



LM817 WiFi and Dual Mode Bluetooth® Combination Adapter

Host Controller Interface (HCI) via USB Interface

Product LM817
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Revised 16/DEC/2016



Features

- WiFi 802.11 b/g/n
- Bluetooth® v4.0 (Backwards compatible with Bluetooth® v2.0, v2.1 and v3.0)
- WPA, WPA-PSK, WPA2, WPA2 -PSK and WEP (64bit & 128bit) encryption schemes
- Full speed Bluetooth® Piconet and Scatternet supported
- USB 2.0 (Full Speed) for data and power source
- Operates in 2.4 GHz Frequency bands
- Support sophisticated WiFi/Bluetooth® coexistence mechanism to enhance performance
- Support Bluetooth® adaptive power management mechanism
- Linux (Kernel v4.3.6), Android 4.4 and Windows XP – 10 compatible
- 49.6mm x 18mm x 7.4mm
- IC, FCC, CE / RED Directive and SIG Certified Solution
- RoHS, REACH and WEEE Compliant Solution

Overview

The LM817 wireless combination adapter offers coexistence for Bluetooth® (Dual Mode) and WiFi operations. Allowing the host computer to wirelessly communicate with other Bluetooth® and WiFi enabled devices.

Compliant to; IEEE 802.11b/g/n/d/e/h/i standards and Bluetooth® v2.0, v2.1, v3.0 and v4.0 standards.

LM817 provides a complete solution for wireless coexistence applications which require high throughput and quality performance for WiFi and Bluetooth® connections.

The adapter has a Host Controller Interface (HCI) for a simple connection via USB to a host computer or MCU.

Certification

LM certifications currently include CE, FCC, IC and SIG. Additional country certifications will be added as sales demand.

LM has certified products in over 40 countries with a network of local representatives, enabling fast certification within these countries.

Please enquire with us for further details.

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General Specification

Wireless

Wireless Standard

WiFi:

802.11 b/g/n/d/e/h/i

Bluetooth®:

v2.1+EDR/v3.0+HS/v4.0

Module Type

Host Controller Interface (HCI)

OS Compatibility

Linux, Android and Windows XP – 10

Security

WiFi:

WPA, WPA-PSK, WPA2, WPA2 -PSK and WEP (64bit & 128bit)

Bluetooth®:

Simple Paring

Network Architecture

WiFi:

Ad hoc mode (Peer-to-Peer) and Infrastructure mode Software AP; WiFi Direct

Bluetooth®:

Pico Net; Scatter Net

Hardware

Chipset

Realtek

Antenna

Onboard Chip Antenna

Interfaces

USB 2.0 (Full Speed)

RF Characteristics

Tx Output Power

WiFi:

17dBm – 802.11b@11Mbps 15dBm – 802.11g@6Mbps 14dBm –

802.11g@54Mbps 13dBm – 802.11n@MCS0_HT20 13dBm –

802.11n@MCS7_HT20 13dBm – 802.11n@MCS0_HT40 13dBm –

802.11n@MCS7_HT40

Bluetooth®:

Maximum 8dBm

Rx Sensitivity

WiFi:

-82dBm – 802.11b@11Mbps -71dBm – 802.11g@54Mbps -67dBm – 802.11n@MCS7_HT20

-64dBm - 802.11n@MCS7_HT40

Bluetooth®:

-89dBm@1Mbps -90dBm@2Mbps -83dBm@3Mbps

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General Specification (Continued)

RF Characteristics

Range (in open space)	<p>WiFi:</p> <p>Up to 180m</p> <p>Bluetooth®:</p> <p>Up to 10m</p>
Data Transfer Rate	<p>WiFi:</p> <p>802.11b: 1, 2, 5.5, 11Mbps; 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps;</p> <p>802.11n MCS0 to 7 for HT20MHz, MCS0 to 7 for HT40MHz</p> <p>Bluetooth®:</p> <p>Basic Rate 1Mbps; Enhanced Rate 2, 3Mbps;</p> <p>High Speed 6, 9, 12, 18, 24, 36, 48, 54Mbps</p>
Frequency	2.4GHz to 2.4835 GHz
Modulation Scheme	<p>WiFi:</p> <p>802.11b: CCK, DQPSK, DBPSK 802.11g: 64QAM, 16QAM, QPSK, BPSK 802.11n: 64QAM, 16QAM, QPSK, BPSK</p> <p>Bluetooth®:</p> <p>8DPSK, $\pi/4$ DQPSK, GFSKFSK</p>
Spread Spectrum	<p>WiFi:</p> <p>IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum)</p> <p>IEEE 802.11g/n: OFDM (Orthogonal Frequency Division Multiplexing)</p> <p>Bluetooth®:</p> <p>FHSS (Frequency Hopping Spread Spectrum)</p>
Operating Channel	<p>WiFi (2.4GHz):</p> <p>11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe</p> <p>14: (Ch. 1-14) – Japan</p> <p>Bluetooth® (2.4GHz):</p> <p>Ch. 0 to 78</p>

Physical Characteristics

Operating Temperature	0°C to +50°C ambient temperature 0 to 95 % (non-condensing)
Storage Temperature	-10°C to +60°C ambient temperature 0 to 95 % (non-condensing)
Dimensions (L x W x H)	49.6mm x 18mm x 7.4mm
Weight	5.40 g
Certifications	IC, FCC, CE / RED Directive and SIG Certified Solution
Compliance	RoHS, REACH and WEEE

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Power Consumption

DC power for 5V		Performance
Description	Typ	Units
Off	10	uA
Unassociated idle	40	mA
Associated idle for 2.4GHz band	70	mA
Data transfer for 2.4GHz	103	mA

Note: Data transfer test using the Linux driver: Linux_v4.3.6_11841.20140714

DC Power Input

Module	Min	Typical	Max	Unit
DC 5V (IC Antenna)	4.75	5	5.25	V

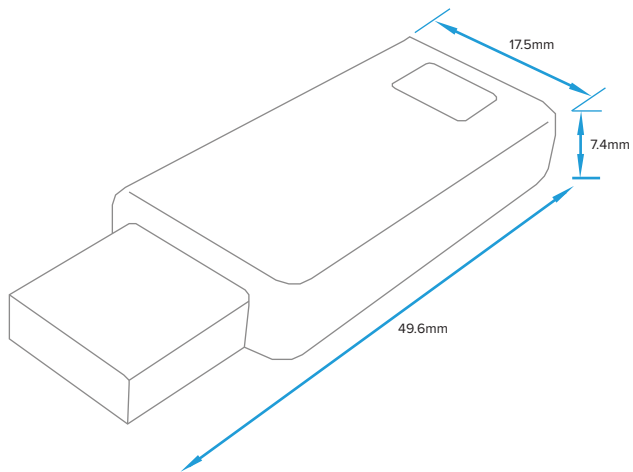


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Physical Dimensions





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LM817 Packaging Options



817-0655

Adapter Only

1 x LM817 HCI 802.11n BT4.0 150Mbps USB IC ANT Adapter
AO



817-0656

Retail Pack

1 x LM817 HCI 802.11n BT4.0 150Mbps USB IC ANT Adapter
RP

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

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