Aeronix’s 802.16 Micro Data Links are conduction cooled very small, lightweight, modular, and scalable data links that enhances security and range. Aeronix can customize the packaging and functionality to meet customer requirements. The EDL-Micros provides guaranteed control, high quality video transmission, data security, and adaptive data rates with flexible bandwidths for extended range. The size, weight, and power consumption is perfect for small and mini unmanned vehicles.

With either the standard Micro (3.28 cubic inches / 3 ounces) or the Micro filtered power supply module (6.125 cubic inches / 5 ounces), the 802.16 Micro Data Link currently provides the capability of inter-flight communications (command and control, video, etc.) Point-to-Point or multipoint networked operations. Its software programmable architecture provides greater flexibility in waveform choice and allows users to easily upgrade to future waveforms without changing hardware.

USB OTG 2.0 allows easy connection to android smartphones while their small size make them excellent for manpack applications.

- Scalable ARM and High Speed DSP
- H.264 Video Compression
- RS-170 Video Input
- Graphics Accelerator
- Software Defined Radio
- 1 Watt RF Output
- Conduction Cooled /Industrial Temperature
- Modular RF 2.4—2.5 GHz (4.6 & 5.8 GHz - planned)
- OTG USB 2.0

### Tactical 802.16 Waveform
- AES TRANSEC with 256 bit key (no latency).
- Software Reprogrammable as needed for application specific requirements.
- Doppler correction for ground-to-air and air-to-air operation.
- Performs ACM at BPSK, QPSK, QAM16, QAM64, PSK8, and PSK16
- Additional PSK modulation modes for rotorcraft
- Implements the Point to Multi-point portion of the IEEE 802.16-2004 Specification.
- QoS built into 802.16 waveform.
- SCA Compatible architecture.
- Waveform supports distances to 250 miles.
- Waveform of ARMY WIN-T LAW Radio

### Applications
C², Sensor, VoIP, Data, Video, including:
- **UAV Data Link** - High speed secure data link form UAV to ground collection station.
- **Sensor** - USB for transferring sensor data, 2 UART ports and Video Input
- **Air Relay** - Over-the-hill communications link for VoIP
EDL - Micro Secure Digital Data Links
Micro Sized Software Defined Radios

Networking
- Waveform: LAW Tactical 802.16
- Modulations Supported: BPSK, QPSK, QAM16, QAM64, 8PSK, 16PSK
- Network: Point to Multipoint
  - Network includes one Base-Station with multiple Subscribers
  - Total of 20 subscribers supported
- Network::Point-to-Point
  - High performance mode with reduced overhead. User configured mode via GUI.
- Uplink / Down Link Ratio
  - Ratio is user configurable via GUI slide bar. Max = 70%, Min = 30% of aggregate throughout.
- Network Routing
  - Routing configuration via automatic setup modes and user configuration
- IP I
  - IPv4 and IPv6 Support
- Operating System
  - Linux general purpose processor operating system
- Coded Burst Rate (Mbps)
  - Maximum radio burst transmission capability at maximum channel width of 28 (Mbps)

Management Features
- Remote Management
  - Radios can be configured remotely over the network via USER login via GUI
- User Interface
  - Web Based GUI
  - Serial Command IF
  - USB OTG 2.0
  - External USB-to-Ethernet card available
  - SNMPv3 Capable
- Software Selectable BS /SS
  - Radios can be configured via GUI selection as either a base-station or subscriber-station.

Security
- TRANSEC Cover
  - AES256 Cover - Cover for network management information and data. Configured on/off via user GUI.
- DSCP QoS Capability
  - Support for HAIPE Qos Descriptors via user GUI
- Pedigree
  - U.S. design and manufacture
- FIPS 140-2
  - Future

Radio Specifications
- RF Freq.
  - 2.4 – 2.5 GHz
- Channels Supported
  - (User Configured via GUI)
- Channel BW
  - 3.5, 7.0, 14.0 MHz
- Channel Tuning Steps
  - Configured in 1 MHz steps via GUI
- RF Output Power
  - 1W Average at BPSK (2W preamble)
- Noise Figure
  - <4 dB

Connector Interfaces
- High Speed I/O
  - Micro USB, drives Ethernet Dongle
- Network I/O
  - Micro USB, drives Ethernet Dongle
- DC Power
  - 3v and 5V (with PS 6v to 16v)
- Low Speed I/O
  - RS232
- Tx/Rx I/O
  - Supports external switching amplifiers if more power is desired.
- Video I/O
  - RS170NTSC Video In
- RF I/O
  - Single RF SMA antenna interface

Physical Characteristics
- Weight
  - 3oz (5oz with PS)
- Power
  - < 9 watts

Environmental
- Temp
  - -40 to 60C, cold plate
- Shock
  - 50g
- Chassis
  - Unsealed
- Cooling
  - Conduction

User Data Rates
- BPSK@ 3.5MHz
  - 1 Mbps
- QAM16@3.5 MHz
  - 6.5 Mbps
- BPSK@ 7MHz
  - 2.01 Mbps
- QAM16@7MHz
  - 11.8 Mbps
- QAM64@7MHz
  - 17.6 Mbps
- QAM64@14 MHz
  - 37.9 Mbps

Situational Range Performance
- 10 dB ground patch to 0 dB air omni
  - 7.5 miles, 12 km
- 3 dB ground omni to 0 dB air omni
  - 4 miles, 6 km
- 27 dB ground directional to 0 dB air omni
  - 40 miles, 64km
- 4 dB ground omni to 4 db ground omni
  - 2 miles, 3.5 km

Specifications subject to change without notice.