FEATURES

- **100mw, 900 MHz SSFH Mesh Repeater**
- **As many as 26 layers of Mesh Network repeating**
- **Automatic randomization and collision avoidance**
- **Low profile, high gain whip antenna**
- **Low power, 6-24 VDC at 200 milliamp transmitting, 80 milliamp receiving**
- **Indoor Range: up to 1300'**
- **Transceiver Range Outdoor (with dipole): 7mi. (LOS)**
- **Supports all Point Sensors (Temperature, Humidity, Analog, Pulse, Thermistor, Light)**
- **ABS enclosure**
- **Reverse Polarity SMA connection with external antenna**
- **3.3 X 3.3 X 1.4 inch enclosure with flange mounts.**

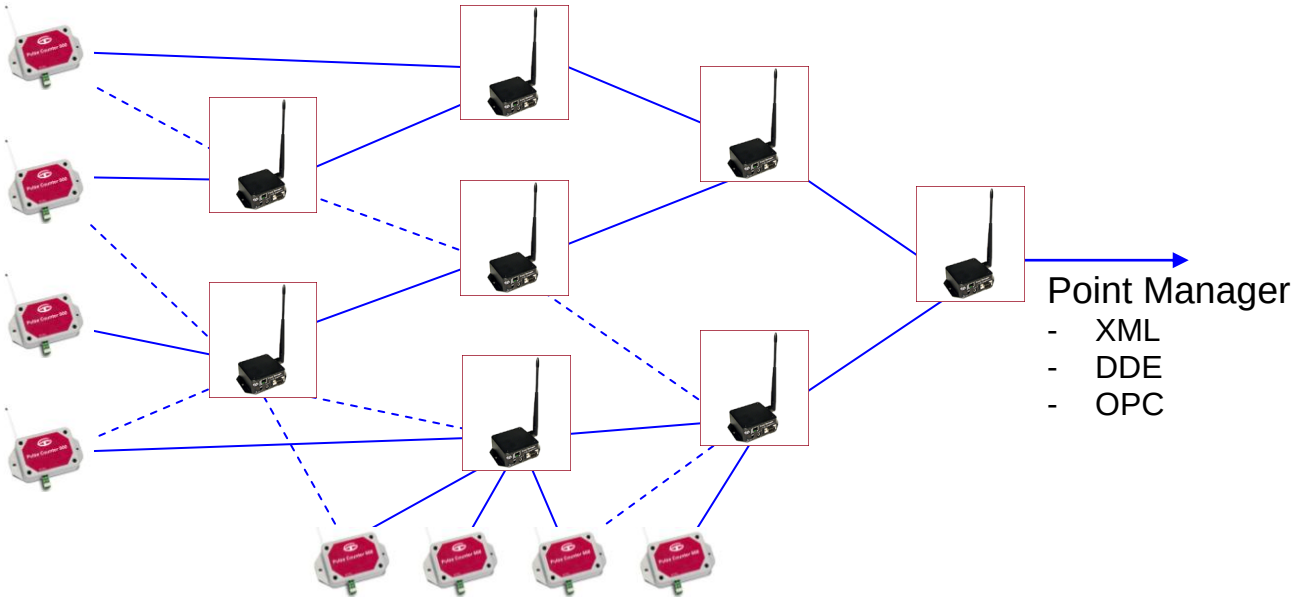
DESCRIPTION

The Point Repeater 9.9 is a 900 MHz RF Mesh Repeater. It receives CRC-16 error-checked data packets, processes the data, and then transmits the data to other Mesh Repeaters, Servers or Receivers. As many as 26 layers of Point Repeater 9.9 repeaters can coexist in the same environment. The Point Repeater 9.9 can be configured via the 900 MHz radio interface for network specific operation.

The following example illustrates the Mesh Network Capabilities. Multiple, fault tolerant signal pathways are established to route the data to the target receiver or gateway. The solid lines represent the primary signal paths and the dotted lines represent the alternate paths.

900 MHz. Sensor Family

Mesh Network Topology



Repeater Transceiver Specifications

General

Frequency Range 902 to 928 MHz, unlicensed ISM Band
Type Frequency Hopping Spread Spectrum Transceiver
Frequency Control Direct FM
Transport Protocol Transparent networking
Network Topology Multi-drop
Channel Capacity Hops through 25 channels, Up to 65,000 Net IDs
Serial Data Interface Asynchronous (RS-232) CMOS (TTL) signals, 5V, 3.3V tolerant
I/O Data Rate 9600, set at factory (performance specifications vary with the data rate)

Performance

Channel Data Rate 10k bps respectively (vary with data rate)
Transmit Power Output 100mW
Rx Sensitivity -110
Range* Indoor: 600' to 1300' Outdoor: 7mi. with dipole, >20 mi. w/ high gain antenna
Interference Rejection 70 dB at pager and cellular phone frequencies
*Range calculations are for 9600-baud radio, line-of-sight. Actual range will vary based upon specific board integration, antenna selection, environment and the OEM's device.

Power Requirements

Supply Voltage 5 VDC +/-0.3V
Current Consumption Tx – 170 mA nominal, Rx – 50 mA nominal

Physical Properties

Board Size 1.6" x 2.7" x .35" (4.06 x 6.86 x .89)cm
Weight 0.8oz (24g)
Connector 11 pin 0.1" spaced male berg type header
Operating Temperature -40ºC to 85ºC
Operating Humidity 10% to 90% (non-condensing)

Antenna

Antenna Connector MMCX Female
Antenna Impedance 50 Ohms unbalanced
Approved Antennas Integral wire antenna (factory installed)
Astron AXQ9PRLMMCX – 1/4 wave flexible whip
Astron AXH900 RP SMAR – 1/2 wave flexible whip, SMA