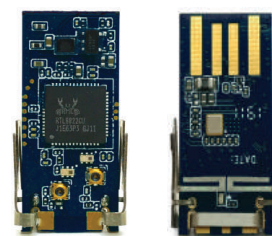
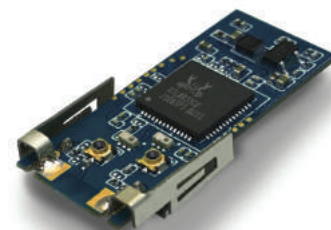




LM842 WiFi 802.11ac / Bluetooth® 5.0 2T2R USB Combi Adapter

USB 2.0 Interface

Product LM842
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Revised 05AUG/2019
Datasheet Version 1.2



Features

- WiFi 802.11ac, abgn
- Wave-2 compatible with MU-MIMO
- Bluetooth® v5.0 Dual Mode
(Backwards compatible from Bluetooth® v4.2)
 - WPA, WPA-PSK, WPA2, WPA2 -PSK and WEP
- (64bit & 128bit) encryption schemes
- 2.4 GHz and 5GHz ISM Frequency bands
 - 2T2R 802.11n 2.4GHz WiFi 300Mbps data rate [Untested]
- 2T2R 802.11ac 5GHz WiFi 867Mbps data rate [Untested]
 - 2T2R BT5.0 2.4GHz 1.3Mbps data rate [Tested]
- WiFi/Bluetooth® coexistence enabled
- USB 2.0 with multi interface controller
- 35-39mm x 18mm x 10mm
- Bluetooth® SIG, FCC & CE certifications prior to release.
- RoHS, REACH and WEEE

Overview

The LM842 USB Adapter (Dongle) complies with Bluetooth® 5.0 (Dual Mode) and IEEE 802.11ac WiFi Standards of operation. Using a fully integrated single-chip that supports 2-stream 802.11ac solutions with Multi-user MIMO (Multiple-Input, Multiple-Output)

Supplied in two option form factors

With 2 x Onboard Metal Frame Antennas,

Compliant to; IEEE 802.11ac, abgn additional standards,

Compliant to; Bluetooth® 5.02 and backward compatible with Bluetooth v2.1+EDR / v3.0 / v3.0+HS / v4.0, 4.1, & 4.2 with both BR/EDR.

Classic and LE can operate simultaneously.

The Realtek IC, RTL8822CU using a USB main interface. LM842 offers high throughput for both WiFi and Bluetooth® connections, connected via a (HCI) USB 2.0 TYPE A interface.

Certification

The LM842 is to be certified for United States of America, under FCC and Europe under CE standards. Further countries by request depending on volumes. Our company has a wealth of experience and has certified products all over the world, with access to a global network of local representatives, enabling fast certification processing when requested. Please enquire with us for further details.

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General Specification

Wireless

Wireless Standard

WiFi;

802.11ac, abgn-dehi

v2.1+EDR/v3.0/v3.0+HS/v4.2

Adapter Type

Host Controller Interface (HCI)

OS Compatibility

Linux and Windows 7 - 10

Security

WiFi;

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

Bluetooth®;

Simple Pairing

Hardware

Chipset

Realtek

Antenna

Onboard Chip Antenna

Interfaces

USB 2.0 (Full Speed)

RF Characteristics

Tx Output Power

WiFi;

17dBm – 802.11b@CCK 11Mbps 15dBm – 802.11g@OFDM 54Mbps 13dBm –
802.11n@MCS7_HT20 13dBm – 802.11n@MCS7_HT40 13dBm –
802.11a@OFDM 54Mbps 9Bm – 802.11ac@NSS1 MCS9_VHT80

Maximum 7.5dBm

Rx Sensitivity

WiFi;

-80dBm – 802.11b@11Mbps -71dBm – 802.11g@54Mbps -67dBm – 802.11n@MCS7_BW20
-64dBm - 802.11n@MCS7_BW40 -57dBm – 802.11ac@NSS1_MCS9_BW20

Bluetooth®:

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



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General Specification (Continued)

RF Characteristics

Range (in open space)

WiFi:

220m

Class 1

Data Transfer Rate

WiFi:

802.11n mode up to 110Mbps

802.11ac mode up to 255Mbps

Bluetooth®:

Basic Rate 1.1 & 1.3Mbps

Modulation Scheme

WiFi:

802.11b: CCK, DQPSK, DBPSK 802.11g/n: 64QAM, 16QAM, QPSK, BPSK

802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK

Bluetooth®:

8DPSK, $\pi/4$ DQPSK, GFSKFSK

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

-20°C to +85°C ambient temperature 5 to 90 % (non-condensing)

Storage Temperature

-40°C to +90°C ambient temperature 5 to 90 % (non-condensing)

USB Input Voltage

5v

Dimensions (L x W x H)

22.3mm x 15mm x 8mm

Weight

TBA

Certifications

See our website or enquire for this products certifications.

Compliance

RoHS, REACH and WEEE

Warranty

2 Year Manufacturer RTB



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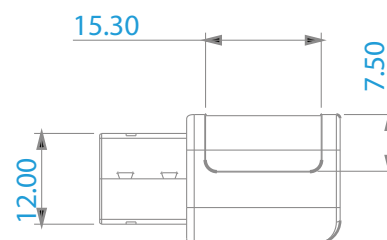
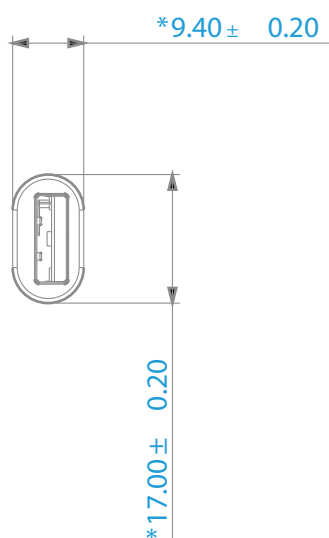
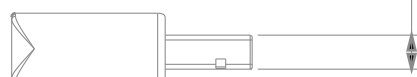
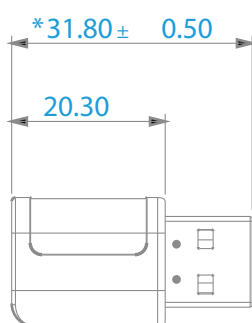
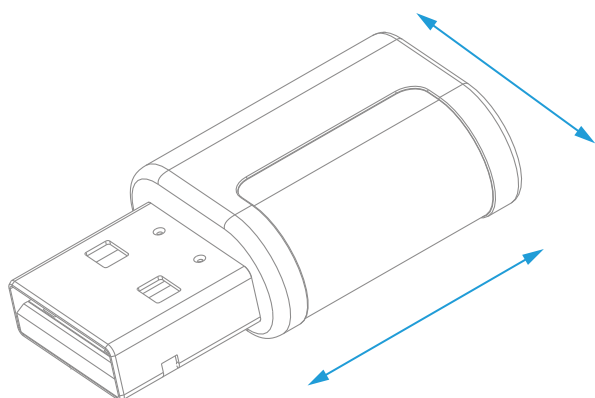
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Physical Dimensions (Version with 2 x Onboard Metal Frame Antennas)



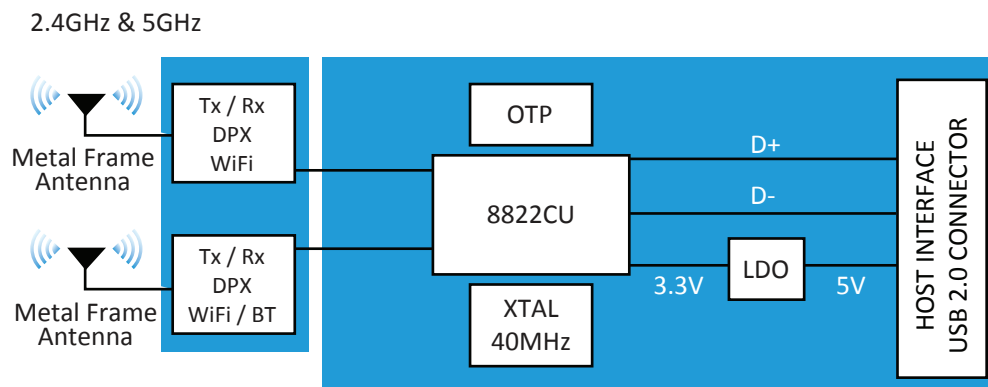
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XCVR Block Diagram (Version with 2 x Onboard Metal Frame Antennas)



Extended Temperature Range

Housing Insulation coupled with a PCB and BOM that use components rated at -40c, other than the Realtek IC that is a 0c rated component.

Our products undergo an intensive test regime which if the product successfully passes we then approve it for use at -20c and provide a warranty for the product for two years. Our temperature test report is available upon request.

Datasheet Version Notes

v1.0	20 JUN 2019	Added version notes to datasheet.
v1.1	19 JUL 2019	Text amendment on Block Diagram.



LM842 WiFi 802.11ac / Bluetooth® 5.0 2T2R USB Combi Adapter

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LM842 Packaging Options



Version with 2 x Onboard Metal Frame Antennas



842-8420	ADPT 802.11ac BT5 USB 433Mbps 5v MF ANT 2T2R AO	Adapter Only
842-8422	ADPT 802.11ac BT5 USB 433Mbps 5v MF ANT 2T2R RP	Retail Pack
842-8424	ADPT 802.11ac BT5 USB 433Mbps 5v MF ANT 2T2R SP	Sample Pack

Information to Users

According to the FCC Part 15.19, 15.21, and 15.105 rules, for this EUT, the instructions or operation manual furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

FCC RF Exposure Information and Statement

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The SAR limit of USA (FCC) is 1.6 W/kg averaged. Device types: LM842 WiFi and Bluetooth 5.0 Dual Mode Combination USB Adapter (FCC ID: VVXLM842) has also been tested against this SAR limit. SAR information on this and other pad can be viewed on-line at <http://www.fcc.gov/oet/ea/fccid/>. Please use the device FCC ID number for search. This device was tested simulation typical 5mm to body. To maintain compliance with FCC RF exposure requirements, use accessories should maintain a separation distance between the user's bodies mentioned above.

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off

- and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

"This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device."

« Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. »

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