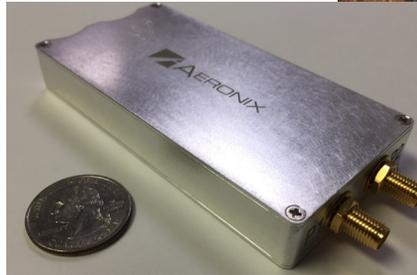




## *Secure, Resilient, IP Video, Data, and Voice Wireless Networks for Unmanned Vehicle, Dismount, and Vehicle Networking*

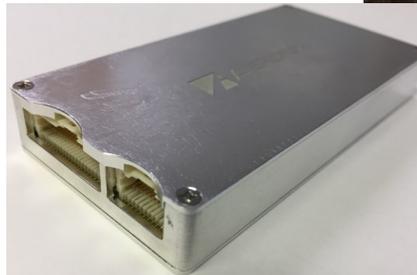
The EDL-Nano Data Link is a conduction cooled small software defined radio (SDR) designed to provide on-the-move (OTM) seamless connectivity for IP data, video, and voice. Low latency, seamless Layer 2 Ethernet connectivity facilitates plug-and-play, creation of networks of computer tablets, cameras, sensors. The capability for direct USB device support is provided via industry standard USB connections and software driver support.



Aeronix end-to-end SDR technology enables unprecedented Cyber security and network encryption capabilities not available in non-SDR radio solutions.

Models are available for RF spectrum in the L and S bands. Custom RF bands between 100 MHz -6 GHz are available for customer specific applications.

Point-to-Point, Point-to-Multipoint, and peer-to-peer MESH network topologies are supported.



### Features:

- 2"W x 4L" x 0.5H" (Preliminary)
- 4 ounces (Preliminary)
- Freescale MX6 Quad-core processor
- H.264 Video Compression (optional)
- CSI-2 Digital Video Input
- Software Defined Radio
- 1 Watt RF TX Output; 1Tx, 2Rx
- Conduction Cooled /Industrial Temperature
- Modular RF 1.8—2.5 GHz, C-Band Planned
- I/O: Ethernet x 2, USB , Serial x 2

### Waveform:

- Point-to-Multipoint and MESH Network topologies supported
- AES Encryption with 128 bit key (International); 256 bit key available (no latency)
- Doppler correction for ground-to-air and air-to-air operation.
- ACM at BPSK, QPSK, QAM16, QAM64, PSK8, and PSK16
- PMP and Mesh Waveforms
- Long Range Air/Ground Mode: GMSK
- QoS built into waveform.
- SCA Compatible architecture.
- Waveform supports distances to 250 miles.

# EDL-Nano Data Link

Small Unmanned Vehicle Software Defined Radio

(Preliminary)



Networking	
Waveform	Tactical 802.16 High Multipath: Modulations Supported: BPSK, QPSK, QAM16, QAM64, 8PSK, 16PSK Long Range Mode: GMSK Spread 4, Spread 16
Network: Point to Multipoint	Point-to-Multipoint with multiple subscribers MESH software upgrade available 1Q2017
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 = 80%, Min = 20% of aggregate throughput.
Network Routing	Routing configuration via automatic setup modes and user configuration
IP Support	IPv4 and IPv6
Operating System	Linux general purpose processor operating system
User Data Rate (Mbps)	Maximum user data rate of 37.8 Mbps in a 14 MHz channel

Radio Specifications	
RF Freq.	1.8 –2.4 GHz
Channels Supported	(User Configured via GUI)
Channel BW	3.5. 7.0 14.0 MHz (HW supports 57 MHz)
Channel Tuning Steps	Configured in 1 MHz steps via GUI
RF Output Power	OFDM: 1W Average at BPSK (2W preamble ); GMSK 4W Average.; HP mode **
Noise Figure	~3 dB

Connector Interfaces	
High Speed I/O Network I/O	Ethernet x 2, USB
DC Power	8v to 18v
Low Speed I/O	RS232 x 2
Tx/Rx I/O	Supports external switching amplifiers if more power is desired.
Video I/O	CSI-2 Digital Video Input
RF I/O	Double RF SMA antenna interfaces

Physical Characteristics	
Size	2"W x 4L" x 0.5H" (4 cubic inch volume)
Weight	~ 3.4oz
Power	Typical 6 Watts, Max 8 Watts

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

Demonstrated User Data Rates	
BPSK 1/2@ 3.5MHz	1.0 Mbps
BPSK 1/2 @ 7MHz	2.0 Mbps
QPSK 1/2 @ 3.5 MHz	2.1 Mbps
QPSK 1/2 @ 7 MHz	3.9 Mbps
QPSK 3/4 @ 7 MHz	5.8 Mbps
QAM16 3/4 @3.5 MHz	6.5 Mbps
QAM16 3/4 @7MHz	11.8 Mbps
QAM64 2/3 @7MHz	17.6 Mbps
QAM64 3/4 @14 MHz	37.9 Mbps
GMSK FEC 1/2	3.6 Mbps
GMSK FEC 3/4	5.4 Mbps

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

Security	
Encryption	AES128 Cover - International Commercial AES256 Domestic Covers management information and data. Configured on/off via user GUI.
Pedigree	U.S. design and manufacture
FIPS 140-2	Future

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