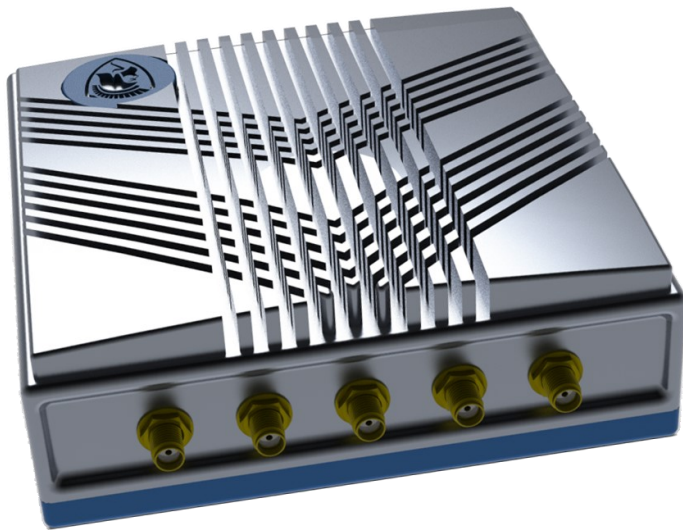


Tir 905 – Engineered to a new level

Industries highest throughput – up to 380 kbps (1.25 mbps Non-FCC)



Knightsbridge
Wireless Communications



Tir-905 is the Industry's most advanced, long-range, high-speed, ruggedized, wireless IP/Ethernet license free software defined radio modem.

The proprietary design offers extremely long range and high throughput wireless communications in a Point-to-Point, Point-to-Multipoint, Client-Server, or Peer-to-Peer architecture; providing maximum network flexibility. The radio design offers high flexibility and with user-friendly networking software, the OEMs can easily integrate the unit into their own existing systems.

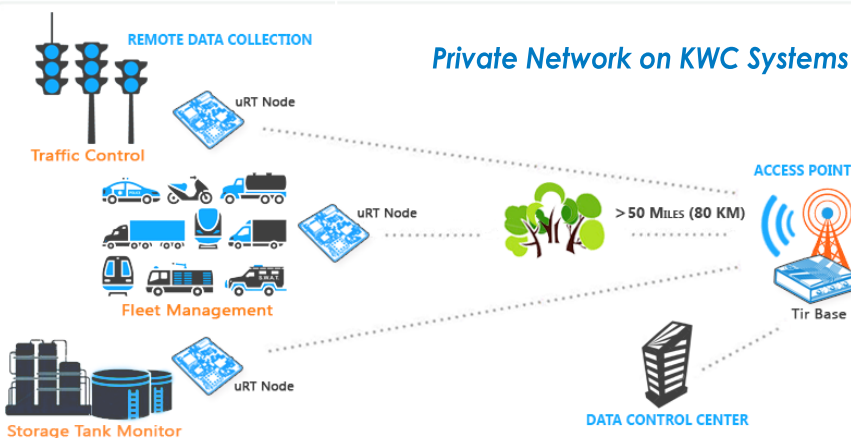
FEATURES

- Serial Bridge Seamless Integration for hybrid networks utilizing both Ethernet and legacy Serial/USB devices
- Long range – Up to 50 miles
- Secure – Includes multiple layers of cyber-security
- High Speed – FCC Compliance up to 325.6 kbps. Non-FCC compliance up to 1.25 mbps.
- Adaptive software selectable modulation types, coding schemes and modulated signal symbol rate
- Proprietary smart algorithm:
 - Frequency division – using orthogonal carrier frequency hopping patterns
 - Spatial division – using antenna direction and polarization diversity
 - Combination of Frequency and Spatial divisions

TYPICAL APPLICATIONS

- Industrial IoT
- Oil & Gas Field Monitoring
- Smart Grid & Utilities
- Traffic Monitoring & Control
- GPS Tracking and Monitoring
- Water & Wastewater Management
- Automatic Vehicle Location (AVL)
- Military & Defense (Unmanned-Aerial-Vehicle)

Private Network on KWC Systems



Tir 905 Specifications



Wireless Link Specs

Modulation Techniques	GMSK ~ 2-4 Levels GFSK
Radio Link Data Rate FCC compliant FHSS	345.6 kbps
Radio Link Data Rate Non-FCC compliant	1.25 mbps
Media Access Multiplexing Method	Time Division Duplex (TDD) ~ Time Division Multiple Access (TDMA)
Forward Error Correction	NRNSC ~ OEM-specific

Radio Specs

Frequency Bands	902 MHz – 928 MHz (ISM Band)
Transmitter Output	10 dBm to 30 dBm w/1 dB setting step (10 mW to 1 W)
Receiver Sensitivity @BER 10 ⁻³	-123 dBm (2.4 kbps)
	-112 dBm (24 kbps)
	-110 dBm (345.6 kbps)
Blocking Ratio	70 dB @±1 MHz
	75 dB @±2 MHz
	85 dB @±10 MHz

Mechanical and Power Specs

Dimensions	12.0 cm x 12.0 cm x 4.0 cm (4.7" x 4.7" x 1.6")
Weight	max 450 g (15.8 oz)
Input Voltage	9 – 48 Vdc
Power Consumption	16 W for 4x 1 W(30dBm) Tx RF Output
	1.8 W for Rx mode
Power Connector	RJ45 (Water & Dustproof)
Antenna Connectors	50 Ω, SMA Female (Water & Dustproof)

Environmentals

- -40° to +60° C Operating Temperature Range
- -55° to +85° C (-67° to +185° F) Storage Temperature Range
- Operating Humidity: MIL-STD-810F Method 507.4-1
- Vibration Specification MIL-STD-810F

Features and Benefits

- TCP/IP Protocol Suite
- 2048-bit Key Security
- Loadable On-The-Field over USB Interface
- -161 dBm GNSS (GPS + GLONASS) Receiver Sensitivity
- <1.5 m GNSS (GPS + GLONASS) Accuracy
- 1 Hz GNSS (GPS + GLONASS) Update Rate

User Interfaces

- UART Interface: RS232 with Flow Control
- USB Device Interface: Compatible with USB 2.0 Specification
- LAN Interface: Ethernet 10/100 Base-T
- User Interface Connectors:
 - DB9 (Water & Dustproof)
 - RJ45 (Water & Dustproof)
- Proprietary Command Line Interface
- Three tricolor LEDs on front panel to indicate alarms/status