



## **NDR318**

## 8 Receive Channel High Performance SDR

The NDR318 is an affordable standalone 8-Channel wideband high performance SDR that converts the HF/VHF/UHF spectrum to digital IF (I/Q or Real) data over 10 Gigabit Ethernet interfaces. The NDR318 includes 8 independent tuner's that cover RF signals from 2 MHz to 6 GHz with a 40 MHz instantaneous bandwidth. Each channel can tune independently or the tuners can operate phase coherently for applications such as beam forming or direction finding (the unit supports both 4-channel and 8-channel phase coherent operation). To enable Geolocation applications, the NDR318 includes an on-board GPS receiver, an external IPPS input, precision time-tagged digital IF data (formatted based on the VITA-49 standard) and a tunable calibration signal that covers 25 MHz to 6 GHz.

The NDR318 is packaged in an 8"W x 1.9"H x 12"D rugged aluminum chassis that provides RF shielding, thermal management, and protection suitable for harsh environments. The unit includes an FPGA-based digital processor board that receives 8 channels of wideband ADC data, performs narrowband filter and decimation, forms time-stamped digital IF data packets, and transmits streaming data over the two 10 Gigabit Ethernet output ports. The dual 10 Gigabit Ethernet output ports support full bandwidth (8 x 40 MHz) data streaming. The unit is powered via an external +12 VDC power supply and controlled via a 10/100 Ethernet interface. Multiple lower Digital IF bandwidths are also supported for applications that don't require the full 40 MHz.

## **KEY HIGHLIGHTS**

- 8 Channel High Performance RF SDR
- 2 MHz to 6 GHz Frequency Coverage
- 40 MHz Bandwidth
- Independent and Phase Coherent Tuning
- 2x 10GBE for Digital IF Data
- Integrated FPGA with Selectable DDCs
- Geolocation enabled with an Embedded GPS receiver
- 10/100 Ethernet for Command & Control
- VITA49 Formatting
- Software tools and API for easy integration
- 47W Power Consumption

## NDR318 Quad Tuner Card #1 RF1 In Tuner 1 ADC Cal/BIT ► Cal/BIT Source Out Synth Fc = 153.6 MHz BW = 40 MHzTuner RF2 In **Ref Out** Tuner 2 ADC ▶ 10 MHz In/Out GPS/Reference/ **Timebase** 1PPS 1 PPS In RF3 In Tuner 3 ADC **GPS Antenna** ▶ GPIO RF4 In Tuner 4 ADC 10Gb-E Digital IF Out Tuner Control 122.88 MSPS COH LO1 FPGA 10Gb-E Digital IF Out Coherent Tuner LO1/LO2 COH LO2 Ref In 72 bits DDR3 400 MHz RF5 In Tuner 1 ADC Fc = 153.6 MHz SD Mem BW = 40 MHzUSB RF6 In Tuner 2 ADC ARM 10/100 10/100 Ethernet Microprocessor Ethernet Control RF7 In Tuner 3 ADC NAND DDR RF8 In Tuner 4 ADC +9-16 VDC **Power Conditioning** 122.88 MSPS **NDR318 Digital Processor Card** Tuner COH LO1 Ref In Coherent LO1/LO2 COH LO2 Specifications subject to change without notice. NDR318 Quad Tuner Card #2 Epiq Solutions is a business dedicated to advancing RF technology through products

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