Description of Operation

The Tassure Temperature Monitoring System consists of a network of wireless sensors which monitor temperatures at various locations and reports the data to an Ethernet Reader. The Ethernet Reader then reports the data to a centralized computer over an Ethernet cable using TCP/IP protocol. For reporting data over an extended range, the network may incorporate Wireless Extension Readers, which pick up the data packets from the sensors and retransmits the data.

The temperature data is transmitted by means of a temperature data packet transmitted at 915.250 - 917.25 MHz with a power output of 0 dBm, and FSK modulated at 9600 baud. The data consist of a 120 or 344 bit packet using a proprietary protocol, which is transmitted once a minute. Once a packet is transmitted, the operating frequency may shift to a channel within 1 MHz of the original operating frequency. The data is received at the Ethernet Reader and transmitted to a computer or file server where it is decoded and displayed using a proprietary software package.

In some situations, the data packet from the sensor may not be able to be seen by the Ethernet reader. In this case, a Wireless Extension reader can be place between the sensor and Ethernet reader, to boost the sensors range.

The Wireless Extension reader picks up the packet and decodes the packet data to determine if the data is a valid sensor packet. If the data checksum passes and the packet appears to be valid, the packet is retransmitted with the same format and data that was sent by the sensor. Data from other devices operating in the same frequency band would not be formatted with the same proprietary protocol, and would not be retransmitted.

The Wireless Extension reader is designed to operate with the following sensors only:
Freshloc Technologies sensor, VOU60-0006-001.