ESTEEM
INDUSTRIAL WIRELESS SOLUTIONS

210 Series

The **ESTeem 210** 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 210** 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.
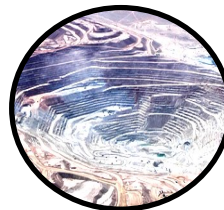
Key Features

- 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
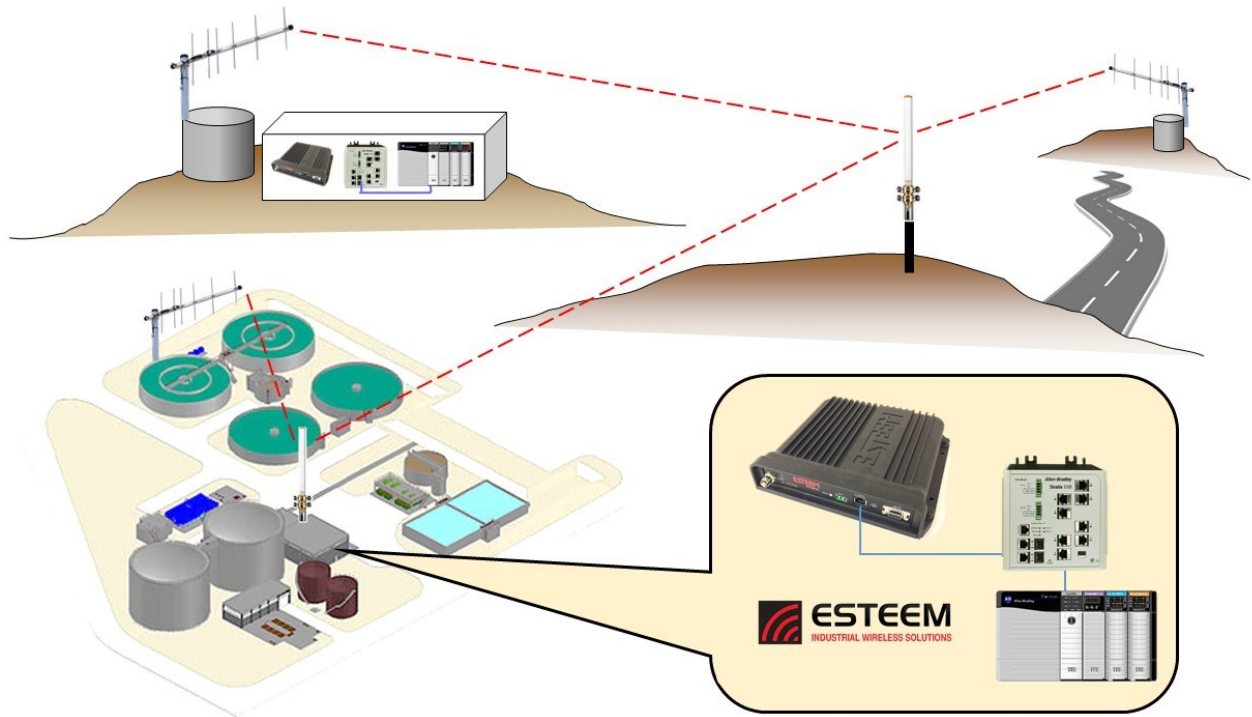
- 15+ Mile range

Water/Wastewater   Oil & Gas

Mining   Power & Energy

	ESTeem 210M Specifications	ESTeem 210C Specifications
Transceiver		
Frequency of Operation (Software Selectable)	150 - 174 MHz	450 to 470 MHz
Frequency Selectability	6.25 KHz	
Frequency Stability	± 1.5 ppm	
RF Data Rate @ 6.25 KHz Channel Bandwith	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	
Security		
	WPA2, WPA, AES-128, TKIP, WEP-64/128 MAC ID filter	
Type Acceptance		
FCC (USA)	ENPESTEEM210M	ENPESTEEM210C
Industry Canada	2163A-ESTEEM210M	2163A-ESTEEM210C

ESTeem Industrial Wireless Solutions

*Specifications subject to change without notice