

Operational Description

For

WLAN b+g Mini-PCI Module

Model:

RM1

The WLAN 802.11b+g Mini-PCI Module is embedded 2.4GHz Wireless Local Area Network Mini-PCI adapter. The channel and the frequency are located on the free licensed ISM band from 2400MHz to 2483.5MHz (11b/11g), and different Modulations are applied to different select data rate mechanism. For being in 802.11b mechanism, the DBPSK modulation operates at 1Mbps low data transmit rate, the DQPSK modulation operates at 2Mbps standard data transmit rate, the CCK operates at 5.5 medium and 11Mbps high data transmit rate respectively. For being in 802.11g mechanism, the BPSK-OFDM modulation operates at 6Mbps/9Mbps data transmit rate, the QPSK-OFDM modulation operates at 12Mbps/18Mbps data transmit rate, the 16QAM-OFDM operates at 24Mbps/36Mbps data transmit rate, the 64QAM-OFDM operates at 48Mbps/54Mbps data transmit rate respectively.

There are 11 operation channels in 802.11b & 802.11g.

The adapter is 60mm x 45mm in dimension, and mainly contains a 196-pin MAC controller and a fully duplex RF transceiver module inside. The transceiver module contains a 49-pin 802.11b/g modulator, and a 16-pin Power Amplifiers. The RF transceiver is connected to a set of antennas via its transmit and receive Hirose connectors. For reducing the fading effect, the antenna diversity is applied. The distance between the main antenna and the aux antenna should be kept a half of the wave length.

The Mini-PCI form factor is designed for router where overall thickness must be kept to an absolute minimum. When the PCI interface connects the WLAN adapter and router for baseband data communicating, the adapter could be bound inside the router, and a high frequency coaxial cable along the casing links the adapter and the antenna. The distance among the antenna, the adapter, and the human body would be large enough for anti-interference and anti-exposure in normal operation.