Connectivity

Cradlepoint 5G solutions deliver effortless wireless endpoint management in a "wired-first SD-WAN" environment and provides all-in-one capabilities (routing, embedded wireless, and foundational SD-WAN) in a "wireless-first SD-WAN" deployment.

Hardware Specifications

The following features are delivered through the hardware.

INTERFACES	
Modem:	Embedded 5G Modem — 4 x SMA cellular antenna connectors
Ethernet:	2 x 2.5 GbE RJ45 (LAN/WAN switchable)
Expansion/ Console:	— 1 USB 2.0 Type A (output 5V, 500 mA, 2.5W) — 1 RJ45 Console
Wi-Fi:	N/A

ENVIRONMENTAL	
Temperature:	Operating: 32 °F to 122 °F (0 °C to 50 °C) Storage: -40 °F to 185 °F (-40 °C to 85 °C)
Humidity:	Operating: 10% to 90% Storage: 5% to 95%
Ingress Protection:	N/A

POWER	
Power Required:	— AC adapter (12 VDC) — 802.3at PSE Type 2 (30W)

PHYSICAL	
Size:	6.5 x 6.5 x 1.5 in (165.1 x 165.1 x 38.1 mm)
Weight:	1 lb 14.4 oz (0.86 kg)

CERTIFICATIONS	
Safety:	UL/cUL, CB Scheme, EN 60950-1, EN 62368-1
Materials:	WEEE, RoHS, REACH, California Prop 65

LEDs

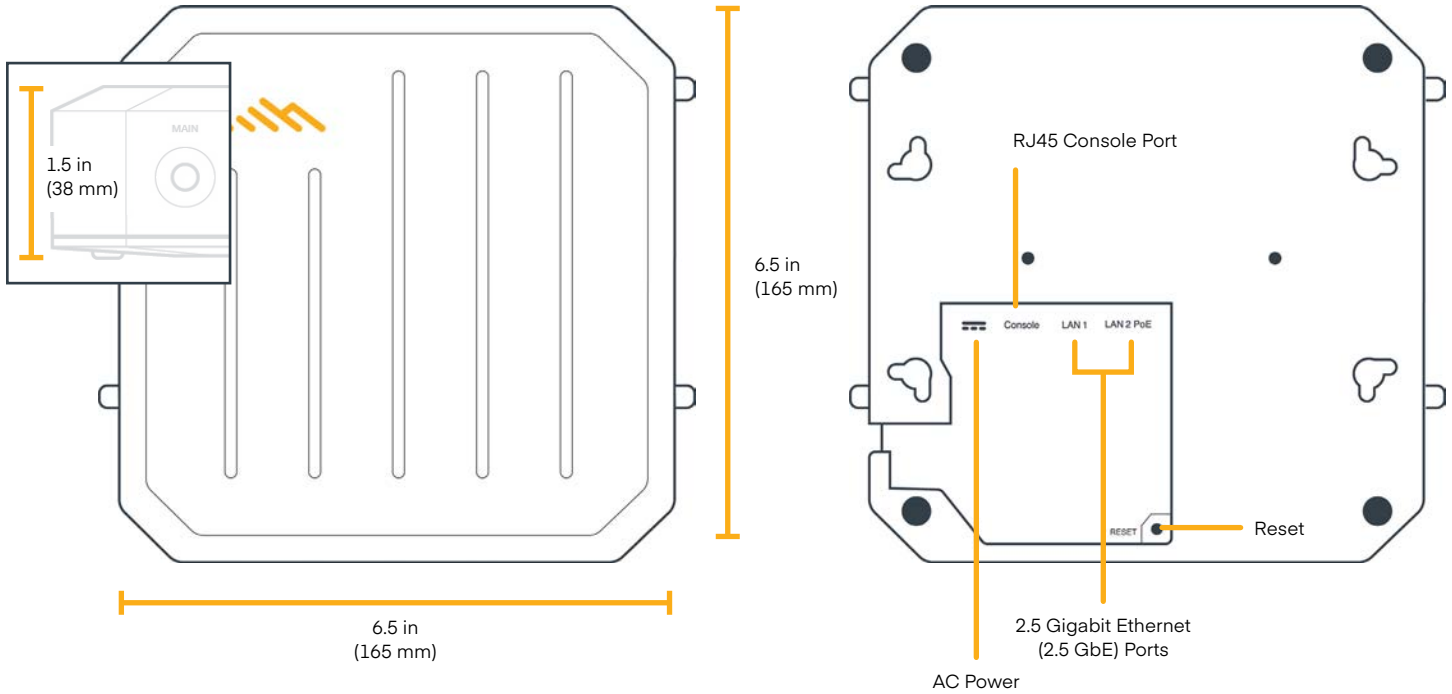Refer to the W1850-5GB Wideband Adapter Quick Start Guide.

Enterprise-Class Modem Specifications

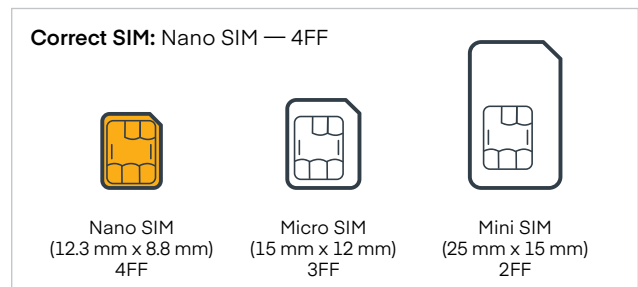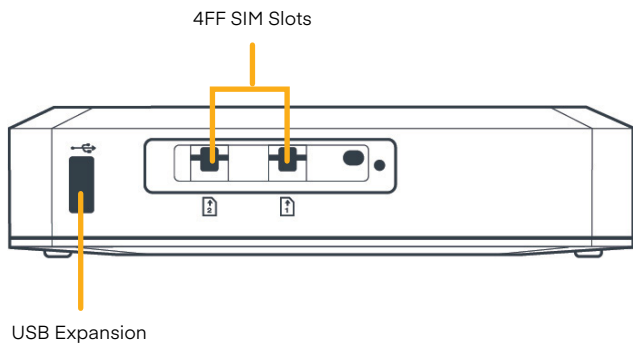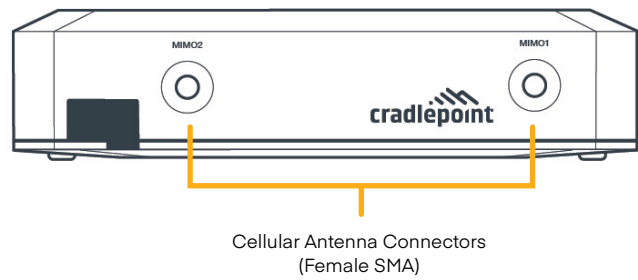| SPECIFICATION	W1850-5GB
Technology:	5G NR (Low/Mid-Band FR1) and 4G LTE Category 20 LTE Advanced Pro with Dual Connectivity — Dual SIM slots, 4FF form factor
Carrier Aggregation:	LTE only; up to 7CA downlink, 2CA uplink ENDC 5G + LTE; downlink and uplink supported Refer to the Modem Carrier Aggregations article.
Peak Downlink Rates:	Up to 4.14 Gbps — based on 20 Layers LTE + TDD (100 MHz BW, 256 QAM, 4X4)
Peak Uplink Rates:	Up to 660 Mbps — based on 2 Layers LTE + TDD (100 MHz BW, 256 QAM, SISO)
MIMO:	4x4 MIMO
QAM:	Up to 256 — FR1
LTE Bands:	B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B46, B48, B66, B71
5G NR Bands:	n1, n2, n3, n5, n28, n41, n66, n71, n77, n78, n79
WCDMA Bands:	B1, B2, B3, B4, B5, B6, B8, B9, B19
Power:	LTE only; 23 dBm ± 1 (typical conducted) ENDC 5G + LTE; 20 dBm ± 1 (typical conducted)
Antennas:	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 4. included)
GNSS/GPS:	Passive GNSS (multiplex with DIV/MIMO2 antenna ports)
SMS:	Yes
Regulatory:	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ)
Network Operator Standards:	PTCRB (U.S., Canada), GCF (Worldwide)
Network Operator Certifications*:	AT&T, Verizon

*Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications, to operate on their network. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.

Hardware

Physical Measurements

1.5 in (38 mm)

6.5 in (165 mm)

6.5 in (165 mm)

MAIN

RJ45 Console Port

Console   LAN 1   LAN 2 PoE

RESET   Reset

2.5 Gigabit Ethernet (2.5 GbE) Ports

AC Power

Sides

MAIN   DIV

Cellular Antenna Connectors (Female SMA)   Lock Slot

MIMO2   MIMO1

Cellular Antenna Connectors (Female SMA)

4FF SIM Slots

USB Expansion

Correct SIM: Nano SIM — 4FF

Nano SIM (12.3 mm x 8.8 mm) 4FF

Micro SIM (15 mm x 12 mm) 3FF

Mini SIM (25 mm x 15 mm) 2FF
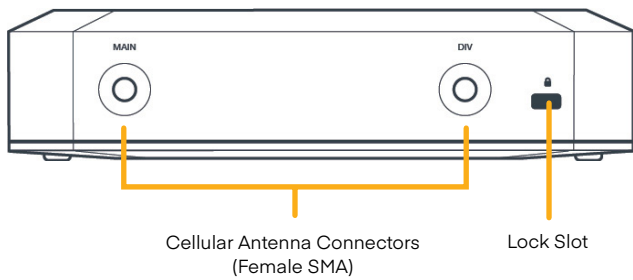
Ordering Guide

NetCloud Branch 5G Adapter Essentials + Advanced packages and plans full featured for 5G performance and connectivity. Essentials + Advanced packages include 24x7 support (phone support: 24 hour weekdays with emergency response on weekends, web: 24x7, chat: 24x5) and a limited lifetime warranty.

See additional details of what is included in the Essentials + Advanced NetCloud software: cradlepoint.com/netcloud-service

For more details on the W-Series Adapters, included with the Essentials + Advanced Packages, see below.

NetCloud Package and Plans

REGION	DESCRIPTION	PART NUMBER
North America: U.S., Canada, Mexico	NetCloud Branch 5G Adapter Essentials Plan and W1850 Adapter (5GB modem), Americas	BE0x-18505GB-GN
	NetCloud Branch 5G Adapter Essentials Plan, Advanced Plan, and W1850 Adapter (5GB modem), Americas	BEAx-18505GB-GN
Japan:	NetCloud Branch 5G Adapter Essentials Plan and W1850 Adapter (5GB modem), Japan	BE0x-18505GB-JN
	NetCloud Branch 5G Adapter Essentials Plan, Advanced Plan, and W1850 Adapter (5GB modem), Japan	BEAx-18505GB-JN
Global:	NetCloud Branch 5G Adapter Essentials Plan and W1850 Adapter (5GB modem), Global	BE0x-18505GB-GM
	NetCloud Branch 5G Adapter Essentials Plan, Advanced Plan, and W1850 Adapter (5GB modem), Global	BEAx-18505GB-GM
All Regions:	Renewal NetCloud Branch 5G Adapter Essentials Plan	BE0x-NCESS-R
	Renewal NetCloud Branch 5G Adapter Advanced Plan	BE0x-NCADV-R
	Renewal NetCloud Branch 5G Adapter Essentials Plan and Advanced Plan	BEAx-NCEA-R

x = 1, 3, or 5 years

Accessories

INCLUDED	PART NUMBER
W1850 5GB Wideband Adapter	
— Cable, Ethernet RJ45-to-RJ45, black, 1.5 M	170725-000

— Kit, small accessories, W1850
    — SIM door screw (Qty 1)
    — Rubber feet (Qty 4)
    — Wall mount screws (Qty 2)
    — Anchors (Qty 2)
	500062-000

One of the following:	
— Power Supply, 12V Barrel (Type A) — North America (NA)/ Japan	170862-000
— Power Supply, 12V Barrel (Types A-G-C-I) — Global	170863-000
One of the following:	
— Cellular Antenna, white, 600 MHz - 6 GHz, SMA, 180 mm (Qty 4) — North America/Global	170761-001
— Cellular Antenna, white, 600 MHz - 4200 MHz, SMA, 145 mm (Qty 4) — Japan	170765-000

OPTIONAL	PART NUMBER
— PoE Injector, 56V 0.8A 90W single port 2.5 GbE 802.3bt	170827-000
One of the following:	
— C13 Line Cord, NA (Type A)	170671-001
— C13 Line Cord, EU (Type C)	170671-002
— C13 Line Cord, UK (Type G)	170671-003
— C13 Line Cord, AU (Type I)	170671-004

Support & Warranty

The W-Series Adapters are only sold as components of Branch 5G Performance Adapter Essentials + Advanced Packages.

— NetCloud Packages include support for the full subscription term.

— All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active Netcloud Service Plan.

For more information contact us:

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Learn more at usatcorp.com/w1850