SparkLAN
Connections Made Easy

Wireless Module

WPEA-127NI

802.11 abgn Dual-Band

3T3R Mini PCIe Module



Industrial Grade Mini PCIe Module for Embedded Solution

The WPEA-127NI is powered by Qualcomm Atheros radio chip and features 3x3 11abgn technology for higher throughput performance, reliability and range. It is designed to meet the demanding performance requirements of critical embedded applications.

Embedded Application :

Applications include medical devices, security systems, industrial, Point of sale, Outdoor Access Point, Aviation , Vehicle-mount computer, Traffic controller, Fleet management, Outdoor surveillance, Medical devices, etc.

Key Feature :

- Industrial Grade
- High performance
- Data Rates: allows link speeds up to 450Mbps.
- Support Windows XP/ Vista/ Win7/ Linux driver

Specification :

Standards:	IEEE 802.11abgn (3T3R)
Chipset:	Qualcomm Atheros AR9390-AL1B
Data Rate:	802.11b: 11Mbps / 802.11a/g: 54Mbps / 802.11n: 450Mbps
Operating Frequency:	IEEE 802.11abgn ISM Band, 2.400GHz ~ 2.4835GHz, 5.180MHz ~ 5.825MHz *Subject to local regulations
Interface:	Mini PCI Express
Form Factor:	Mini PCI-e
Antenna:	3 x UFL connector for 3T3R
Modulation:	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11a/g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Operating Voltage:	3.3V
Temperature Range:	-40°C to +80°C (Operating) / -50°C to +95°C (Storage)
Humidity (Non-Condensing):	Operating Humidity (non-condensing): 20% ~ 80% Storage Humidity (non-condensing): 5% ~ 95%
Power Consumption:	Continue TX: 970mA / Continue RX : 300mA
Dimension (in mm):	50.95 x 30 x 3.3 mm
Weight (g):	≦ 7g
Driver Support:	Windows XP/ Vista/ Win7/ Linux
Security	64/128-bits WEP, WPA, WPA2

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OUTPUT POWER & SENSITIVITY		
802.11g		
Data Rate	**Tx ± 2dBm**	**Rx Sensitivity± 2dBm**
54Mbps	16dBm	≦-79dBm

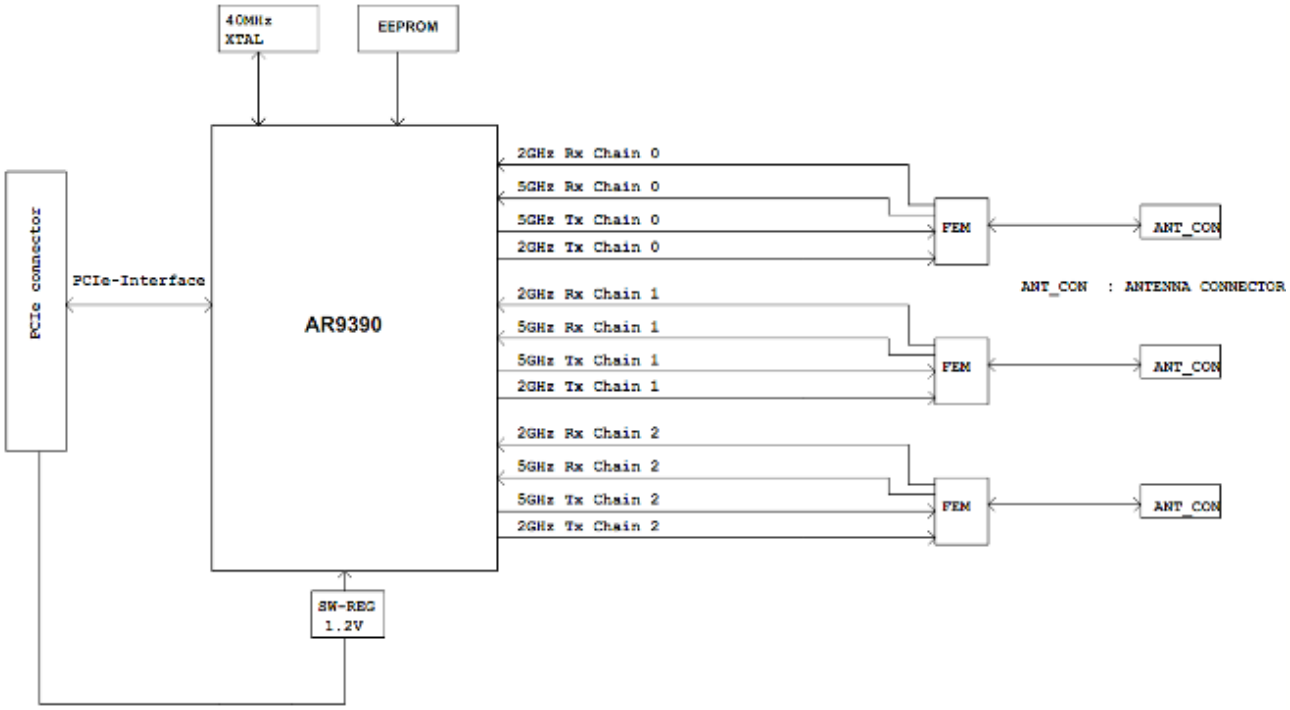
802.11n / 2.4GHz				
HT20	**Data Rate**	**Tx ± 2dBm (1TX)**	**Tx ± 2dBm (3TX)**	**Rx Sensitivity**
	MCS7	15dBm	20dBm	≦76dBm
HT40	MCS7	15dBm	20dBm	≦-74dBm

802.11a		
Data Rate	**Tx ± 2dBm**	**Rx Sensitivity± 2dBm**
54Mbps	11dBm	≦-78dBm

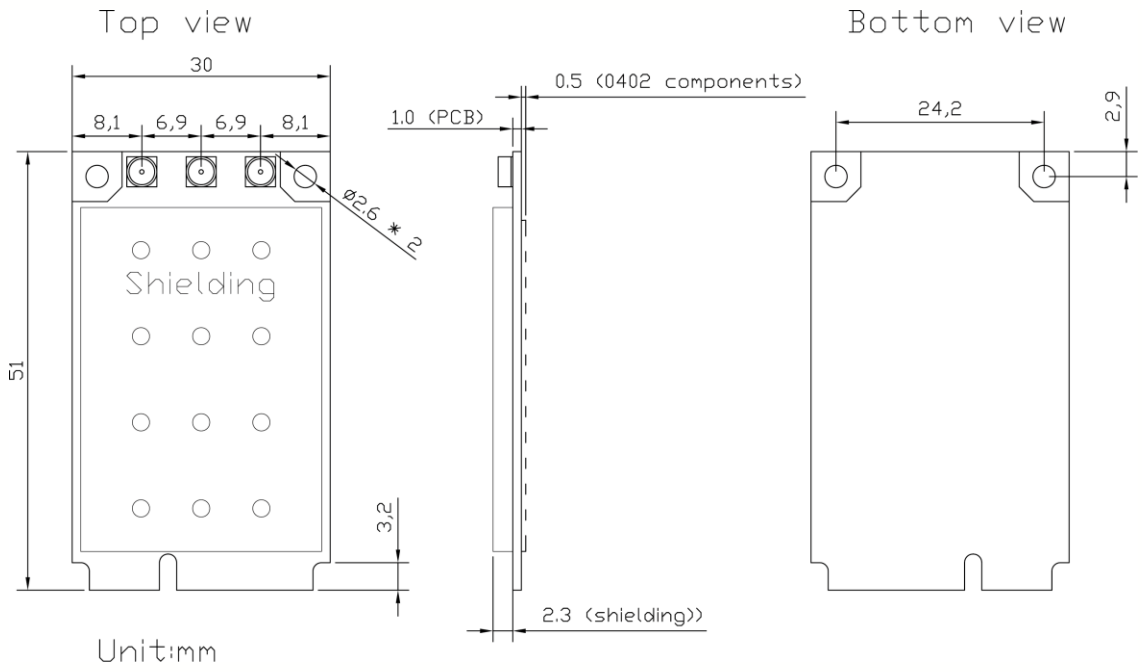
802.11n / 5GHz				
HT20	**Data Rate**	**Tx ± 2dBm (1TX)**	**Tx ± 2dBm (3TX)**	**Rx Sensitivity**
	MCS7	11dBm	16dBm	≦-75dBm
HT40	MCS7	11dBm	16dBm	≦-72dBm

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Block Diagram



Mechanical Dimension (mm)



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Pin Assignment

Pin#	Pin Name	Status	Pin#	Pin Name	Status
1	WAKE_L	NA	2	+3.3V	YES
3	RESERVED(GPIO12)	YES	4	GND	YES
5	RESERVED	NC	6	+1.5V	NC
7	CLKREQ_L	Optional	8	UIM_PWR	NC
9	GND	YES	10	UIM_DATA	NC
11	REFCLK-	YES	12	UIM_CLK	NC
13	REFCLK+	YES	14	UIM_RESET	NC
15	GND	YES	16	UIM_VPP	NC
17	UIM_C8	NC	18	GND	YES
19	UIM_C4	NC	20	W_DISABLE_L	YES
21	GND	YES	22	PERST_L	YES
23	PERn0	YES	24	+3.3V	NC
25	PERp0	YES	26	GND	YES
27	GND	YES	28	+1.5V	NC
29	GND	YES	30	SMB_CLK	NC
31	PETn0	YES	32	SMB_DATA	NC
33	PETp0	YES	34	GND	YES
35	GND	YES	36	USB_D-	NC
37	RESERVED	NC	38	USB_D+	NC
39	RESERVED(+3.3V)	YES	40	GND	NC
41	RESERVED(+3.3V)	YES	42	LED_WWAN_L	NC
43	RESERVED(GND)	YES	44	LED_WLAN_L	Optional
45	RESERVED	NC	46	LED_WPAN_L	NC
47	RESERVED(GPIO13)	YES	48	+1.5V	NC
49	RESERVED(GPIO14)	YES	50	GND	YES
51	RESERVED(GPIO15)	YES	52	+3.3V	YES

***NC→No Connection, NA→No Support**

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