MPU5 Radio

Tactical Networking Device

Intelligent RoIP Tethering

▪ Integrated Radio Over IP (**RoIP**) functionality.
▪ Bring your LMR radio onto the network.
▪ Communicate across separate organizations seamlessly.

The World's First Smart Radio

▪ Onboard Android™ OS - The MPU5 is your computer.
▪ Install existing Android™ apps.
▪ Run custom apps natively.
▪ Connect & use USB devices.

Stay Connected Anywhere

▪ Powered by Wave Relay® MANET.
▪ Designed for mass scalability - unlimited hops.
▪ Rapid self-forming & self-healing.
▪ True peer-to-peer - no master node.

Carry Less. Do More.

▪ Network, voice, video, computer - All in one device.
▪ Eliminate extra batteries, radios, encoders, receivers & more.
▪ More room for mission critical equipment.

Wave Relay® MANET

The Wave Relay® mobile ad hoc network (**MANET**) provides solid and reliable wireless connectivity for deployed soldiers and vehicles. Wave Relay® is the core focus of Persistent Systems and is unmatched by any other MANET.

Far surpassing typical mesh networks, Wave Relay® quickly adapts to fluctuations in terrain and environmental conditions, rapidly re-routing data and continuously working to maximise connectivity and performance.

Wave Relay's® unlimited hopping without any master nodes extends the network beyond the edge.

MIMO Technology

MPU5 uses Multiple Input, Multiple Output (**MIMO**) technology to deliver extremely high bandwidth and extended link distances. With up to 100 Mbps of actual user throughput, transferring high resolution imagery and HD video allows for real-time information exchange and comprehensive situational awareness.

MIMO's reliability, versatility and high bandwidth makes it ideal for blasting out necessary real-time information, such as GPS locations, maps, reconnaissance video streams, and voice messages in complex urban, subterranean, and maritime environments.

Interchangeable Frequency Module

▪ State-of-the-Art MIMO technology.
▪ High reliability in complex environments.
▪ Cost efficient and future-proof.

Stream HD Video

▪ Fully integrated H.264 HD video encoding/decoding.
▪ Connect video cameras directly to the unit.
▪ View multiple video streams simultaneously.
▪ HD output enabling connection to HDMI-compatible displays.
▪ Stream video and voice simultaneously.

Reliable Voice Communications

▪ Monitor up to 16 channels of voice.
▪ Dual active PTT - Key 2 channels at once.
▪ Channel prioritisation & configurable talk groups.
▪ Voice activated full duplex communication.

Data Rate	Up to 150 Mbps
Waveform	Advanced Wave Relay® multicast algorithms Seamless layer 2 network connectivity Integrated serial-to-ethernet capability Cloud Relay™ IPv4 and IPv6 compatible Integrated DHCP server USB RNDIS host and device
GPS - Built In	3.3V active Situational awareness Cursor-on-target compliant 1 second updates
Security Encryption	CTR-AES-256 encryption HMAC-SHA-256 authentication & integrity Integrated hardware cryptographic acceleration Utilises Suite-B algorithms Cryptographically authenticated over-the-air rekey and key zero FIPS 140-2 Level 2 Rechargeable 30 day hold up for keys and configuration settings
3 x 3 MIMO Technology	Extended range 100 Mbps of throughput Maximal ratio combining Spatial multiplexing Antenna detection
Modular Radio	RF modulations: OFDM (**64-QAM, 16-QAM, QPSK, BPSK**) Swappable radio modules / radio boards Software configurable bandwidths (**5 MHz, 10 MHz and 20 MHz**) TX/RX operating modes (**SISO, 2x2 & 3x3 MIMO**)
Video	HD-BNC connection 3G-SDI & composite input Integrated HD H.264 video encoding / decoding

External Connectors (I/O)	**PPT/EUD port:** Dual active PTT channels End user device (**EUD**) data/charging USB host/RS-232 serial HD video output Charging downstream port (**CDP**): Rated for 1,500mA **Data port:** USB on-the-go RS-232 serial Ethernet Standard Charging Port (**SDP**): Rated for 500mA **RoIP port:** Legacy radio tethering Legacy radio detection USB host/RS-232 serial Standard Charging Port (**SDP**): Rated for 500mA **Video-in port:** HD-BNC connection
Size & Weight	**With battery:** 3.8 x 6.7 x 20cm (**1.5 x 2.6 x 7.9 inches**) 876.4 grams (**30.9 oz**) **Without battery:** 3.8 x 6.7 x 11.7cm (**1.5 x 2.6 x 4.6 inches**) 513.6 grams (**18.1 oz**)
Frequency Range & Transmit Power	Interchangeable frequency module (**ordered separately**): L-Band: **1350 - 1390 MHz** S-Band †: **2200 - 2507 MHz** BAS-Band: **2025 - 2150 MHz** C-Band (**Lower**): **4400 - 5000 MHz** C-Band (**Upper**): **5100 - 6000 MHz** 6W - 10W Transmit power (**3.3W Per RF Chain**)
Bandwidth	Configurable bandwidths (**5MHZ, 10MHz and 20MHz TX/RX**) Operating modes (**SISO, 2x2 & 3x3 MIMO**)
Battery	Low battery alert Standard twist-lock connector
Device Power	8 - 28 VDC 12 - 14 hours on fully charged battery Battery eliminator compatible provides other power options
Environmental Protection	IP68 rated MIL-STD-810G certified - altitude, temperature, humidity, salt fog, vibration, mechanical shock MIL-STD-461F RE102 Anodised black coating Operating temperature - 40°C to 85°C (**- 40°F to 185°F**) Low temperature storage to - 51.1°C (**- 60°F**) ISO 9001:2008 certified manufacturing facility

MPU5_Datasheet_05_2020.pdf

Technical Specifications quoted are verified but do not indicate the maximum performance limitations of the equipment. Specifications are subject to change without notice. E & OE Issue A.

† S-Band FCC compliant in ISM mode