



BORLINK-0821

UAV IP VIDEO & DATA LINK

A compact airborne broadband radio engineered for real-time IP video, telemetry and mission-data transport. OFDM modulation, transparent Ethernet forwarding and configurable security options support reliable mobile links for UAVs, unmanned surface vehicles and robotic platforms.



20-50 km

AIR-TO-GROUND LOS



30 Mbps

MAX THROUGHPUT



3 BANDS

800M / 1.4G / 2.4G



1T2R

RF ARCHITECTURE

PRODUCT OVERVIEW

BORLINK-0821 establishes a high-capacity wireless path between airborne or mobile nodes and a ground station. The platform carries HD IP video, Ethernet traffic and serial mission data through a single radio, while supporting one-to-one and one-to-many network configurations. Its compact aluminum housing, 12 V DC input and low power demand make it suitable for payload-constrained unmanned systems.

OPERATIONAL BENEFITS

- **MOBILE OFDM LINK**
Maintains usable video and data transfer during platform movement.
- **TRANSPARENT IP**
Forwards Ethernet payloads without protocol conversion.
- **FLEXIBLE NETWORKING**
Supports direct and one-to-many communication profiles.
- **COMPACT AIRBORNE FORM**
142 g housing for size- and weight-sensitive integration.



THREE-BAND OPERATION

Available for 800 MHz, 1.4 GHz and 2.4 GHz frequency plans.



OPTIONAL ENCRYPTION

ZUC, SNOW3G or AES can be selected according to the system configuration.



MULTIPLE DATA PORTS

Two Ethernet interfaces and three serial channels support payload integration.



PRODUCT INTRODUCTION & KEY FEATURES

BORLINK-0821 combines a mobile OFDM radio, transparent IP transport and multi-interface payload connectivity in a compact airborne package. The radio is designed for long-duration, high-data-flow missions where stable image quality and straightforward deployment are essential.

LONG-RANGE AIRBORNE BROADBAND LINK

The radio supports 20-50 km air-to-ground line-of-sight operation, selectable channel bandwidths and adaptive data transport for IP video, telemetry and control information.

RANGE

20-50 km LOS

RATE

30 Mbps MAX

POWER

< 12 W



KEY FEATURES

LOS

LONG-RANGE LINK

20-50 km air-to-ground LOS coverage for extended UAV missions.

RF

MULTI-BAND RF

800 MHz, 1.4 GHz and 2.4 GHz variants support different deployment needs.

IP

TRANSPARENT DATA

Carries IP video and Ethernet payload traffic without conversion.

OFDM

MOBILE VIDEO

OFDM modulation helps preserve image quality during high-speed movement.

SEC

SECURITY OPTIONS

ZUC, SNOW3G and AES encryption options are available.

I/O

DUAL ETHERNET

Two RJ45 ports simplify camera, computer and payload integration.

SER

TRIPLE SERIAL

Three serial channels support telemetry and peripheral data exchange.

MECH

RUGGED HOUSING

Compact aluminum enclosure with active cooling for airborne operation.

TECHNICAL SPECIFICATIONS

The values below describe the reference configuration. Frequency selection, security functions and serial-interface electrical levels may vary according to the approved integration baseline.

RF PARAMETERS

PARAMETER	SPECIFICATION
Operating frequency	800 MHz / 1.4 GHz / 2.4 GHz
Channel bandwidth	1.4 / 3 / 5 / 10 / 20 MHz
RF channel architecture	1T2R
RF output power	33 dBm
Air-to-ground range	20-50 km LOS

DATA & NETWORK

PARAMETER	SPECIFICATION
Network mode	One-to-one / one-to-many
Maximum data rate	30 Mbps
Encryption options	ZUC / SNOW3G / AES
IP transport	Transparent Ethernet data
Video transport	IP camera / Ethernet stream

PHYSICAL & ENVIRONMENT

PARAMETER	SPECIFICATION
Dimensions (L x W x H)	103.5 x 61.5 x 22 mm
Weight	142 g
Operating temperature	-40 to +65 degC
Housing	Rugged aluminum alloy
Cooling	Integrated active cooling

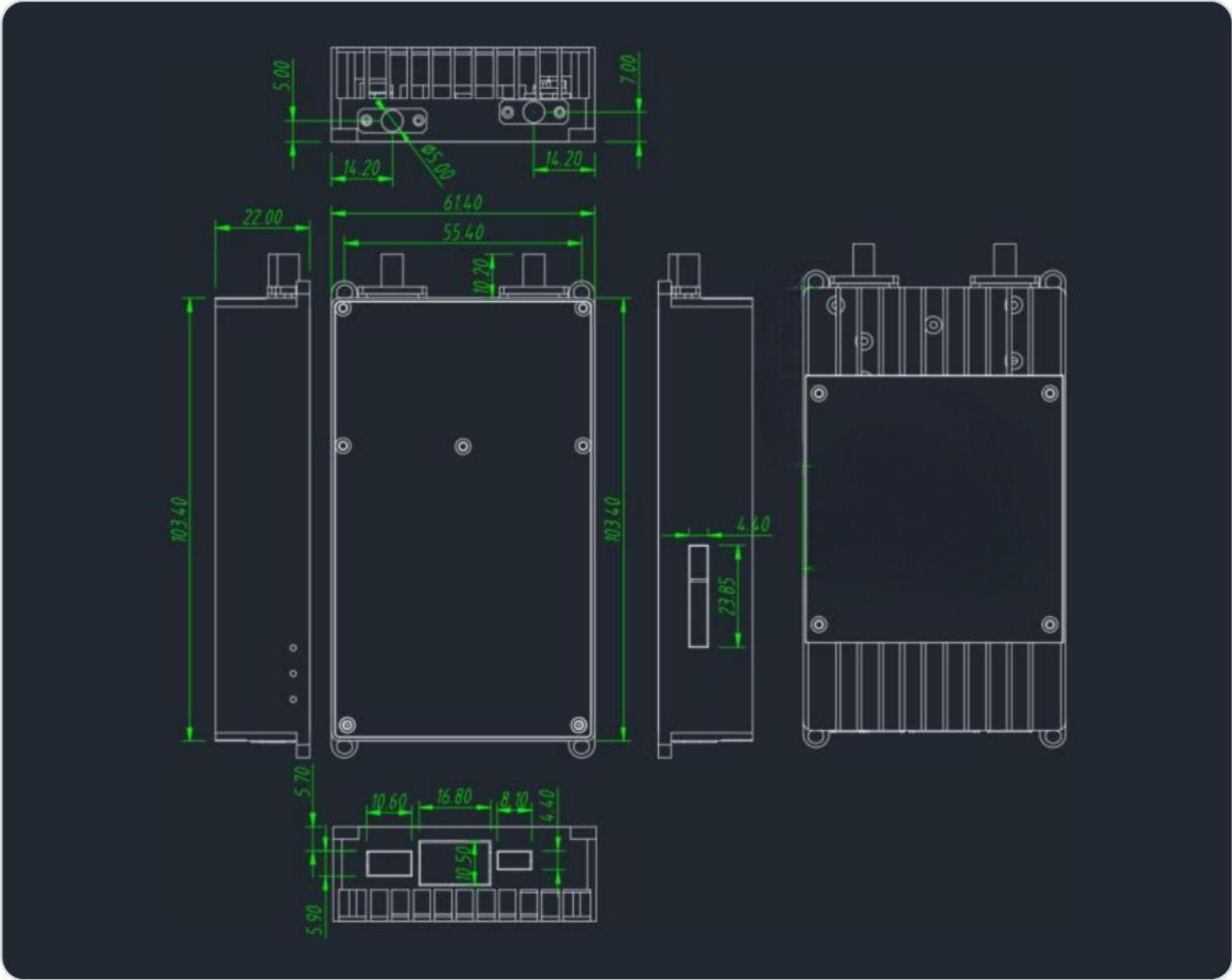
ELECTRICAL & INTERFACES

PARAMETER	SPECIFICATION
Power supply	12 V DC
Power consumption	< 12 W
Ethernet interfaces	2 x RJ45
Serial interfaces	3 x serial (TTL/RS232 variant)
RF antenna ports	2 x RF antenna interface

Note: Serial electrical level and connector implementation should be confirmed for the selected hardware configuration.

MECHANICAL DIMENSIONS

The original manufacturer drawing is retained below to preserve the reference geometry and mounting details. All dimensions are shown in millimetres.



MECHANICAL SUMMARY

L 103.5 mm LENGTH	W 61.5 mm WIDTH	H 22 mm HEIGHT	WT 142 g WEIGHT
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INTERFACES & PANEL DESCRIPTION

The two panels provide power, Ethernet, serial, status and RF connectivity. Numbering below follows the source hardware photographs.



DATA / POWER PANEL

- 1 Audio interface
- 2 Three serial interfaces
- 3 Ethernet port 1
- 4 Ethernet port 2
- 5 12 V DC power input



RF / STATUS PANEL

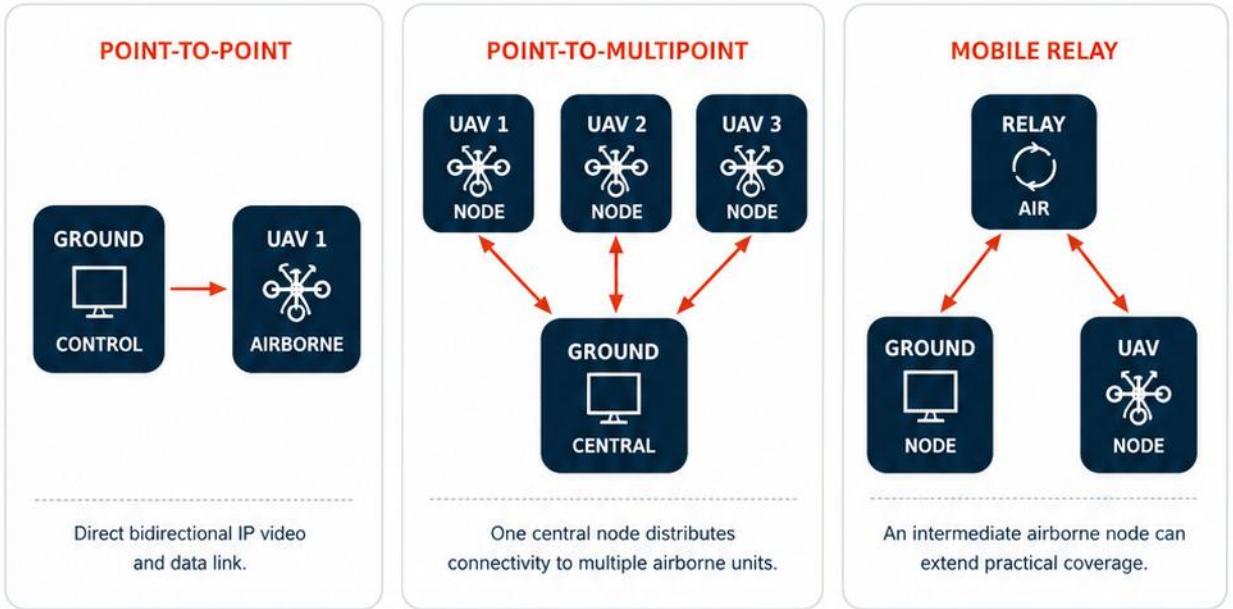
- 1 Link status indicator
- 2 Signal-strength indicator
- 3 Power indicator
- 4 RF antenna port 2
- 5 RF antenna port 1

INTEGRATION NOTE

Confirm serial electrical level and connector pinout before wiring external equipment.

NETWORK ARCHITECTURE & APPLICATIONS

BORLINK-0821 can be deployed as a direct air-to-ground link or as the radio layer of a one-to-many mission network. Effective range and throughput depend on antenna selection, terrain, platform geometry and RF conditions.



TYPICAL APPLICATIONS

