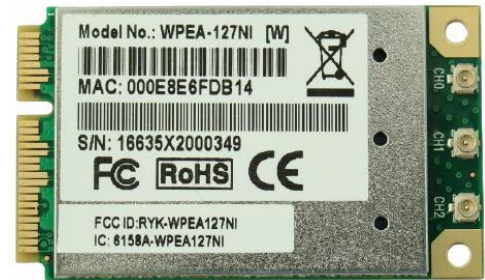


WPEA-127NI

802.11a/b/g/n Dual-Band

3T3R Mini PCIe Module



Industrial Grade Mini PCIe Module for Embedded Solution

The WPEA-127NI is powered by Atheros radio chip and features 3x3 802.11a/b/g/n 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 WinXP/Vista/7, Linux driver

Specification

Standards	IEEE 802.11a/b/g/n (3T3R)
Chipset	Atheros QCA9390-AL1B
Data Rate	802.11b: 11Mbps 802.11a/g: 54Mbps 802.11n: 450Mbps
Operating Frequency	IEEE 802.11a/b/g/n ISM Band: 2.400GHz ~2.4835GHz, 5.180GHz ~ 5.825GHz *Subject to local regulations
Interface	WLAN: PCIe
Form Factor	Mini PCIe
Antenna	3 x IPEX MHF1 connectors
Modulation	Wi-Fi: 802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11a: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Power Consumption	TX mode: 970mA RX mode: 300mA
Operating Voltage	DC 3.3V
Operating Temperature Range	-40°C~80°C
Storage Temperature Range	-50°C~95°C
Humidity (Non-Condensing)	20%~80% (Operating) 5%~95% (Storing)
Dimension L x W x H (in mm)	51.0mm(±0.3mm) x 30.0 mm(±0.3mm) x 3.8mm(±0.3mm)
Weight (g)	7.5g
Driver Support	Windows XP/Vista/7, Linux
Security	64/128-bits WEP, WPA, WPA2

OUTPUT POWER & SENSITIVITY

802.11b

Data Rate	Tx \pm 2dBm	Rx Sensitivity
11Mbps	19dBm	\leq -95dBm

802.11g

Data Rate	Tx \pm 2dBm	Rx Sensitivity
54Mbps	16dBm	\leq -79dBm

802.11n / 2.4GHz

	Data Rate	Tx \pm 2dBm (1TX)	Tx \pm 2dBm (2TX)	Rx Sensitivity
HT20	MCS7	15dBm	20dBm	\leq -76dBm
HT40	MCS7	15dBm	20dBm	\leq -74dBm

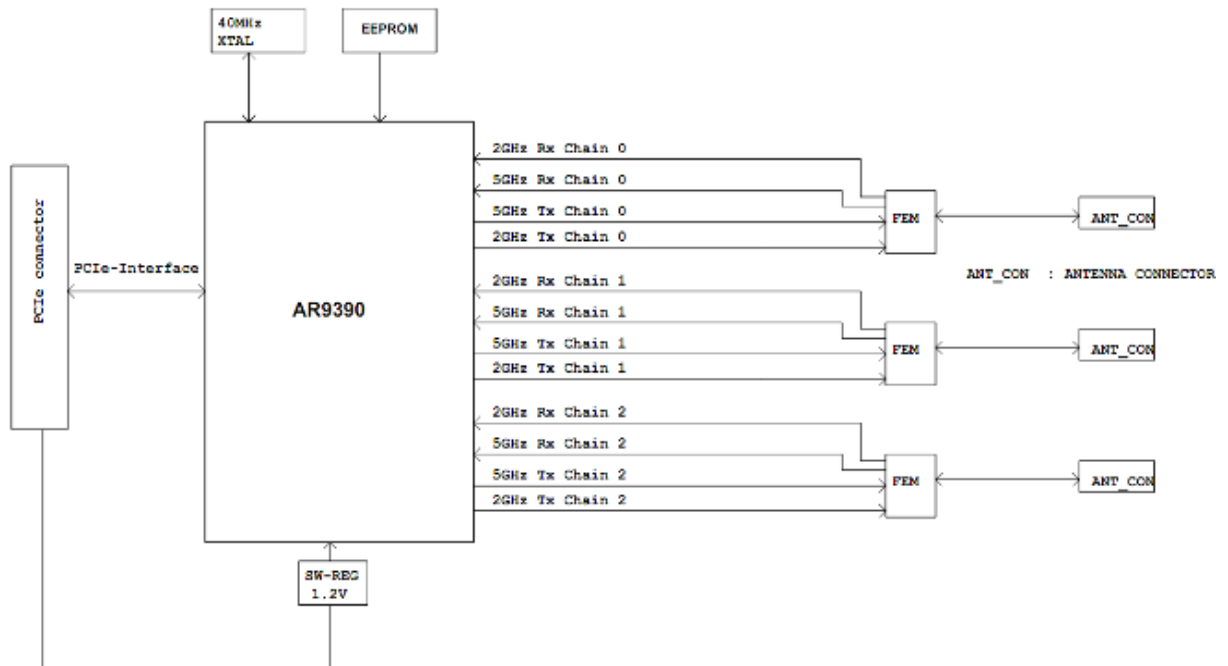
802.11a

Data Rate	Tx \pm 2dBm	Rx Sensitivity
54Mbps	11dBm	\leq -78dBm

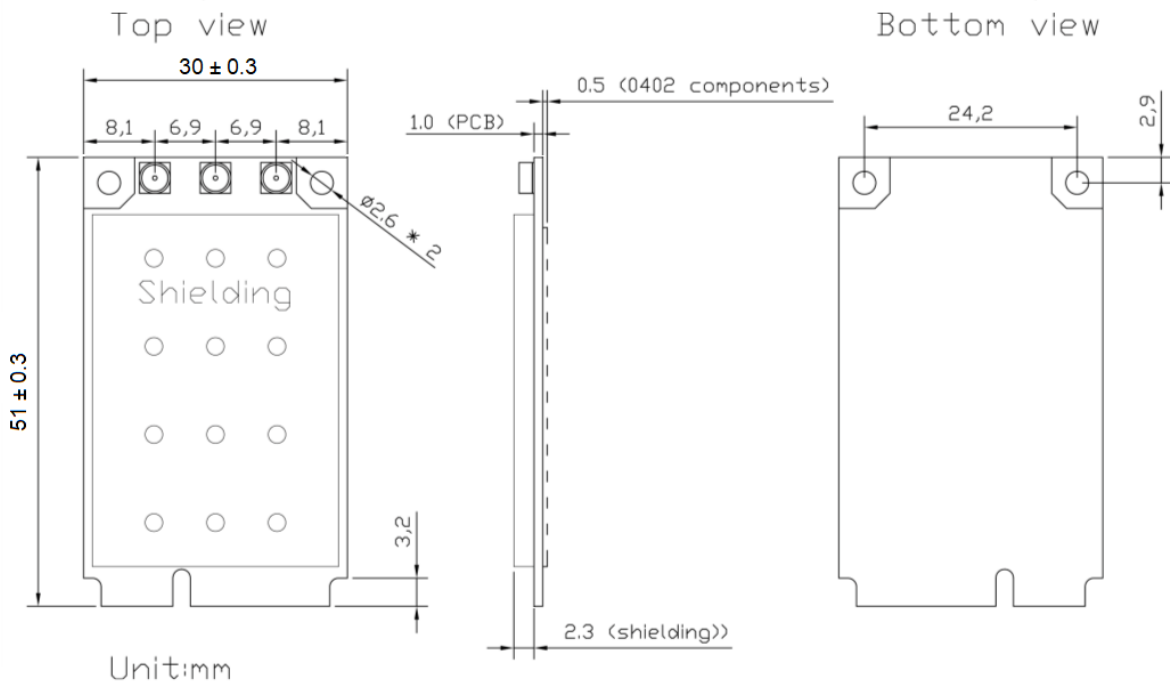
802.11n / 5GHz

	Data Rate	Tx \pm 2dBm (1TX)	Tx \pm 2dBm (2TX)	Rx Sensitivity
HT20	MCS7	11dBm	16dBm	\leq -75dBm
HT40	MCS7	11dBm	16dBm	\leq -72dBm

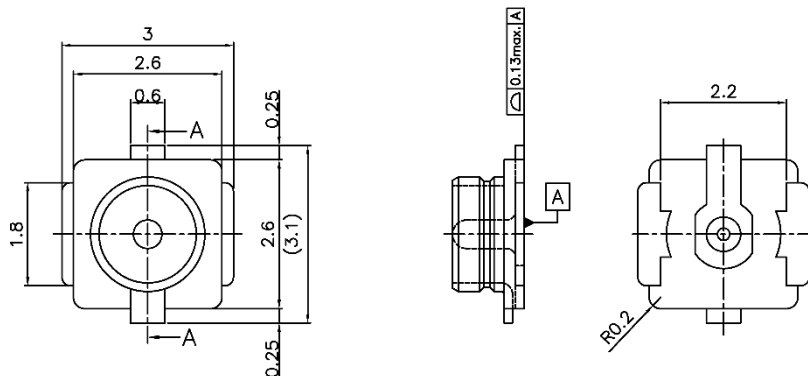
Block Diagram



Mechanical Dimension (mm)



MHF1 connector spec.



Unit: mm

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

Pin Assignment

Pin#	Pin Name	Status	Pin#	Pin Name	Status
47	RESERVED(GPIO13)	YES	48	+1.5V	NC
49	RESERVED(GPIO14)	YES	50	GND	YES
51	RESERVED(GPIO15)	YES	52	+3.3V	YES

*NA→No Support

*NC →No Connection

Certification

Dipole Ant.

FCC

IC

NCC

CE (RED EN 300 328 V2.2.2 / EN 301 893 V2.1.1)

MIC

ASNZS

Ordering Information

Product Name	Part Number	Description
WPEA-127NI	R9701790004	802.11a/b/g/n Mini PCIe Module

Optional Accessory

Product Name	Part Number	Description
AD-300N	R3410110219	Dipole Antenna, 3dBi/5dBi 2.4G/5GHz RP-SMA
AD-302N	R3410110221	Dipole Antenna, 3dBi/2dBi 2.4G/5GHz, RP-SMA(M) connector
AD-303N	R3410110222	Dipole Antenna, 3dBi/3dBi 2.4G/5GHz, RP-SMA(M) connector
CBIRF-ME150	R3470300023	I-PEX/MHF1 to RP-SMA Female; L:150mm; Coaxial 1.37 Black
CBIRF-ME250	R3470300024	RF Cable, I-PEX/MHF1 to RP-SMA(F); L:250mm; Coaxial 1.37 Black