

FlexDDS-HD

MULTI-CHANNEL DIRECT DIGITAL SYNTHESIS (DDS) PLATFORM

Best-in-class phase noise performance



The FlexDDS-HD offers fast real-time control over all signal parameters and enables the execution of complex sequences with precise, deterministic timing.

The FlexDDS-HD is the successor of the FlexDDS-NG with several key improvements:

- ▶ **HD for "High Density":**
Supports up to 48 output channels
- ▶ **Enhanced performance:**
Significantly lower phase noise
- ▶ **Rack compatibility:**
Suitable for 19" rack mounting

FlexDDS-HD-RACK-84

- Accommodates up to 24 independent, yet synchronized, modules with two RF outputs each
- GBit Ethernet interface
- Two trigger inputs shared across the entire rack
- Suitable for 19" rack mounting (3U height)
- Supports hot-plugging of synthesizer modules

COMPONENTS:

-  **FlexDDS-HD-RACK-84:** Chassis and control module
-  **FlexDDS-HD-AD9910:** Synthesizer module
-  **FlexDDS-HD-U1N-1G:** Ultra low noise clock (optional)

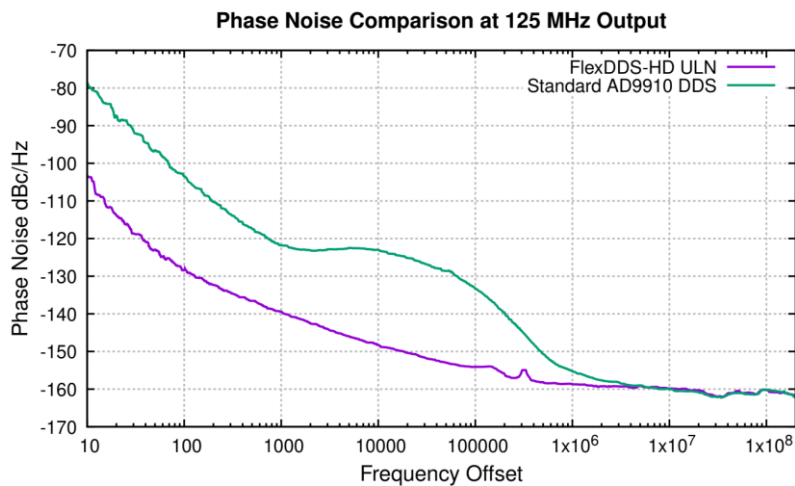
APPLICATIONS:

- Driving AOMs (acousto-optic modulators)
- Coherent atomic control
- Quantum optics and precision experiments
- Quantum computing

CONTACT

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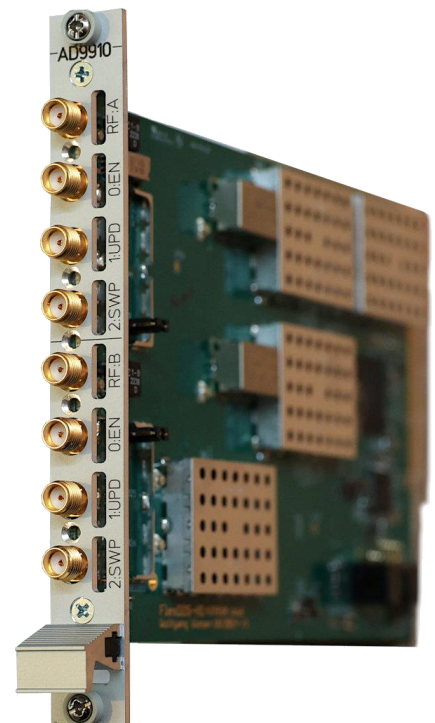
Option FlexDDS-HD-ULN-1G:

- Temperature controlled ultra low phase noise reference clock
- Aging < ± 5 ppb/day, < ± 300 ppb/first year
- 1–100 MHz external reference clock input (e.g., for GPSDO or Rb clock)
- 1 GHz ultra low noise reference clock output
- Additional 1–100 MHz configurable reference clock output



FlexDDS-HD-AD9910:

- Dual 1 GS/s direct digital synthesizer (DDS) based on the AD9910 chip
- Frequency range: 300 kHz to 400 MHz (with 0.23 Hz resolution)
- Provides three digital I/Os per channel
- Fast on/off functionality with no signal leakage in the “off” state
- **Option AMP:** Adjustable amplifier with full-scale output power ranging from < -40 dBm to > +13 dBm
- **Option ADC:** Dual-channel analog input with 20 MHz bandwidth for phase, amplitude, frequency, or polar modulation (replaces one digital I/O per channel)



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