ATLASNEST

UAV Relay Radio Module

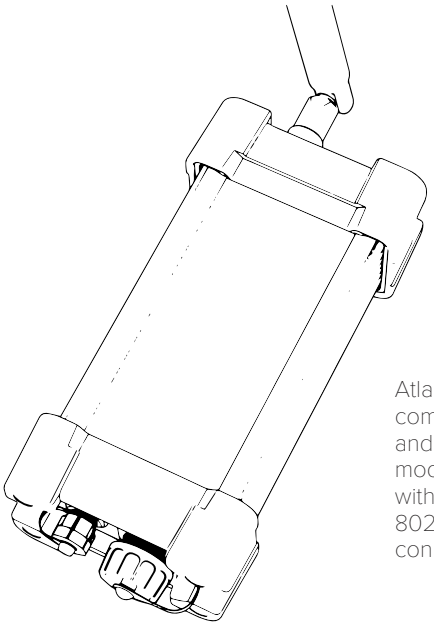
FOR N-VLOS OPERATIONS

ATLAS

SPECIFICATIONS

ATLAS RELAY RADIO MODULE

Document revision 16/08/2019



Atlas Radio Module is a part of communications link between Atlas UAVs and ground control station. It features an RF module which provides communication link with UAV and 5.8GHz 802.11n WiFi or IEEE 802.3u 10/100M Ethernet for wired connection to ground control station.

RADIO FRECUENCY

Frecuency:	2.402 - 2.482 GHz
Receiver sensitivity:	Minimum -99.5 dBm, typical -96 dBm
Data rate:	Up to 25 mbit/s (8MHz channel width)
Transmit power:	7-30 dBm (1W)
Channel bandwidth:	4, 8 MHz
Data encryption:	None, 128 bit AES, 256 bit AES (requires export permit)
Maximum range (LOS):	5km (1.5 mbit/s data rate)
Antenna:	2 dBi omni-directional

GROUND CONTROL LINK

Wireless connection:	802.11 a/b/g/n, 5 GHz, 150 mbit/s
Wired connection:	1 x 100 Base-T Ethernet port (RJ-45), supports passive PoE

ENVIRONMENTAL CONDITIONS

Ingress protection:	IP63 to IP65
Operating temperature:	-20 to 60 °C
Storage temperature:	-20 to 35 °C (higher storage temperature is permitted for duration < 1 day, otherwise battery degradation is faster
Impact protection:	Tested against MIL STD-810G section 516.6 Transit drop test.

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POWER SPECIFICATIONS

Built-in battery:	10000 mAh 3.85V lithium-polymer battery
Charger DC input:	14-30V 7W
Passive power-over-ethernet (PoE):	24V 7W
Power consumption:	XX W RF link at 30dBm TX power, 1.5 mbit/s data stream, WiFi enabled
Typical battery life:	10 hours

USER INTERFACE

LEDs:

Link: indicates the RSSI level of the received radio signal from AtlasPro in 33% increments
Battery: indicates battery state-of-charge in 25% increments
WiFi: will show that WiFi connection is active
CPU: Radio module status LED. Solid LED means the system is working properly. Blinking = booting or resetting configuration
RF RX: Indicates incoming RF data (activity LED)
ETH LINK: Indicates the Ethernet link is active (connector on bottom)
ERROR: Error in battery management system

Buttons:

WiFi: allows turning the WiFi interface on or off
Pair: hold for 10+ seconds to pair with ground station
Power: power on/off button

Connectors:

RP: SMA female for RF antenna
RJ45: 10/100Mbit Ethernet
DC: barrel jack
Expansion connector: external GPS receiver (GPS-RTK)
Passwords: Initial username and passwords for the ARM WIFI follow the pattern below:
USR: ATLASRADIO_RMA00200015
PWD: relayModule_RMA00200015