

LM848 Wi-Fi 6 (802.11ax) and Bluetooth® 5.2 USB Adapter

Host Controller Interface (HCI) via USB 3.0 Interface

Revised

24/JAN/2026

Datasheet Version

1.0



Features

- Wi-Fi 6 (Backwards compatible with 802.11 a/b/g/n/ac)
- Dual Band (2.4 GHz and 5 GHz)
- Bluetooth 5.2 (Backwards compatible with all versions)
- USB 3.0 for data and power source
- Host Controller Interface (HCI)
- Over 250% faster than LM's previous Wi-Fi generation adapters
- WPA, WPA2, WPA3, 802.1x and WEP (64bit & 128bit) encryption schemes
- MU-MIMO and data rate up to 1201Mbps
- 66.5mm x 25mm x 9.5mm
- See our website for this products certifications
- RoHS, REACH and WEEE

Overview

The LM848 Wi-Fi 6 and Bluetooth 5.2 USB adapter is a high performance and simple to integrate solution, offering ultra fast speeds and support for the latest WPA3 security standards. Its data transfer speeds are more than 250% faster than the previous generation LM842 adapter*, providing a significant upgrade in wireless throughput for bandwidth intensive applications.

The LM848 also integrates Bluetooth 5.2 to provide a stable, unified wireless interface for industrial applications. This version manages signal power dynamically to maintain connection integrity in RF congested environments. By utilizing Isochronous Channels, the adapter ensures low latency transmission for real time sensor data and optimizes power consumption for connected battery powered peripherals.

Designed for versatility, the adapter can be deployed in a wide range of applications including embedded systems, industrial machines, and IoT environments. It offers dedicated support for Linux and Android platforms, ensuring a reliable fit for modern mobile and embedded architectures, helping to reduce development time.

For users requiring a high performance wireless client, the LM848 supports Orthogonal Frequency Division Multiple Access (OFDMA) with two transmit and two receive paths (2T2R). This setup ensures that multiple streams can transmit in parallel, reducing latency and improving performance in high-density environments.

The dual internal antennas ensure stable multi stream performance while minimizing signal interference often found in crowded industrial RF environments. Typically used in industries such as enterprise, industrial, medical, and scientific, the LM848 is also ideal for 4K video streaming and high quality video calling. It connects via a USB 3.0 interface, backward compatible with USB 2.0.

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General Specification

Product Name	LM848	
Chipset	Realtek	
No. of Transmitters	2T2R	
Standard	Wi-Fi: IEEE 802.11ax/ac/a/b/g/n/d/e/h/i	Bluetooth: 2.1+EDR/3.0/4.0/4.2/5.2 - BR/EDR and LE
Data Transfer Rate	802.11ax (2.4 GHz) up to 572Mbps 802.11ax (5 GHz) up to 1201Mbps	Bluetooth: Basic rate 2Mbps
Modulation Method	CCK, DQPSK, DBPSK, BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM	
Frequency Band	17dBm - 802.11b @ 11Mbps	Bluetooth: Class 1
RF Output Power (tolerance ±2dBm)	15dBm - 802.11g @ 54Mbps 14dBm - 802.11gn_HT40 @ MCS7 13dBm - 802.11ax_HE40 @ MCS11 15dBm - 802.11a @ 54Mbps 13dBm - 802.11an_HT40 @ MCS7 14dBm - 802.11ac_VHT80 @ MCS9 13dBm - 802.11ax_HE80 @ MCS11	
Receiver Sensitivity	<= -86dBm – 802.11b @ 11Mbps <= -72dBm – 802.11a/g @ 54Mbps <= -61dBm – 802.11n_HT40 @ MCS7 <= -58dBm – 802.11ac_VHT80 @ MCS9 <= -56dBm – 802.11ax_HE80 @ MCS11	Bluetooth: -85dBm - Low Energy @ 2Mbps
Operating Temperature	-10° to +60° C ambient temperature 5 to 90 % (non-condensing)	
Storage Temperature	-20° to +70°C ambient temperature 5 to 95 % (non-condensing)	
Dimension	66.5mm x 25mm x 9.5 mm (L x W x H) USB Type A Connector + Housing	
Power Supply	5 V DC (from USB 3.0 port), 900 mA max	
OS Compatibility	Linux Kernel 3.13 - 6.6 (Kernel 4.20 + for Wi-Fi 6), Android 8 - 14	
Security	Wi-Fi: WPA, WPA2, WPA3 , WEP (64bit & 128bit), TKIP, AES, 802.1x	Bluetooth: Secure Pairing
Certifications	See our website for this products certifications	
Compliance	RoHS, REACH and WEEE	

DISCLAIMER

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Though every effort has been made to ensure that this document is current and accurate, additional information may have become available subsequent to the production of this guide. Please consult with LM Technologies for the latest information regarding this product.

*Based on maximum PHY rates under ideal conditions. Actual performance may vary depending on host system, AP capabilities, RF environment, and network traffic.

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Datasheet Version Notes

v1.0 24 JAN 2026 Initial datasheet released.



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Ordering Options

ETSI Versions



848-8480	Adapter Only ADPT HCI 802.11ax BT5.2 USB 2T2R PCB-ANT AO - ETSI
848-8481	Retail Pack ADPT HCI 802.11ax BT5.2 USB 2T2R PCB-ANT RP - ETSI

US Versions



848-8482	Adapter Only ADPT HCI 802.11ax BT5.2 USB 2T2R PCB-ANT AO - US
848-8483	Retail Pack ADPT HCI 802.11ax BT5.2 USB 2T2R PCB-ANT RP - US

- Product User Guides, Manuals and Configuration Software can be downloaded via our website - <http://www.lm-technologies.com/downloads>