

Operational Description

For

EM-200B

The IEEE802.11b Mini PCI WLAN adapter is embedded 2.4GHz Wireless Local Area Network Mini-PCI adapter. The channel and the operation frequency are located on the free licensed ISM band from 2412MHz to 2462MHz, and different Modulations are applied to different select data rate 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.

The adapter is 60mm x 45mm in dimension, and mainly contains a 128-pin MAC controller and a fully duplex RF transceiver inside. The fully duplex RF transceiver is a direct conversion structure, and the chip of Philips SA2400ABE which needs 3.0V power supply is used. The RF transceiver is connected to a set of antennas via its transmit and receive Hirose connectors. The MAIN connector is linked to the main antenna which transmits and receives the RF signal for data communication, and the AUX connector is linked to the aux antenna which only receives the RF signal. 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 notebook computer systems where overall thickness must be kept to an absolute minimum. When the PCI interface connects the WLAN adapter and notebook PC for baseband data communicating, the adapter could be bound inside the notebook PC, and a high frequency coaxial cable along the casing links the adapter and the antenna from the notebook bottom to the top seam of the LCD plane. The distance among the antenna, the adapter, and the human body would be large enough for anti-interference and anti-exposure in normal operation.