

## WiFly - RN-111B 802.11b WiFi “SuperModule”

### KEY FEATURES

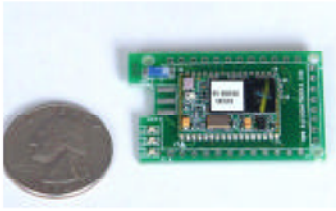
- Ultra-low power module with 40mA average RX, 120ma TX burst current usage.
- Embedded stacks with TCP/UDP/IP, sockets, no host or processor stacks required.
  - ICMP, Telnet, TFTP,DHCP, FTP, UDP Time server clients.
  - Flash memory for user code, API for user applications.
  - FTP client “over the air” firmware upgrade.
- Simple ACSII command interface, over local UART and remote from TCP/IP client.
- Sustained data rates (each direction ) of >200 kbps.
- Security: WEP128, WPA-PSK, and WPA2-PSK (TKIP and AES) supported.
- Real-time clock for datalogging/timestamping.
- Up to 500Kbytes of Flash memory storage for data logs.
- World wide approvals/certifications (FCC, IC, CE ).

### HARDWARE FEATURES

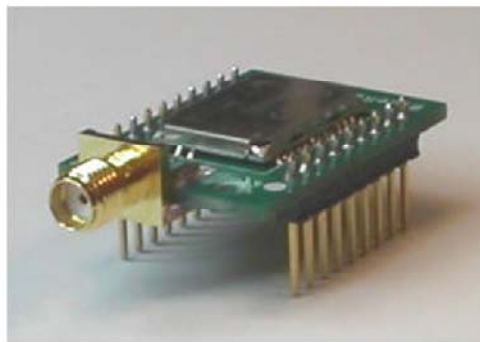
- Accepts Wide range DC power input , (3.0V - to 16Vdc). Can power from single battery cell.
- 801.11b compliant radio. CHIP ANT, U.FL, SMA options.
- UART Serial Port TTL level, speeds: 1200bps up to 921Kbps, even,odd parity.
- SPI port available.
- Low power consumption (<120mA transmitting,, 40mA idle mode)
- Ultra low power (~12ua) sleep mode with “instant on” (30ms) wakeup and attach.
- Wake on programmable timer, wake on UART receive character settings.
- Small-form factor 32 Pin DIP radio modem package (2mm pitch X 0.90” socket width)
- 6 General Purpose Input/Output Pins (4ma source/sink) controlled via remote commands.
- 8 sensor inputs ( 0 – 1.2VDC).

### SPECIFICATIONS

Item	Specifications
Frequency	2402 ~ 2480MHz
Modulation	DSSS(CCK-11, CCK-5.5, DQPSK-2, DBPSK-1)
Channel intervals	5MHz
Number of channels	13CH
Power supply voltage	3.3Vdc ± 0.1V and 10mVp -p max. noise Or 4-24VDC unregulated .
Current consumption	40ma RX, 110ma TX, 180mA worst case peak
Transmission rate (over the air)	11/5.5/2/1Mbit
Receive sensitivity	-82 to -93dBm
Output level	12dBm max.
Dimensions	
	With Antenna

**PIN DEFINITIONS**
**RN-111B**


	Pin Name	Function	Option
1	NO-connect	NO-Connect	
2	VDD-SW	3.3V out switched	
3	Sense-5	Analog input	0-1.2V DC limit
4	Sense-6	Analog input	0-1.2V DC limit
5	Sense-7	Analog input	0-1.2V DC limit
6	Sense-8	Analog input	0-1.2V DC limit
7	PIO6 (red led)	GPIO	TCP connect status
8	PIO9(fact reset)	GPIO	USER-GPIO
9	NO connect	NO connect	
10	NO connect	NO connect	
11	RESET	Active LOW	1.2 V DC limit
12	SHUTDOWN	No connect	
13	VIN	3.6V – 16Vdc input	
14	VREG	3.3V out	Power input
15	VBATT	Tie to VREG if usingVIN	Battery option
16	GND	GROUND	
17	VDD	3.3V out	3.3V power input
18	SPI MO	No connect	
19	SPI CK	No connect	
20	SPI CS	No connect	
21	SPI MI	No connect	
22	PIO5 (yel led)	GPIO	USER-GPIO
23	PIO4 (grn led)	GPIO	Net Ready status
24	RTS – PIO3	TTL FLOW OUT	GPIO
25	CTS – PIO2	TTL FLOW IN	GPIO
26	RX	TTL DATA IN	
27	TX	TTL DATA OUT	
28	Sense-4	Analog input	0-1.2V DC limit
29	Sense-3	Analog input	0-1.2V DC limit
30	Sense-2	Analog input	0-1.2V DC limit
31	Sense-1	Analog input	Sleep wake
32	GND	GROUND	

**RN-111B-E (Without Antenna, SMA end launch jack)**


**COMPLIANCE INFORMATION**

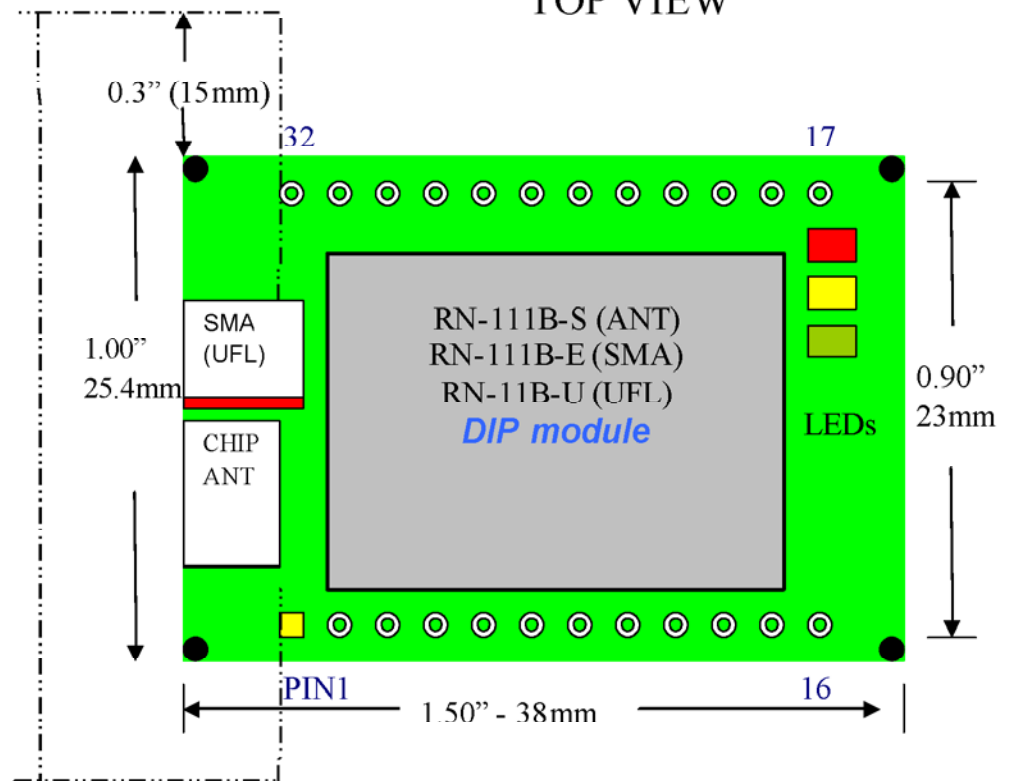
<b>CATEGORY</b>	<b>COUNTRY</b>	<b>STANDARD</b>
<b>RADIO</b>	<b>USA</b>	FCC CFR47 Part 15 C, para 15.247
	<b>FCC ID:</b>	T9JRN111B
	<b>EUROPE</b>	EN 300 328-1
		EN 300 328-2 2.4GHz
	<b>CANADA</b>	IC RSS-210 low power comm. device
	<b>IC Canada ID:</b>	6514A-RN111B
<b>EMC</b>	<b>USA</b>	FCC CFR47 Part 15 subclass B
	<b>EUROPE</b>	EN 55022 Class B radiated
		EN61000-4-2 ESD immunity
		EN61000-4-3 radiated field
		EN61000-4-6 RF immunity
		EN61000-4-8 power magnetic immunity
<b>SAFETY</b>	<b>USA</b>	UL 60950-1
	<b>EUROPE</b>	EN 60950-1
	<b>INTERNATIONAL</b>	IEC 60950-1
	<b>CANADA</b>	CSA- 22.2
<b>ENVIRONMENTAL</b>	<b>RoHS</b>	RoHS compliant

## MECHANICAL INFORMATION AND DIMENSIONS

● RN-111B-S (CHIP) or E (SMA) or U (UFL)

32 Pin DIP (Through-hole)  
2mm Pitch and 0.90" Wide Socket  
TOP VIEW

**Note:** If using CHIP ANT, Keep metallic components, connectors, copper traces, internal layers, and ground planes away from the antenna area!



## ORDERING INFORMATION

### PART NUMBERS:

- RN-111B-S = Chip ANT.
- RN-111B-E = SMA (standard) end launch jack
- RN-111B-U = U.FL socket connector
- RN-111B-R = SMA (Reverse Polarity) end launch jack
- RN-111B-W = ¼ wave Wire
- RN-111B-N = No Antenna fitted.