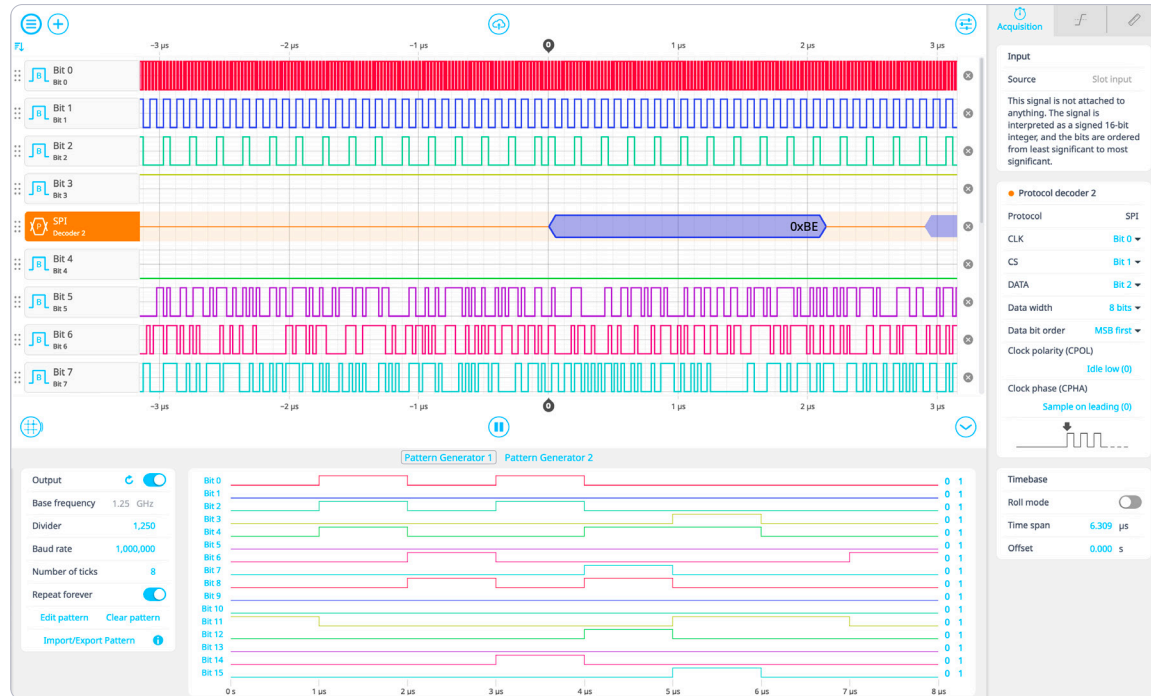# Logic Analyzer

The Moku:Pro Logic Analyzer can measure and decode digital signals through four analog inputs with configurable a threshold, the auxiliary TTL trigger port, or from other instruments in Multi-instrument Mode. Two independent Protocol Decoders can be added to decode UART, I2C, and other protocols. The Logic Analyzer is especially useful in Multi-instrument Mode, where it can be connected to other instruments through a 16-bit bus input and two 16-bit Pattern Generators. The Logic Analyzer is an invaluable tool for monitoring and debugging custom designs, significantly accelerating the development process.

Sample Memory Depth	Pattern Memory Depth	Input/Output Sampling Rate	Supported Protocols	Protocol decoding rate
250k × 16	**32,764 × 16**	**1.25 GSa/s**	**UART, I2C, I2S, and SPI**	**> 40 MHz**

Features

- Four analog inputs with configurable threshold
- One auxiliary input channel from external trigger input
- 16-bit input bus and two 16-bit Pattern Generators in Multi-instrument Mode
- Supported Protocol: UART, I2C, I2S, and SPI
- Supported Math: AND, OR, XOR, NAND, NOR, XNOR
- Powerful, intuitive graphical user interface with Python, MATLAB, and LabVIEW API support

Specifications

- Sample memory depth: 250k × 16
- Pattern memory depth: 32,764 × 16

Logic Analyzer
- Threshold range: 40 Vpp
- Impedance: 1 MΩ
- Sampling rate: up to 1.25 GSa/s*

Pattern Generator
- Sampling rate: up to 1.25 GSa/s
- Maximum clock frequency: 612 MHz

Protocol Decoder
- Max decode rate: > 40 MHz (protocol dependent)

Applications

- Custom design simulation, debugging and monitoring
- IC testing and validation
- Digital circuit design
- Digital communication diagnosis
- Protocol decoding
- Signal simulation

* Note: Moku:Pro analog input bandwidth is 300 MHz