

ESTeem 210C

The **ESTeem 210C** is a ruggedized, industrial wireless device designed and built for the Water/Wastewater, Energy and Utility markets to bring Ethernet connectivity to the FCC Licensed narrowband spectrum. With user selectable Quadrature Amplitude Modulation (QAM) that delivers up to

64.8 Kbps of data rate, the **ESTeem 210C**

enables secure, modern IP based communication solutions for those terrain-challenging applications that demand the flexibility and range of a licensed frequency.

ESTeem's industrial-hardened **Industrial SMART RF** technology enables a scalable, self-healing wireless network architecture with built in redundancy for complete system reliability and stability over large geographical areas.



Key Features

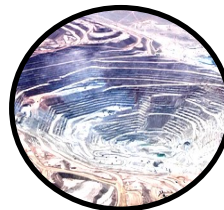
- ESTeem's scalable **Industrial SMART RF** technology enables redundant, self-healing networks to provide dependable and stable communications in extreme environmental conditions.
- Same device can be used for master, repeater and remote locations enabling superior network flexibility and scalability
- Private and Secure Communications
- Ethernet and serial interfaces
- Simple configuration
- 15+ Mile range
- 450-470 Mhz



Water/Wastewater



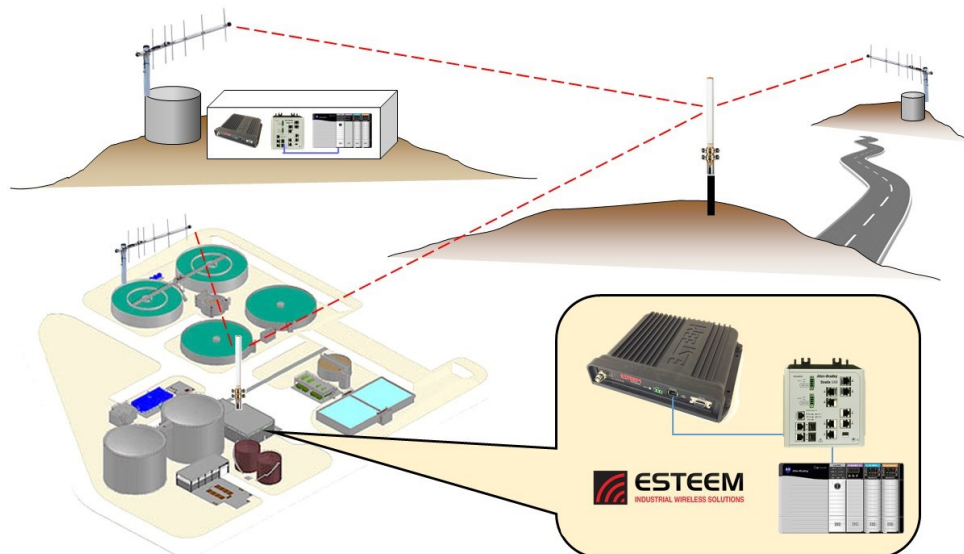
Oil & Gas



Mining



Power & Energy



ESTEEM 210C Specifications	
Transceiver	
Frequency of Operation (Software Selectable)	450 to 470 MHz
Frequency Selectability	6.25 KHz
Frequency Stability	± 1.5 ppm
RF Data Rate @ 6.25 KHz Channel Bandwidth	9.6 Kbps (4 QAM), 19.2 Kbps (16 QAM), 28.8 Kbps (64 QAM) (software selectable)
RF Data Rate @ 12.5 KHz Channel Bandwidth	21.6 Kbps (4 QAM), 43.2 Kbps (16 QAM), 64.8 Kbps (64 QAM) (software selectable)
RF Output Power @ 50 ohms (Z)	2 Watts (average)/ 10 Watts (peak)
TX Duty Cycle	100%
Transmitter Spurious & Harmonics	> 55 dB down from carrier
Transmitter Rise Time	1 mSec
RX Sensitivity	-109 dBm (4 QAM) to -100 dBm (64 QAM)
Receiver Spurious & Image Rejection	> 50 dB
Receiver Squelch Sensitivity	Software Adjustable
Receiver Adjacent Channel Rejection	> 70 dB
LED Indicators	
Front Panel	Power (On/Off) - Transmitter (On/Off) - Rx Carrier Detect (On/Off) - Status (On/Off) - RSSI (16 levels)
Input/Output Interfaces	
Ethernet Port (10/100/1G)	RJ-45 Female
Radio Configuration Port	Mini-USB Port
RS-232C Comm Port (2,400 to 115.2 K baud)	9 Pin D-Sub Female
Antenna Input/Outputs	TNC Female Connector (50 ohm)
Input Power	Mini-Combicon, 3 pin Female
Switches	
CPU Reset	Front Panel (Push button)
Power Requirements	
Power Supply Voltage	10.8 to 16 VDC
Power Supply Current	400 mA Receive 2 A Transmit (2 W)
Case	
Temperature Range	-30 to +60 degrees C.
Humidity	95% Non Condensing
Dimensions	2.25 in. (H) x 9.33 in. (W) x 8.51 in. (L)
Weight	5 lbs.
Product Warranty	1 Year
Type Acceptance	
FCC (USA)	ENPESTEEM210C
Industry Canada	2163A-ESTEEM210C
Security	
WPA2, WPA, AES-128, TKIP, WEP-64/128 MAC ID filter	