pMDDLRadio DATA LINK SYSTEM

pMDDLRadio is an advanced high power long range broadband COFDM communication system for UAV. Based on the new Microhard pMDDLxxxx, the board provides the bandwidth and range needed for complex data intensive UAS applications. The solution implement some communication functions: transmission of FULL-HD video data stream, autopilot control & telemetry data. The board has a system controller for open platform design.

The possibility of implementing the all in one system for small UAV. Available in versions: OEM module with matching connectors; module in rugged aluminium case with military Harwin M80 data connectors and Hirose RF connectors; module in case plus external 10W (25W) BDA Amplifiers for ultra long communication link (40 - 100 miles depending on the antenna types, use/unuse antenna tracking system and propagation conditions).

FEATURES

Military connectors: data&power - Harwin M80; RF - Hirose
Dimension:
90x65x20mm (in case); 40x50x12mm (OEM version)
Weight: 85 grams (in case); 23 grams (OEM version)
Operating temperature range: from -40 °C to +50 °C
Protection rating: IP65

UAVOS

Power requirements:

- Wide range of input voltage:
  5-58 V continuous power, 58 - 80 V - 5s work, 80 - 100 V surge protect, -80 V reverse protect
- Controlled power output 12V@2A with eFuse.
  Suitable for power payloads.
- Supply voltage monitor.
- Remote power on control.

Key features:

- RF channels outside the standard WiFi frequency band. MIMO pMDDLxxxx versions are available for 2350, 2450, 2550 MHz bands. pDDLxxxx version available for 900, 1800 (by special order), 2450 MHz bands
- Dual diversity receiver / dual antenna ports in the configuration with Microhard pDDLxxxx or dual transmitter and receiver / dual antenna ports in the configuration with Microhard 2x2 MIMO pMDDLxxxx
- 1W RF output (typical range with skew planar wheel antennas is 6 miles, longer range is available using high gain antennas / RF amplifiers / automatic tracking antennas)
- Output power software select from 7 dBm to 30 dBm
- Up to 25 Mbps Throughput @ 8 MHz channel (-78 dBm)
- Up to 2 Mbps IPerf Throughput @ 4 MHz channel (-102 dBm)
- Supported external RF amplifiers with automatic direction detection. Available control Tx / Rx Switching
- Control of rotation of the directional antenna
- Dual ethernet ports. Have different modes of use
- 1 x transparent serial TTL port with up to 115200 baud rate (Pixhawk compatible)
- STM32H743/53 onboard system controller with 4Mbit MRAM
- Available interfaces to connect to autopilot and ground station: 2 x CAN, RS422, RS485/RS232, 1Wire, USB2.0
- Available GPIO: 8 x GPIO through transceiver, 4 x GPIO through level shifter, 1 x differential analog
- Ability connect Rigid-Flex IMU board (AHRS for solutions Tracking Antenna system & Autopilot)
- MicroSD for recording telemetry data is supported
- RTC Clock with battery backup (200 hrs)