JRadio

JRadio is a tri-band wireless data receiver of licensed narrowband UHF 406-470 MHz, non-licensed narrowband UHF 868-870 MHz and non-licensed Frequency Hopping 902-928 MHz with USB, Bluetooth.

General Specification

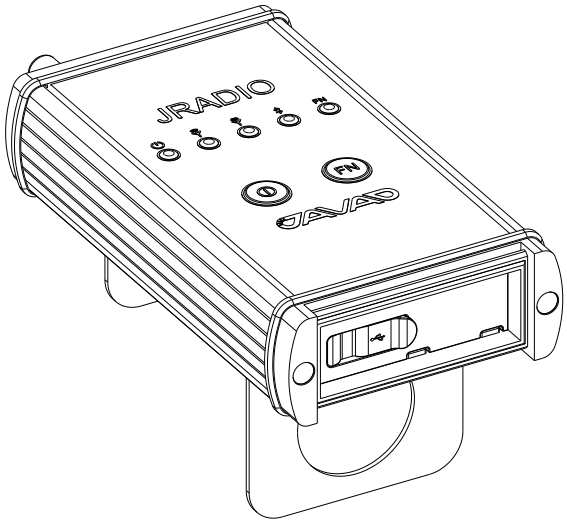
- Input Voltage: 5 (+/- 5 %) V DC
- Current: 1.5 A
- Li-Ion Akku: V = 3.7 V DC, Capacity 2.860 Ah
- Operating time (without USB power bank): up to 10 hours
- Operation/Storage Temperature: -40°C ... +60°C/-40°C ... +80°C
- Dimensions:
  6.28 x 3.33x1.36 in (162.1x 84.6 x 34.6 mm) without bracket
  6.28x 3.33 x 3.24 in (162.1 x 84.6 x 82.4 mm) with bracket
- Weight:
  0.83 lbs (375 g) without bracket
  0.88 lbs (400 g) with bracket

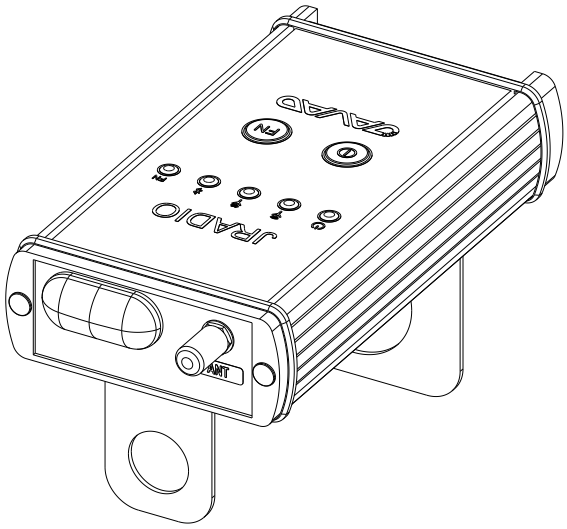
Features

- DSP-Modem
- Zero-IF Technologies
- Embedded Firmware Compensation for Operation at Extremely Low and High Temperatures
- Compact Design
- IP 66

Interfaces

- Power and Charging port: Micro USB 2.0 connector
- Bluetooth V2.0 Class 2 supporting SPP Slave and Master Profiles
- Built-in USB to RS232 FTDI converter.12Mbps USB2.0 Full-Speed
- RF connector SMA 50 Ohm





UHF Radio Specifications

- Frequency Range: 406 - 470 MHz
- Channel Spacing: 25/20/12.5/6.25 kHz
- Carrier Frequency Stability: ±1 ppm
- Modulation GMSK/4FSK/DBPSK/DQPSK/ D8PSK/D16QAM
- Communication Mode: simplex

Radio Receiver Specifications

- Receiver Sensitivity for DBPSK (BER 1x 10^{-4}):
  - -113 dBm for 25 kHz Channel Spacing
  - -113 dBm for 20 kHz Channel Spacing
  - -114 dBm for 12.5 kHz Channel Spacing
  - -114 dBm for 6.25 kHz Channel Spacing
- Receiver Sensitivity for DQPSK (BER 1x 10^{-4})
  - -110 dBm for 25 kHz Channel Spacing
  - -110 dBm for 20 kHz Channel Spacing
  - -111 dBm for 12.5 kHz Channel Spacing
  - -111 dBm for 6.25 kHz Channel Spacing
- Receiver Dynamic Range: -119 to -10 dBm
- Data Rate of Radio Interface (25/20/12.5/6.25 kHz Channel Spacing):
  - 9600/7500/4800/2400 bps – DBPSK/GMSK
  - 19200/15000/9600/4800 bps – DQPSK
  - 28800/22500/14400/7200 bps – D8PSK
  - 38400/30000/19200/9600 bps – D16QAM
- Forward Error Correction (FEC): Reed-Solomon Error Correction
- Data scrambling

Frequency Hopping Radio Specifications

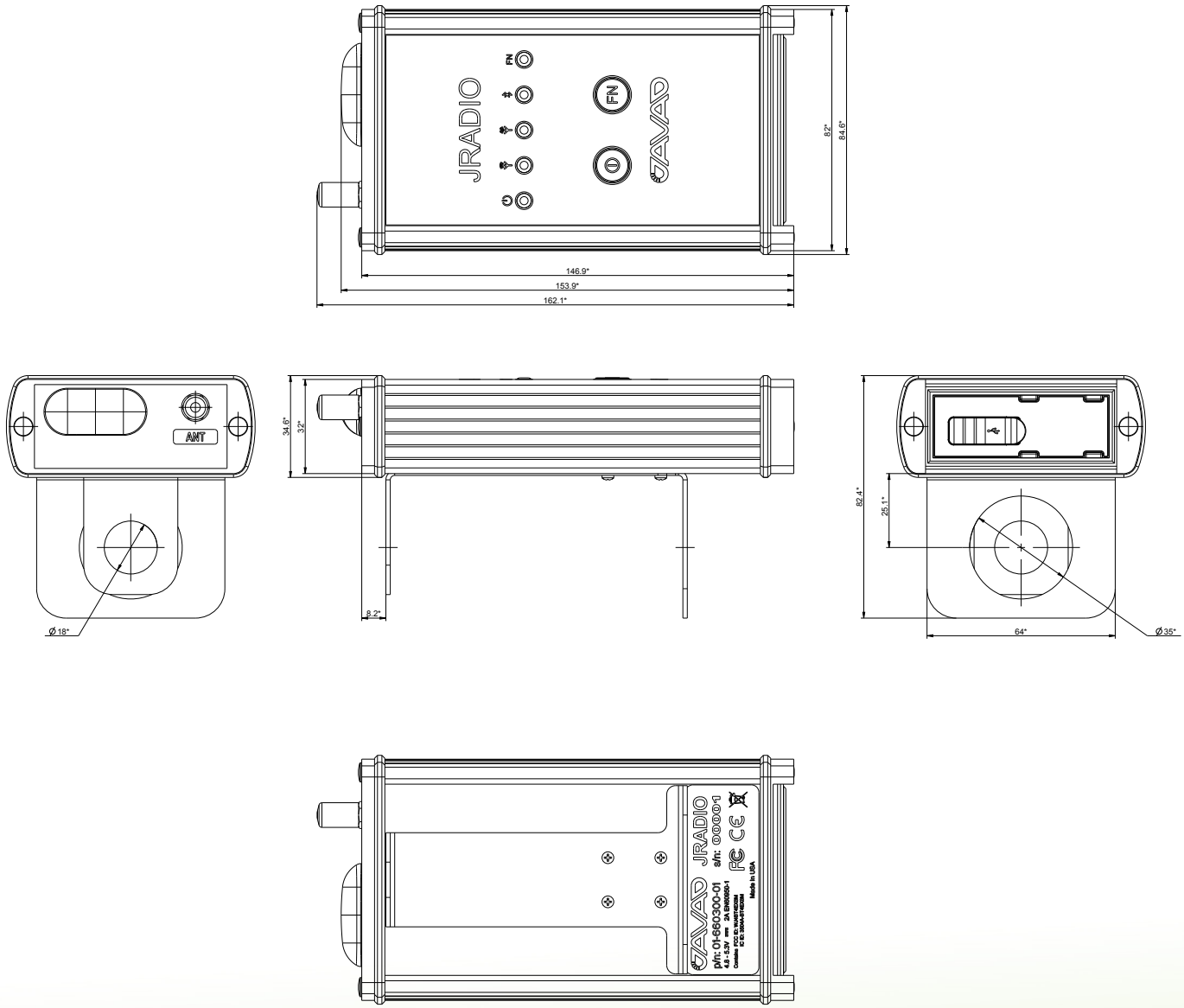
- Frequency Range: 902-928 MHz (USA);
  915-928 MHz (Australia)
  868-870 MHz (EU) with 25/20/12.5 kHz CS
- Link Rate, symbols/second: 4800, 9600 (EU)
  9600, 19200, 38400, 64000 (USA/Australia)
- Carrier Frequency Stability: ±1 ppm
- Modulation: MSK/GMSK/4FSK
- Communication Mode: simplex

Radio Receiver Specifications

- Receiver Sensitivity for GMSK (BER 1x 10^{-4}):
  - -113 dBm for 25 kHz CS
  - -113 dBm for 20 kHz CS
  - -114 dBm for 12.5 kHz CS
- Receiver Sensitivity for 4FSK (BER 1x 10^{-4}):
  - -110 dBm for 25 kHz CS
  - -110 dBm for 20 kHz CS
  - -111 dBm for 12.5 kHz CS
- Receiver Dynamic Range: -119 to -10 dBm
- Data Rate of Radio Interface (USA/Australia):
  - 9600 bps – MSK, GMSK
  - 19200 bps –MSK, GMSK
  - 38400 bps – MSK, GMSK
  - 64000 bps – MSK, GMSK
  - 4FSK <=> 2 GMSK
- Data Rate Radio Interface (25/20/12.5 kHz CS):
  - 9600/8000/4800 bps – GMSK
  - 19200/16000/9600 bps – 4FSK
- Forward Error Correction (FEC): Convolutional code
- Data scrambling

Beacon Receiver (optional)

- Frequency Range 283.5- 325 kHz
- User Data Rates 50, 100, 200 bps (manual or Auto selection)
- Sensitivity 1.5 mV/m for 6 dB SNR (200 bps)



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Specifications are subject to change without notice