3500-500X Series

Theory of Operation Principle

The 3500-500X Series Hotport Mesh Node is comprised of two printed circuit assemblies; a Mother Board and Radio Card. The Motherboard uses the Intel IXP425 as the central processing unit. Memory configuration is 32M bytes of FLASH and 64M bytes SDRAM. The Motherboard is powered by via a AC/DC wall adapter (5V out, 1.2 A rating). The Hotport Node supports up to 4 10/100 Base-TX LAN network interfaces using Admtek 6996L Ethernet switch. The interface to the LAN network is through an RJ45 STP port. The radio card (Type III mini PCI module) plugs into the Motherboard. Communication to/from the Motherboard is made via a 128 pin mini PCI connector. The Radio Card runs from 3.3 volts, which is provided by the Motherboard. The 3500-500X series uses an Ubiquiti Networks SR5 radio card. The SR5 card is a full featured 802.11a client card. The Radio operates in the 5150 MHz to 5350 and 5725 MHz to 5825 MHz bands according to the IEEE 802.11a specification. The data rates supported 6, 9, 12, 18, 24, 36, and 54 MBit OFDM. The Hotport Node uses two 5 dBi omni directional diversity antennas.

FCC 15.407 (c) statement: The 3500-5001 and -5003's data transmission is controlled by Firetide application software running on the IXP425. The software initiates the TX sequence by sending an initialization command to the MAC (Media Access Controller) (Atheros AR5312), which resides on the Radio Card. TX data is passed to the MAC and then to to Radio IC along with TX/RX control signals. Once the data packet has been transmitted, the state machine inside the MAC instructs the Radio to turn off the transmit function and return to receive mode. The MAC also controls "non-data" packets such as ACK's, RTS/CTS, etc.