FAST Inc. X-Wire Operational Description

The FAST Inc. X-Wire system is intended to be used as a wireless data collection system. Each system consists of a X-Wire Wireless Gateway device and one or more X-Wire bezel or universal units attached to an appliance controller. The Gateway device may be attached to a computer via a USB connection. The appliance connected devices communicate information back to the Gateway regarding number of cooks performed, times, temperature or any other available information about the appliance to which it is connected. The computer can then extract that data from the Gateway to be formatted and stored in a database. (See Block Diagram below)

Each device in the system contains the same transceiver circuitry. The transceiver consists of an 802.15.4 compliant RF transceiver operating at 2.4 GHz IEEE designed for low-power and low-voltage applications. The antenna implemented in all devices is an inverted F type that is embedded into the printed circuit board. A separate microcontroller is connected to the transceiver to run the application specific firmware.

The device uses Zigbee Protocol, with a switch that selects frequencies of 2.4056GHZ, 2.4445GHz and 2.4809 GHz. The devices are using a 16MHz oscillator and generate the 2.4GHz. The cooking controller use 16 and 32 MHz clocks.