



NDR551

20 MHz to 18 GHz Microwave SDR

A 1U RACKMOUNT SUPER-HETERODYNE DOWNCONVERTER

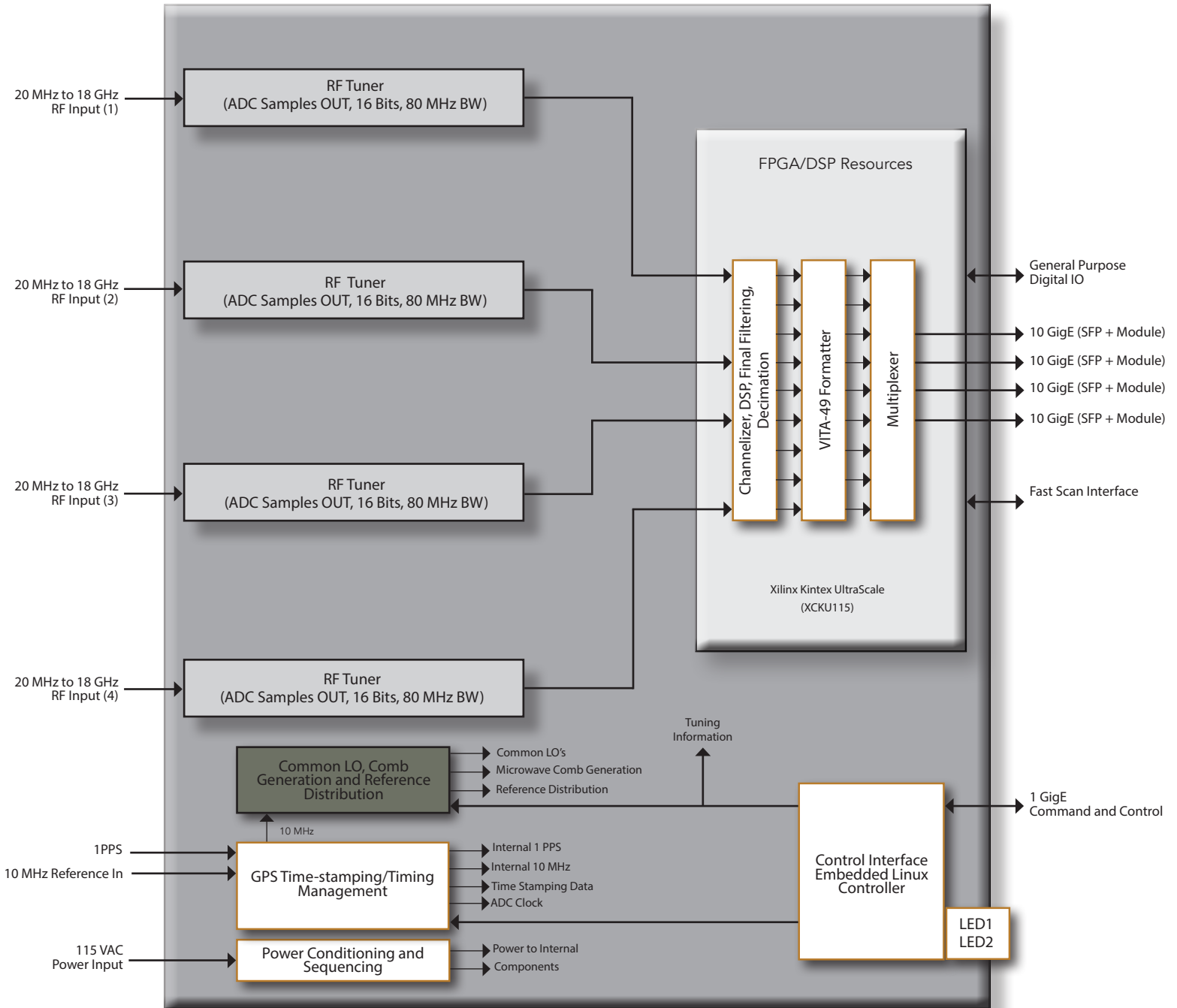
The NDR551 microwave SDR is a 4 channel, super-heterodyne downconverter that covers RF and Microwave signals from 20 MHz to 18 GHz. It is housed in a 1U, 19 inch equipment frame with 19"W x 1.75"H x 18"D overall dimensions. Integrated high dynamic range 16-bit Analog-to-Digital converters (ADC's) are utilized to digitize an 80 MHz wide IF at 256 Msps sample rate. Command and control of the digital tuner are via an Ethernet interface and power is derived from a 115 VAC external power supply input. Total power consumption is 175 Watts. An on-board Kintex UltraScale series FPGA is used for the channelizer, the VITA-49 formatter, data multiplexer and the 10 Gigabit Ethernet Digital IF data interfaces.

Four 10 Gigabit Ethernet Digital IF output interfaces simultaneously provide both full bandwidth Digital IF data and multiple narrowband DDC outputs. Two modes of operation are included: Receiver mode and Fast Scan mode. Receiver mode includes numerous DDCs with selectable bandwidths, optional oversampling and demodulators. Fast Scan mode supports a dedicated and simplified control interface for applications such as search. An internal ARM A8 microprocessor running embedded LINUX is used for command/control of the unit. The unit is packaged in a rugged aluminum chassis that provides RF shielding, thermal management, and protection suitable for harsh environments.

KEY HIGHLIGHTS

- 4 Channel Microwave SDR
- 20 MHz to 18 GHz Frequency Ccoverage
- 80 MHz Bandwidth
- Independent and Phase Coherent Tuning
- 16-bit Internal ADC, 256 Msps
- Internal FPGA-based Signal Processing with Variable Rate DDCs
- Time-tagged VITA-49 Digital IF Output (based on 1PPS input)
- Ethernet Command and Control
- Dedicated Fast Scan control interface
- 175W Power Consumption

BLOCK DIAGRAM



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