



REDUCED
SWaP



INTEGRATED
ANDROID™



H.264
VIDEO
ENCODING



WAVE RELAY®
MANET



COMMAND
& CONTROL



DISPARATE
PLATFORMS

Embedded Module



Join the Wave Relay® Ecosystem

The Embedded Module is the most advanced, scalable, and efficient Mobile Ad Hoc Networking (MANET) device 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 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

NO NDA REQUIRED

03EN190 Rev. C

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SPECIFICATIONS

Physical

Weight

3.38 oz. (average)

Main Board Dimensions

2.00 x 3.29 x 0.59 in.

Power

Input

8 - 28 VDC

Power Consumption

0.3A & 12V

Environmental

Operating Temperature

-40°C to +85°C

Emissions

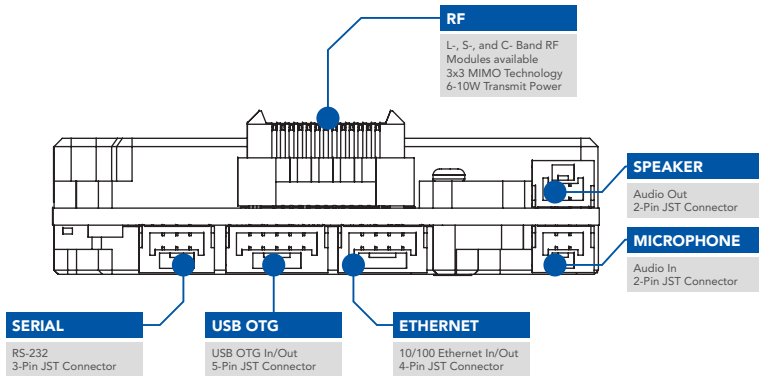
RE102

MIL-STD-810G

Vibration

High Temperature (operational)

High Altitude (operational)



Video

Video Input

3G-SDI

Composite

HDMI

Video Compression

H.264 Encoding and Decoding

Native Scaling

Bit Rates

500 Kbps - 20 Mbps

Frame Rates

6/10/15/24/29.97/30/59.94/60 fps

59.94/60 fps not available at 1080p

Resolutions

240p

SD 480

SD 576 PAL

720p

1080p

Network Protocols

UDP Multicast & Unicast (MPEG-2 Transport Stream)

RTP Multicast & Unicast

RTSP Unicast

I/O

Interfaces

GPS

HDMI In

3G-SDI/Composite In

Control (Sleep, GPIO, Zeroize, 1PPS, GND)

RS-232 Serial

USB OTG

Ethernet

Audio In (Mic)

Audio Out (Speaker)

Android™ Computer

Operating System

Android™

Processor

1 GHz Quad Core ARM

RAM

2GB

Storage

128GB Flash

Networking

Ethernet

10/100 Mbps

Integrated serial-to-Ethernet

Integration and Extension

Seamless layer 2 network

Cloud Relay™ compatible

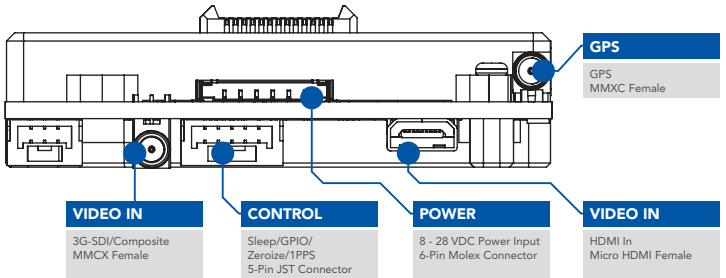
Protocols

Advanced multicast algorithms

IPv4 and IPv6 compatible

Integrated DHCP server

USB RNDIS Host and Device



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

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