3600-5000 Series

Theory of Operation Principle

The 3600-5000 Series Hotport Mesh Node is comprised of three printed circuit assemblies; a Mother Board, a Daughter 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 Daughter Board is powered by via a AC/DC wall adapter (16V out, 2.5 A rating). The Daughter Board's main function is to generate the system level voltages used by the Mother Board and Radio Card. The Hotport Node supports up to 2 10/100 Base-TX LAN network interfaces using Admtek 6996L Ethernet switch. The interface to the LAN network is through an LTW weatherized connector. 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 3600-5000 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 up to 10 dBi omni directional diversity antennas depending on the band of operation.

FCC 15.407 (c) statement: The 3600-5000'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.