

ROHDE & SCHWARZ

Make ideas real



FLEXIBLE SOLUTIONS FOR QUANTUM SYSTEMS

Calibration



System characterization (R&S®ZNA26)

High-precision VNA for installing quantum systems and characterizing critical system properties such as resonance frequencies and Q factors



Level and timing alignment (R&S®RTP164)

Oscilloscope digital trigger and deep memory for synchronization of qubit control, readout and trigger pulses



System characterization (R&S®FSW26)

Spectrum analyzer with high sensitivity for characterizing system noise and wide real-time bandwidth for monitoring pulse spectra

Measurement



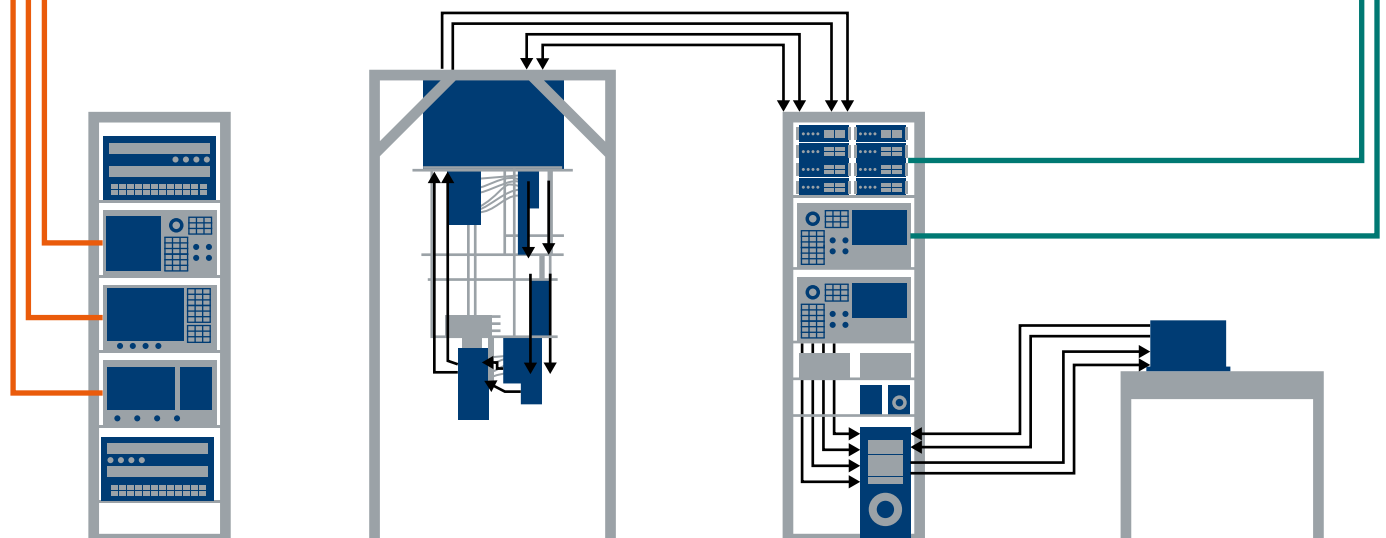
Reference or local oscillator (R&S®SMA100B)

Industry's lowest phase noise signal generator provides a stable reference for excellent long-term stability



IQ up/down conversion (R&S®SGS/SGU100A)

Compact, scalable RF sources to help to increase qubit count and system stability





SCALABLE RF/MICROWAVE SIGNAL GENERATION FOR QUANTUM TECHNOLOGIES

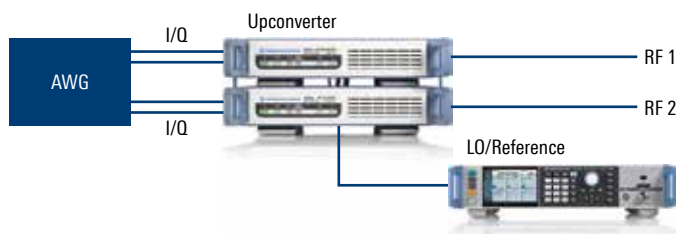
R&S®SGS/SGU100A RF SOURCE



Key facts

- ▶ Smallest fully integrated vector signal generator on the market, space-saving design for system integration – 1 HU, 1/2 x 19"
- ▶ Enables high throughput due to very short frequency and level setting times
- ▶ Excellent RF performance in a compact format
- ▶ Closed ALC loop for CW and I/Q modes for highest level repeatability
- ▶ Cost-efficient and compact generation to 40 GHz
- ▶ R&S®SGS100A with R&S®SMA100B as external 1 GHz reference ensures more stable frequency and phase stability

Scalable, low-noise I/Q upconversion for stable synchronization (< 0.3° relative phase drift)



R&S®SMA100B SIGNAL GENERATOR



Key facts

- ▶ Excellent SSB phase noise of -152 dBc (typ.) at 1 GHz at 10 kHz offset
- ▶ Clean 1 GHz reference output for better phase-locked coupling
- ▶ Level-controlled narrow pulses from 100 ns onwards and low duty cycles with exceptional level accuracy and repeatability
- ▶ Simplify the system automation and improve reliability fast frequency and amplitude switching

Minimize long-term drift with R&S®SMA100B RF Signal Generator as a reference

