Firetide FWB-205
Theory of Operation

The FWB-205 is a pole mount 802.11 a/n capable point to point wireless bridge. The FWB-205 is housed in an environmentally rated enclosure and has three main printed wiring assemblies; a motherboard, 802.11 mini pci radios, and a auxillary heater board. It is powered by via an AC/DC desktop PoE adapter (48V out, 1.8 A rating). The Mother Board accepts the 48 VDC input through its RJ45 connector. The Mother Board converts the 48 VDC into four other supply voltages used by the rest of the system; 1.8, 2.5, 3.3, and 5.0 VDC.

The main processing unit of the FWB-205 is the Atheros 7161. Memory configuration is 16 Mbytes of FLASH and 64 Mbytes SDRAM. The 5200 supports a single wired 10/100/1000 Base-TX LAN network interface using the IC+ IP1001 PHY. The interface to the wired LAN network is through a RJ45 ports on the rear.   The radio cards plug into the Mother Board. Communication between the Mother Board and the radio cards are made via a PCI interface.

The FWB-205 series uses a Wistron MB82 mini PCI radio card. The Radio Card runs from 3.3 volt, which is provided by the Mother Board.   The output TX stage of the radio is powered from +3.3 VDC and has a supply current of 250 mA. The Radio operates in the 4.9 GHz Public safety and 5 GHz band according to the IEEE 802.11a/n specification. The heater board runs from +5VDC and is used to heat the interior once the temperature drops below 0 degrees C.

Only proprietary software written and distributed by Firetide Inc. can be installed on the Hotpoint 5200. "Source code" is controlled solely by Firetide Inc. and is not distributed to end users.

The data rates supported are 1 Mbit (DBPSK), 2 Mbit (DQPSK), 5.5 Mbit (CCK), and 11 Mbit (CCK) for .11b, 6, 9, 12, 18, 24, 36, and 54 MBit OFDM for .11a/g and HT20/HT40 MCS0 – MCS7 for .11n.

FWB-205 uses 19 dBi Panel antenna and is housed in an injection molded aluminum enclosure.