Moku:Go’s digital Lock-in Amplifier supports dual-phase demodulation (XY/Rθ) from DC to 20 MHz. It features an integrated 2-channel oscilloscope and data logger, enabling you to observe signals at up to 125 MSa/s and log data at up to 1 MSa/s. A PID controller can also be placed after the demodulation stage for phase-locked loop applications.

**Features**
- Block diagram view of the digital signal processing chain
- Built-in probe points for signal monitoring and data logging
- Internal or external demodulation modes including a PLL (phase-locked loop)
- Dual-phase demodulation
- Toggle between rectangular (X/Y mode) or polar coordinates (R/θ mode)
- Built-in PID Controller

**Specifications**
- Demodulate with frequencies ranging from 1 mHz to 20 MHz with μHz resolution
- Phase shift precision of 0.001°
- 1 MΩ input impedance, AC/DC coupling
- Adjustable time constant from 128 ns to 1.59 s
- 6, 12, 18, or 24 dB/octave filter roll-off
- Output gain range: -80 to +160 dB
- LO output up to 20 MHz with variable amplitude
- Dynamic reserve > 100 dB
- Onboard data acquisition: snapshot mode up to 125 MSa/s, continuous mode up to 1 MSa/s

**Applications**
- Signal modulation and demodulation
- Software-defined radio
- Phase-locked loop
- Laser frequency stabilization
- Radio receiver education
- Signal extraction from noise education