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

Linux   Android   Win XP   Win Vista   Win 7   Win 8   Win 10

Bluetooth®   WIFI

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)	WiFi: Up to 180m Bluetooth®: Up to 10m
Data Transfer Rate	WiFi: 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 Bluetooth®: 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	WiFi: 802.11b: CCK, DQPSK, DBPSK 802.11g: 64QAM, 16QAM, QPSK, BPSK 802.11n: 64QAM, 16QAM, QPSK, BPSK Bluetooth®: 8DPSK, π/4 DQPSK, GFSKFSK
Spread Spectrum	WiFi: IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n: OFDM (Orthogonal Frequency Division Multiplexing) Bluetooth®: FHSS (Frequency Hopping Spread Spectrum)
Operating Channel	WiFi (2.4GHz): 11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe 14: (Ch. 1-14) – Japan Bluetooth® (2.4GHz): 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

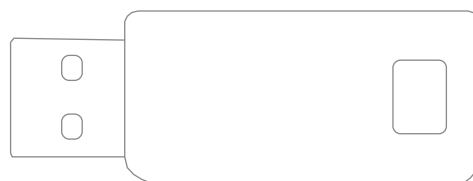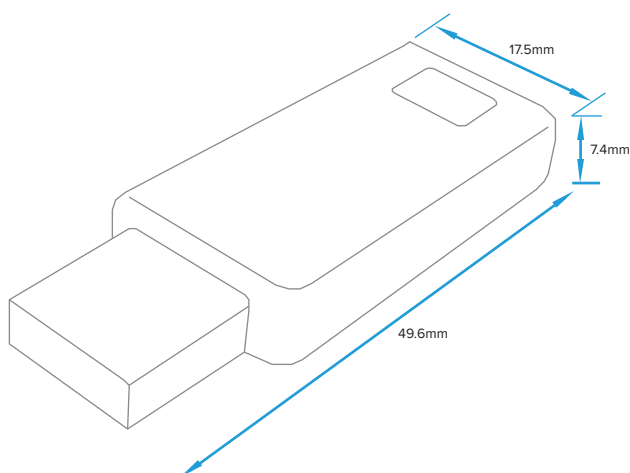Note: Data transfer test using the Linux driver: Linux_v4.3.6_11841.20140714

DC Power Input

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

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Physical Dimensions

17.5mm

7.4mm

49.6mm

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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.

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A Better Connection

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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