MONTANA STATE UNIVERSITY

Spectrum LAB
Montana State University

TEST & MEASUREMENT CAPABILITIES

High-bandwidth RF & photonic test equipment

Generate, capture and analyze signals from DC to 80 GHz in time and frequency domains.



Research-grade instruments, ready for collaboration

Spectrum Lab houses over $10 M of high-end RF, microwave and optical test equipment. It powers our own photonics and quantum research and supports partners with device testing, characterization and prototyping.

80 GHz
Analog bandwidth for arbitrary waveform generation

256 GSa/s
Sample rate for waveform generation and real-time capture

50 GHz
Analysis bandwidth in time and frequency domains

$10 M
Worth of test & measurement equipment

EQUIPMENT HIGHLIGHTS

Signal Generation

Keysight M8199B Arbitrary waveform generator
2 ch · 256 GSa/s · DC–80 GHz analog BW · 512 kSa memory

Keysight M8196A Arbitrary waveform generator
1 ch · 92 GSa/s · DC–32 GHz analog BW · 2 GSa memory

Keysight M8195A Arbitrary waveform generator
2 ch · 65 GSa/s · DC–25 GHz analog BW · 2 GSa memory

Tektronix AWG7122C Arbitrary waveform generator
2 ch · 24 GSa/s

Anritsu MG3697C Signal generator
DC–67 GHz

Rohde & Schwarz SMM100A Vector signal generator
1 GHz IQ modulation bandwidth

Time-Domain Analysis

Keysight UXR0504B Real-time oscilloscope
4 ch · 256 GSa/s · DC–50 GHz

Keysight DCA-X + 86108B Sampling oscilloscope
50 GHz analysis bandwidth

Tektronix DPO71254B Real-time oscilloscope
4 ch · 50 GSa/s · DC–12.5 GHz

Frequency-Domain Analysis

Keysight N5225B Differential vector network analyzer
10 MHz – 50 GHz

Keysight N9040B UXA Signal analyzer
2 Hz – 50 GHz

What it supports

- Microwave photonics & RF spectrum analysis
- Photonic integrated circuit & device characterization
- High-speed optical and RF communications testing
- Lidar, sensing & custom waveform prototyping

TALK TO US ABOUT TESTING

spectrum.montana.edu

Mountains and Minds
Montana State University

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