

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

### KEY FEATURES

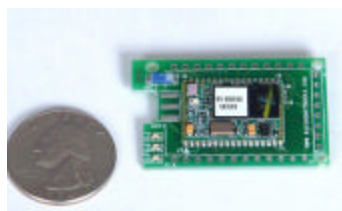
- Ultra-low power module with 40mA average RX, 120ma TX burst current usage.
- Embedded stacks with TCP/UDP/IP, sockets, no host or processor stacks required.
  - ICMP, Telnet, TFTP,DHCP, FTP, UDP Time server clients.
  - Flash memory for user code, API for user applications.
  - FTP client “over the 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

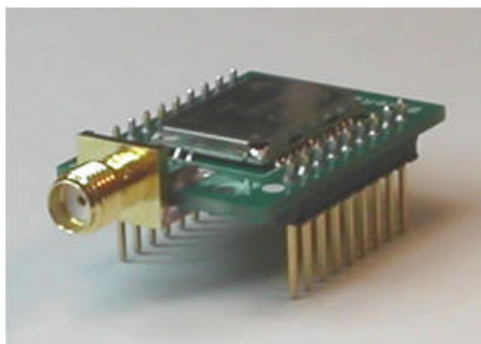
- Accepts Wide range DC power input , (3.0V - to 16Vdc). Can power from single battery cell.
- 801.11b compliant radio. CHIP ANT, U.FL, SMA options.
- UART Serial Port TTL level, speeds: 1200bps up to 921 Kbps, even,odd parity.
- SPI port available.
- Low power consumption (<120mA transmitting,, 40mA 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 $\pm$ 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**

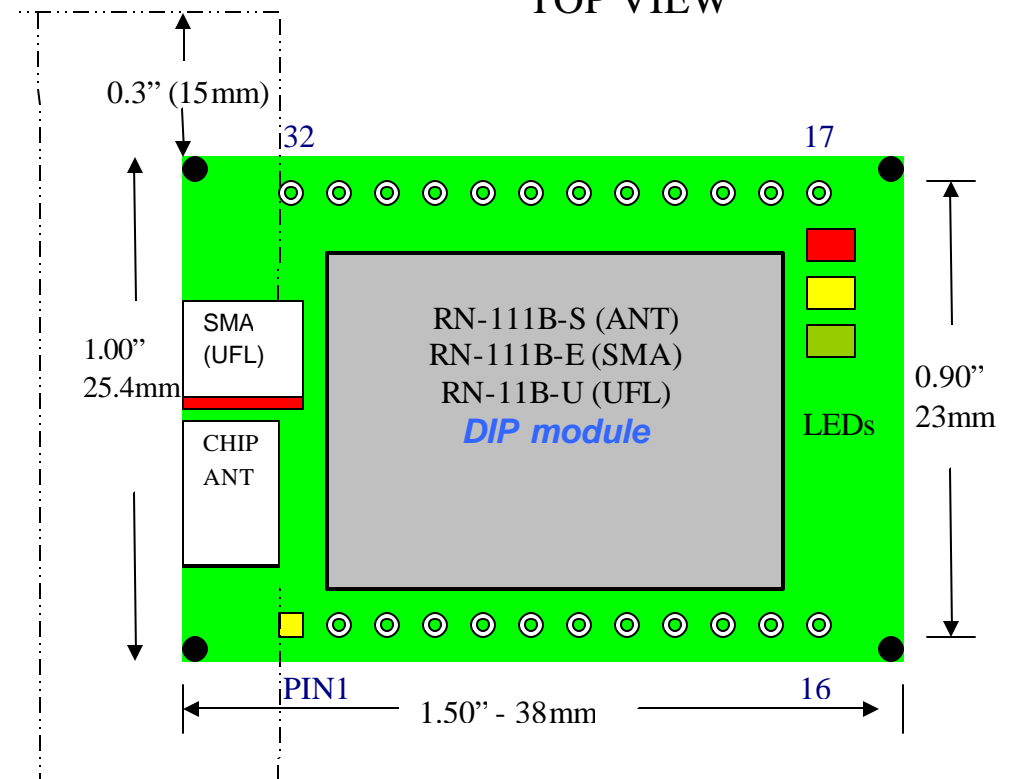
<b>CATEGORY</b>	<b>COUNTRY</b>	<b>STANDARD</b>
<b>RADIO</b>	<b>USA</b>	FCC CFR47 Part 15 C, para 15.247
	<b>FCC ID:</b>	T9JRN111B
	<b>EUROPE</b>	EN 300 328-1
		EN 300 328-2 2.4GHz
	<b>CANADA</b>	IC RSS-210 low power comm. device
	<b>IC Canada ID:</b>	6514A-RN111B
<b>EMC</b>	<b>USA</b>	FCC CFR47 Part 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.