



# LM820 Wi-Fi SMT Module 802.11n 150Mbps with Onboard Antenna

Product LM820  
 Part No 820-0462  
 Revised 29/APR/2015



Also available with UFL Receptical  
 Part No 821-0463

## Features

- Operates in 2.4 GHz frequency bands
- 1x1 SISO (Single Input / Single Output) technology improves effective throughput and range over existing 802.11 b/g products
- Data rates: up to 150Mbps
- 802.11e-compatible bursting and I standards
- BPSK, QPSK, 16 QAM, 64 QAM modulation schemes
- WEP, TKIP, and AES, WPA, WPA2 hardware encryption schemes
- Realtek RTL 8188CUS IC Onboard Antenna
- DC power input 3.3V or 5V input
- RF output by chip antenna(type-1)
- RF connector(type-2)
- RF pad on module(type-3)
- RF output on half-hole pin(type-4)
- WPS or PDN control function on half-hole pin 6
- Support LED function when choose WPS option

## Overview

This WLAN 802.11n USB module, fully supports compliance of the IEEE 802.11n, e and i standards.

It supports up to 150Mbps high-speed wireless network connections and is designed to provide excellent performance with low power consumption.

It is designed to be a highly competitive cost-effective module that offers superior performance, better power management applications above its nearest competitors.

## Antenna Option - UFL

This Module can be offered with UFL or iPeX Receptical for increased range or in order to place the module in a different location than to its Antenna. Please speak with our team for guidance when looking at this option.



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## Packaging Options

Module Only  
Part No 820-0462

- User Guides, Manuals and Widcomm Configuration Software available to download via our website - <http://www.lm-technologies.com/support/downloads>

## General Specification

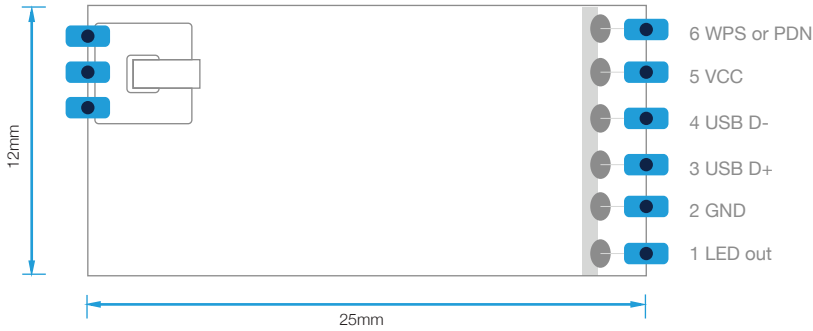
Product Class	WLAN 11n USB module
Standards	802.11b/g/n, 802.3, 802.3u
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 Mbps to a maximum of 150Mbps
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM
Frequency Band	2.4GHz ISM Band
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
RF Output Power	(tolerance $\pm$ 2dBm): 13( $\pm$ 2)dBm@11n, 17( $\pm$ 2)dBm@11b, 15( $\pm$ 2)dBm@11g
Operation Mode	Ad hoc, Infrastructure
Receiver Sensitivity	11Mbps -80dBm@8%,54Mbps -70dBm@10%,130Mbps -64dBm@10%
Operation Range	Up to 180 meters in open space
LED	Data transmission (factory option)
OS Support	Windows CE7 / XP / Vista / 7 / 8 / Mac / Linux / Android
Security	WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0 / RTL8188CUS
Power Consumption	DC 5V module Transmit: max. 125 mA; Receive: max 105 mA DC 3.3V module Transmit: max. 172 mA Receive: max 139 mA
Operating Temperature	-10 ~ 60° C ambient temperature
Storage Temperature	-20 ~ 70°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Dimensions	25.0mm x (L) 12.0mm (W) x 2.0mm (H)



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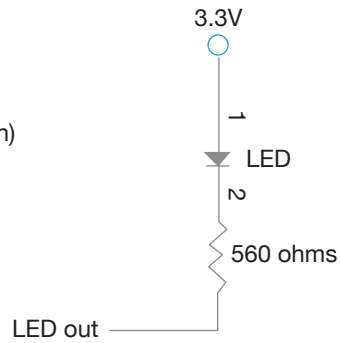
## Pin Outs



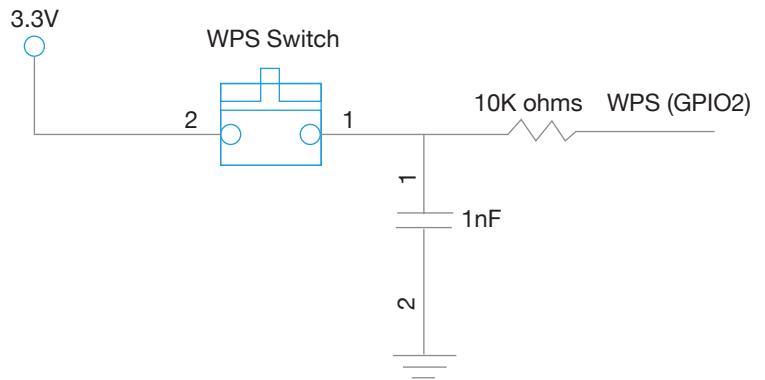
## DC Power Input

Module	Min	Typical	Max	Unit
DC 5V module	4.75	5	5.25	V
DC 3.3V	3.135	3.3	3.465	V

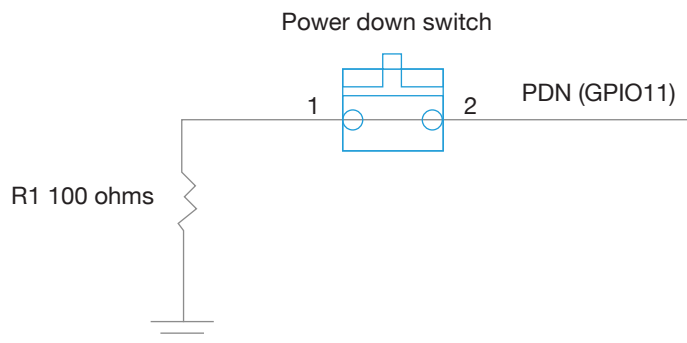
- The external circuit for WiFi activity LED display (LED function is a factory option)



- The function of pin 6 is optional to WPS (GPIO2) or power-down (GPIO11), a factory option. The external circuit for WPS function input (factory option), uses a tact switch.



- The external circuit power-down function input (factory option) uses a push or toggle switch.

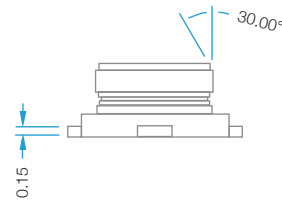
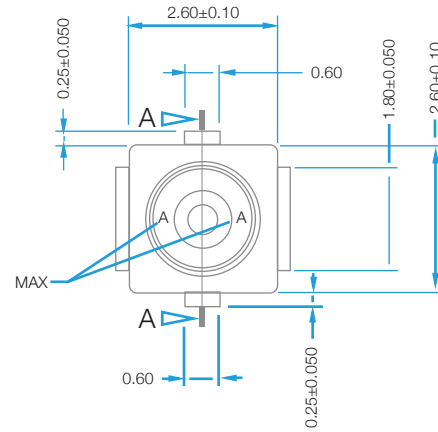
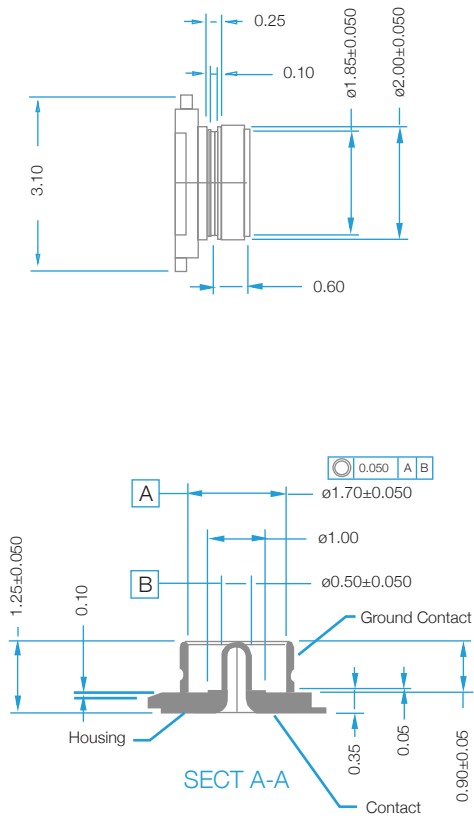




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**UFL RF Connector Dimensions**



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