Join the Wave Relay® Ecosystem

The Embedded Module is the most advanced, scalable, and efficient Mobile Ad Hoc Networking (MANET) radio in the world, available in an integration-ready, SWaP-timized form factor. Integrate the Embedded Module into your products to unite UAVs, UGVs, and sensors on a single network. Because the Embedded Module features an HD video encoder and onboard Android™ computer, eliminate redundant equipment from your platform. The Embedded Module is compatible with Persistent System's full line of Interchangeable Frequency Modules, allowing you to change frequencies to ensure compliance, future-proof your design, and protect your product from obsolescence.

Transform Your Systems into Network Devices

- Designed for integration into disparate unmanned systems and sensors
- Communicate further and faster than ever before
- Communication, computing, and video encoding all in a single device

SWaP-timize Your Unmanned Systems

- Consolidate your computing, video encoding, communications, and networking hardware
- Focus on what matters most: the mission, time on station, and payloads
- Streamlined integration

Achieve the Vision

- Bring your unmanned platform into the Wave Relay® Ecosystem
- MPU5 radio users can now operate your platforms, watch your video feeds, and steer your cameras
- Take your unmanned systems to the next level by adding swarming, autonomy, and collaborative capabilities
**SPECIFICATIONS**

**Physical**
- **Weight**: 3.2 oz.
- **Main Board Dimensions**: 2.00 x 3.29 x 0.59 in.

**Power**
- **Input**: 8 - 30 VDC
- **Power Consumption**: 0.3A & 12V

**Environmental**
- **Operating Temperature**: -40°C to +85°C
- **Emissions**: RE102, MIL-STD-810G
  - **Vibration**: High Temperature (operational)
  - **High Altitude (operational)**

**Security**
- **Crypto Modes**: CTR-AES-256 Encryption, SHA-256 HMAC
- **Hardware**: Cryptographic Acceleration, Suite-B Algorithms
- **MANET**
  - **MANET**: Wave Relay®, Self-Forming/Healing
  - **Peer-to-Peer**: No Master Node
  - **Node Entry Time**: <1 sec.
  - **Max. Number of Hops**: No Limit
  - **Max. Number of Nodes**: No Limit
  - **Max. Distance between Nodes**: 130 mi

**I/O**
- **Interfaces**
  - **GPS**: HDMI In
  - **3G-SDI/Composite In**: Control (Sleep, GPIO, Zeroize, 1PPS, GND)
  - **RS-232 Serial**: Ethernet
  - **Audio In (Mic)**
  - **Audio Out (Speaker)**
  - **USB OTG**: Ethernet
  - **HDMI Out**: Audio In (Mic)
  - **10/100 Ethernet In/Out**: Audio Out (Speaker)

**Video**
- **Video Input**
  - 3G-SDI
  - Composite HDMI
- **Video Compression**
  - H.264 Encoding and Decoding
- **Native Scaling**: 240p, 480 SD, 576 SD, 720p, 1080p
- **Network Protocols**
  - UDP Multicast & Unicast (MPEG-2 Transport Stream)
  - RTP Multicast & Unicast
  - RTSP Unicast
- **Frame Rates**
  - 6/10/15/24/29.97/30/59.94/60 fps
  - 59.94/60 fps not available at 1080p
- **Bit Rates**
  - 500 Kbps - 20 Mbps
- **Resolutions**
  - 240p, 480 SD, 576 SD, 720p, 1080p

**Networking**
- **Ethernet**
  - 10/100 Mbps
  - Integrated serial-to-Ethernet
- **Integration and Extension**
  - Seamless layer 2 network
  - Cloud Relay™ compatible
- **Protocols**
  - Advanced multicast algorithms
  - IPv4 and IPv6 compatible
  - Integrated DHCP server
  - USB RNDIS Host and Device

**RAM**
- 2GB

**Storage**
- 128GB Flash

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