

AW-GE780

**IEEE 802.11b/g Mini PCI-Express Wireless
Module**

Datasheet
Version 0.4

1. Introduction

AzureWave Technologies, Inc. introduces the pioneer of the IEEE 802.11b/g Mini PCI Express wireless module ---**AW-GE780**. The AW-GE780 Mini PCI Express wireless module is a highly integrated wireless local area network (WLAN) solution to let users enjoy the digital content through the latest wireless technology without using the extra cables and cords. It enables a **high performance, cost effective, low power, compact solution** that easily fits onto one side of a PCI Express Mini Card.

Compliant with the IEEE 802.11b/g standard, the AW-GE780 uses Direct Sequence Spread Spectrum (**DSSS**), Orthogonal Frequency Division Multiplexing (**OFDM**), **DBPSK**, **DQPSK**, **CCK** and **QAM** baseband modulation technologies.

A high level of integration and full implementation of the power management functions specified in the IEEE 802.11 standard minimize system power requirements by using AW-GE780.

AW-GE780 module adopts Atheros **AR2425** solution. The module design is based on the AR2425 solution which is a highly integrated single chip contains **MAC/BB/Radio** to reduce the size of module.

All the other components can be implemented by all means to reach the mechanical specification. AW-GE780 is the surface mounted type component. The solder joint and soldering strength provide mounting mechanism to secure the AW-GE780 module against vibration and shock on the host system.

2. Features

- **Mini PCI Express**
- **High speed wireless connection to 54Mbps**
- **Solid design with external antenna diversity**
- **Low power consumption and high performance**
- **Enhanced wireless security**



3. General Specifications

WLAN Standard IEEE 802.11b/g, Wi-Fi compliant
Host Interface Mini PCI Express
Dimension 51mm X 30mm X 3.3mm (with shielding)
Weight 18 g

Voltage 3.3V +/- 5%
Temperature Operating: -10~70 °C; **Storage:** -20 ~ 65°C

Frequency Range 2.4 GHz ISM Bands 2.412-2.472 GHz, 2.484 GHz

Modulation
802.11g: OFDM
802.11b: CCK(11, 5.5Mbps), DQPSK(2Mbps), BPSK(1Mbps)

Output Power
802.11b: typical 16 ± 1.5 dBm
802.11g: typical 13 ± 1.5 dBm

Antenna Build-in inside host (U.FL-R-SMT)

Receive Sensitivity
802.11b: typical -76dBm at 11Mbps
802.11g: typical -68dBm at 54Mbps

Data Rates 802.11b: 1, 2, 5.5, 11Mbps
802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps

Power Consumption
802.11b: TX : MAX 710mA at 3.3V , MIN 630mA at 3.3V
Rx : MAX 330mA at 3.3V , MIN 310mA at 3.3V
802.11g: TX : MAX 650mA at 3.3V , MIN 620mA at 3.3V
Rx : MAX 340mA at 3.3V , MIN 320mA at 3.3V

Operating Range
Open Space: ~300m; Indoor: ~100m
(The transmission speed may vary according to the environment)