

Patria

CANDL

Compact Airborne
Networking Data Link



CANDL - Compact Airborne Networking Data Link

CANDL provides a single data link solution for communications requiring high reliability such as UAS payload data and C2. It enables air-to-air and air-to-ground Ad Hoc Networking as well as relaying for BLOS capability, thus enabling capabilities such as MUMT - Manned UnManned Teaming and LVC - Live Virtual Constructive training.

8 Mbps data rate with additional safety features for C2, dynamic Ad Hoc Networking communication, motion video and digital voice capability are all integrated in one Software Defined Radio based compact airworthy terminal.

CANDL covers NATO IV C-band as well as WRC 2012 defined civil UAS C2 frequency band in single housing enabling both military and civil UAS applications.

Networking and range performance can be further extended with optional external HPA (High Power Amplifier) module.



Key Features

Networking

- TDMA networking with dynamic on-the-fly reconfiguration
- Full IP compatibility
- Up to 24 network members
- Robust and flexible network management
- Synchronization based on internal (high stability oscillator) or external (e.g. GPS) time reference

Adaptive Throughput

- Up to 8 Mbit/s
- User configurable data rate allocation between C2 and payload data

Range

- > 150 km / 80 NM LOS with high availability
- > 250 km / 130 NM LOS (with external HPA)
- Relaying for BLOS and range extension

Frequency Band

- C-band covering NATO IV C-band as well as C2 band for civil UAS according to WRC 2012
- Configurable frequency/channel allocation

Low Probability of Intercept / Detection

- Frequency Hopping (FH)
- Direct Sequence Spread Spectrum (DSSS)
- Automatic diversity selection (air, ground) for two antennas (omni and/or directional)

Operation In GPS Denied Environment

- Own RF Signal Tracking
- Range measurement functionality

Qualified Solution for UAS Applications

- STANAG 4586 compatible
- Data link functionality integrated, tested and verified as a part of a total UAS system

Software Defined Radio Architecture

- Software configurable waveform
- Flexible user specific tailoring
- Easy capability upgrades

Compact Terminal

- Size: 110 x 175 x 100 mm (4.4 x 6.9 x 4.0 in)
- Weight: 2.5kg (5.5 lbs)
- Power: typical 55W
- Conduction cooled
- Designed for the most demanding environmental conditions including high speed aircraft
- Built-in AES-256 Encryption

- Secure SSH based user access
- Optional internal COMSEC module, user specific encryption keys

Optional External HPA

- Size: 100 x 162 x 43 mm (4.0 x 6.4 x 1.7 in)
- Weight 1.0 kg (2.2 lbs)
- Power: typical 150W
- Conduction cooled

