



## LM816 WiFi 802.11 b/g/n Nano Adapter

Host Controller Interface (HCI) via USB Interface

Product LM816  
Part No See Last Page  
Revised 16/MAY/2018  
Datasheet Version 1.1



OSX



Linux



Win XP



Win Vista



Win 7



Win 8



Win 10



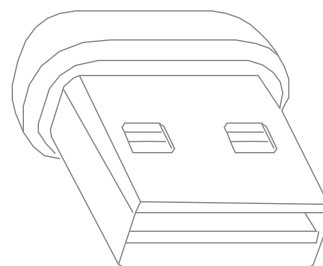
Win IoT



Win CE 6



Win CE 7



17mm x 15mm x 8mm

### WiFi Features

- WiFi 802.11 b/g/n
- Operates in 2.4 GHz frequency bands
- Plug and Play (Linux, macOS X, Windows XP – 10, Windows 10 IoT Core and Windows Compact Embedded 6/7 compatible)
- Fully-featured software utility for easy configuration and management
- 1x1 MIMO technology improves effective throughput and range over existing 802.11 b/g products
- Up to 150Mbps Data Transfer Rate
- BPSK, QPSK, 16 QAM, 64 QAM, DBPSK, DQPSK, and CCK modulation schemes
- WEP, TKIP, and AES, WPA, WPA2 hardware encryption Schemes
- Can be setup as an ad-hoc network for peer to peer communication
- Small convenient size
- RoHS, REACH and WEEE compliant
- See our website for this products certifications.



### Overview

The LM816 WiFi adapter is fully compliant with IEEE 802.11 n, b and g standards. It supports a data transfer rate of up to 150Mbps in ad-hoc mode or infrastructure mode network architectures.

It is designed to provide excellent performance with low power consumption and enhance a robust system.



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## General Specification

### Wireless

|                      |                                                                                       |
|----------------------|---------------------------------------------------------------------------------------|
| Wireless Standard    | 802.11 b/g/n                                                                          |
| Module Type          | Host Controller Interface (HCI)                                                       |
| OS Compatibility     | Linux, macOS X, Windows XP – 10, Windows 10 IoT Core and Windows Embedded Compact 6/7 |
| Security             | WEP 64 bit, WEP 128 bit, TKIP, AES, WPA and WPA2                                      |
| Network Architecture | Ad hoc mode (Peer-to-Peer) and Infrastructure mode                                    |

### Hardware

|            |                      |
|------------|----------------------|
| Chipset    | Realtek              |
| Antenna    | Onboard Chip Antenna |
| Interfaces | USB 2.0 (Full Speed) |
| LED        | Power                |

### RF Characteristics

|                       |                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------|
| Tx Output Power       | (+/- 2dBm): 13dBm@11n, 17dBm@11b, 15dBm@11g                                                                               |
| Rx Sensitivity        | 11Mbps -80dBm@8%, 54Mbps -70dBm@10%, 150Mbps -64dBm@10%                                                                   |
| Range (in open space) | Up to 100m (Indoor) and Up to 180m (Outdoor)                                                                              |
| Current Consumption   | Transmit: average 125 mA<br>Receive: average 68 mA<br>Transmit & Receive: average 105 mA                                  |
| Data Transfer Rate    | 1,2,5,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 Mbps to a maximum of 150Mbps                                             |
| Frequency             | 2.4GHz ISM Band                                                                                                           |
| Modulation Scheme     | BPSK/ QPSK/ 16-QAM/ 64-QAM/ DBPSK/ DQPSK/ CCK                                                                             |
| Spread Spectrum       | IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum)<br>IEEE 802.11g/n: OFDM (Orthogonal Frequency Division Multiplexing) |

### Physical Characteristics

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Operating Temperature  | -10°C to +60°C ambient temperature                |
| Storage Temperature    | -20°C to +70°C ambient temperature                |
| Humidity               | 5% to 90% maximum (non-condensing)                |
| Dimensions (L x W x H) | 17mm x 15mm x 8mm                                 |
| Weight                 | 1.80g +/- 0.25g tolerance (25.36g in retail pack) |
| Certifications         | See our website for this products certifications. |
| Compliance             | RoHS, REACH and WEEE                              |



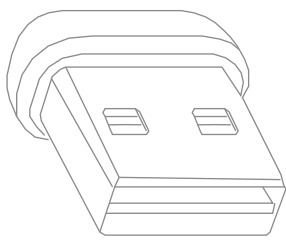
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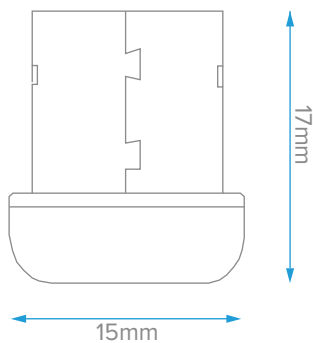
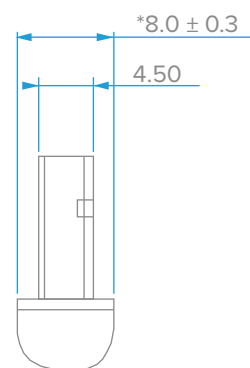
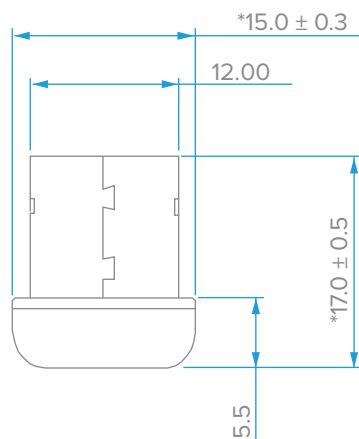
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### Physical Dimensions



17mm x 15mm x 8mm





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### Datasheet Version Notes

|      |             |                                                                  |
|------|-------------|------------------------------------------------------------------|
| v1.0 | 11 JAN 2018 | Added version notes to datasheet.                                |
| v1.1 | 16 MAY 2018 | PCN (Part Number Change) plus updates to Packaging Options page. |



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### LM816 Packaging Options

#### ETSI Versions



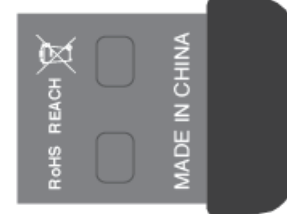
816-0648-1  
ETCHED

##### CSP - Carton Sample Pack

ADPT 802.11n EUS 1T1R USB ETCH SP

Cartons contain sample bags of 2 pieces.  
Contact LM for your desired quantities.

##### Front Etching

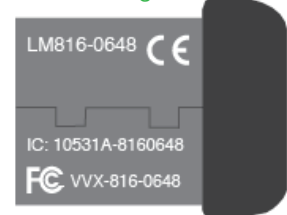


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ETCHED

##### RP - Retail Pack

ADPT 802.11n EUS 1T1R USB ETCH RP

##### Back Etching



816-0648-3  
ETCHED

##### AO - Adapter Only

ADPT 802.11n EUS 1T1R USB ETCH AO

#### US Versions



816-0648-1 US  
ETCHED

##### CSP - Carton Sample Pack

ADPT 802.11n EUS 1T1R USB ETCH SP

Cartons contain sample bags of 2 pieces.  
Contact LM for your desired quantities.

##### Front Etching



816-0648-2 US  
ETCHED

##### RP - Retail Pack

ADPT 802.11n EUS 1T1R USB ETCH RP

##### Back Etching



816-0648-3 US  
ETCHED

##### AO - Adapter Only

ADPT 802.11n EUS 1T1R USB ETCH AO

• See our website to download any applicable Product Software, Manuals and Notes - <http://www.lm-technologies.com/downloads>