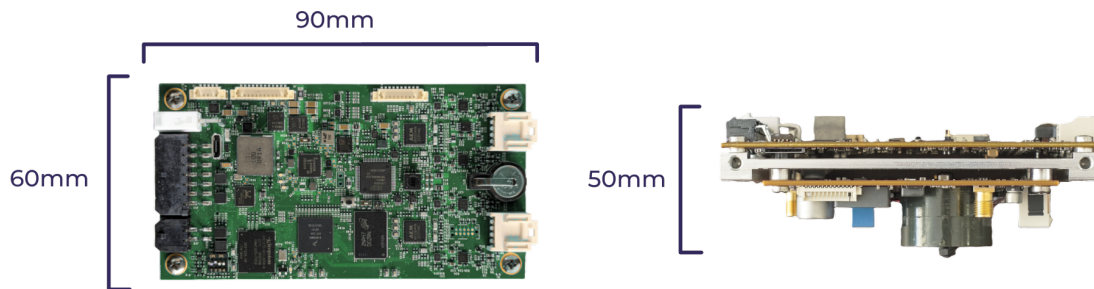# Popoto **PMM6081**

Product Overview:

The Popoto PMM6081 is an advanced underwater acoustic modem that boasts exceptional performance and an array of unique features, making it an ideal choice for a wide range of applications. With gigabit ethernet capabilities, 128GB of onboard storage, a web interface, PPS input, and a battery-backed real-time clock, this modem has advanced capabilities for various use cases. Supporting up to 8 channels of concurrent hydrophone input and the ability to transmit at up to 190dB spl re 1uPa at 1m, the PMM6081 showcases both versatility and robustness.

Features:

- Supports up to 10 channels of sample-synchronous input

- Multiple modulation schemes from 80 BPS to 10240 BPS

- MARIA, Python, and MATLAB® APIs for on-board data processing and system automation

- Powerful quad-core Arm® processor for in-situ computation and AI

- Acoustic ranging (Accurate to <0.3m)

- High-capacity data logging (microSD card)

- Baseband and passband waveform playback and recording during modem operation

- Options for JANUS (NATO ANEP-87), Phorcys Stheno, and Phorcys Euryale

Data Transfer	
Data Rates	80 bps with Frequency Hopping FSK
	10240, 5120, 2560, 1280, 640 bps with PSK
	Phorcys Stheno & Euryale MS 0-31
Storage	128GB internal
	Expandable with microSD (up to 1.5tb+)
Range	1-8 km (using PMT-28 transducer, depending on conditions and modulation scheme selected)
Frequencies	10-100kHz
	20-35 kHz (Standard Modem Operation)
Power	
Operating Voltage Range	8.5-36V
Power Draw	GPIO Enabled Sleep: < 10uW
	Acoustic Wake Up Deep Sleep: < 45 mW
	Acoustic Wake Up Sleep: 150 mW
	Active Receive: 2.0 W
Transmit Power	190 dB (re 1µPa @ 1m) with PMT-28-OS-10 Transducer
Interface	
ADC & DAC Data	10 channels sample-synchronous input
	2 channels sample-synchronous output
Data Connections	Gigabit Ethernet, RS-422, RS-232
External Interface Connections	SPI Bus, I2C Bus, GPIO, Analog
APIs	Python, C++, MATLAB®, JSON, JACK, and MARIA
Processor	Quad-Core 1.4GHz Arm® Cortex®-A53
Operating System	Debian Linux for user applications
Hardware	
Size	90mm x 60mm x 50mm
Weight	500g
Export Classifications	5A991 Controlled for anti-terrorism only