

## LM817 WiFi and Dual Mode Bluetooth® Combination Adapter

Host Controller Interface (HCI) via USB Interface

Revised

18/FEB/2021

Datasheet Version

1.1

Ordering Options

See last page



### 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 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
- See our website for this products certifications.
- RoHS, REACH and WEEE

### 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

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

#### 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	5.38g +/- 0.25g tolerance
Certifications	See our website for this products certifications.
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

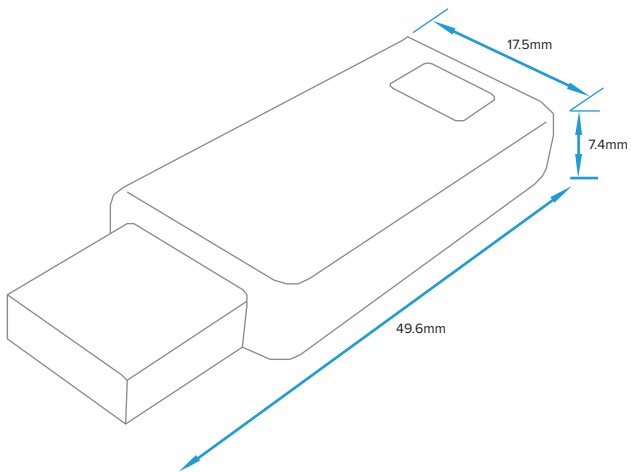
Module	Min	Typical	Max	Unit
DC 5V (IC Antenna)	4.75	5	5.25	V



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## Physical Dimensions





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### Datasheet Version Notes

v1.0	11 JAN 2018	Added version notes to datasheet.
v1.1	22 JAN 2021	Datasheet branding update.
v1.2	18 FEB 2021	Housing branding update.



## LM817 WiFi and Dual Mode Bluetooth® Combination Adapter

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### Ordering Options



817-0655-1

#### Sample

ADPT 802.11n BT4.0 USB IC-ANT SAMPLE



817-0655

#### Adapter Only

ADPT 802.11n BT4.0 USB IC-ANT AO



817-0656

#### Retail Pack

ADPT 802.11n BT4.0 USB IC-ANT RP

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