Popoto **PMM4511**
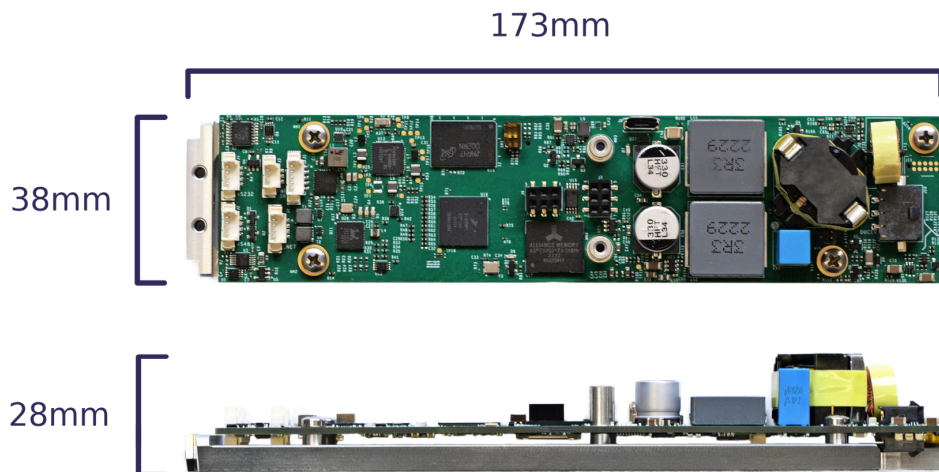
Product Overview:

The Popoto PMM4511 is the OEM version of Popoto Modem's advanced, slim form-factor underwater acoustic modem, delivering superb performance, unique features, and flexible interfacing for nearly any application. Featuring a low-SWAP 173x38x28mm form factor and a transmitter capable of up to 175-180 dB (re 1μPa @ 1m) output (using the PMT-28 transducer), the PMM4511 is both versatile and robust.

Features:

- Multiple modulation schemes from 80 BPS to 10240 BPS
- MARIA, Python, and MATLAB® APIs for on-board data processing and system automation
- Ethernet, RS422, and RS232 interfaces, including pShell, JSON, and a web interface
- Acoustic ranging (Accurate to <0.3m)
- High-capacity data logging (upgradeable with microSD)
- Baseband and passband waveform playback and recording during modem operation
- Option for Phorcys Stheno

Available May 2025

Data Transfer	
Data Rates	80 bps with Frequency Hopping FSK
	10240, 5120, 2560, 1280, 640 bps with PSK
	Phorcys Stheno MS 0-31
Storage	32GB internal
	Expandable with microSD (up to 1.5tb+)
Transmit Power	175-180 dB (re 1µPa @ 1m) with PMT-28 Transducer
Range	1-4 km (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: 1.2 W
Interface	
Data Connections	Ethernet, RS-422, RS-232
External Interface Connections	SPI Bus, I2C Bus, GPIO, Analog
APIs	Python, C++, MATLAB®, JSON, JACK, and MARIA
Processor	Single Core 1.4GHz Arm® Cortex®-A53
Operating System	Debian Linux for user applications
Hardware	
Size	173mm x 38mm x 28mm
Weight	170g
Export Classifications	5A991 Controlled for anti-terrorism only