

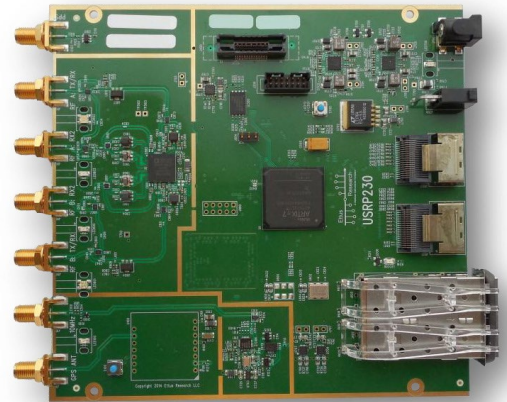
ETX117

Software Defined Radio Transceiver with ET, CFR & DPD Firmware Functionality

Application

The ETX117 from NewEdge is comprised of the USRP N230 hardware from Ettus Research and a proprietary firmware load from NewEdge Signal Solutions. NewEdge has integrated its Envelope Generation Interface (EGI), Crest Factor Reduction (CFR) and Digital Pre-Distortion (DPD) algorithms in the FPGA on the N230.

The N230 covers RF frequencies from 70MHz to 6 GHz, has a Artix-7 FPGA, and 1-Gigabit Ethernet connectivity. This platform enables experimentation with a wide range of signals including FM and TV broadcast, cellular, Wi-Fi, and more. The USRP N230 offers a total of two receive and two transmit channels, incorporates an FPGA and GPIO. The Dual Custom IO interface connectors give general access to the FPGA as well as high throughput communication data lines. Both a locking power connector as well as our standard USRP power connector are available on the board. The N230 uses an RFIC that can stream up to 56 MHz of instantaneous bandwidth over to the Xilinx Artix-7 FPGA. Because the N230 is enabled with Ettus Research's USRP Hardware Driver™ (UHD), users can develop their applications and seamlessly port their designs to other high-performance or embedded USRPs such as the USRP X310 or USRP E310. UHD is an open-source, cross-platform driver that can run on Windows, Linux, and MacOS. It provides a common API, which is used by several software frameworks, such as GNU Radio. With this software support, users can collaborate with a vibrant community of enthusiasts, students, and professionals that have adopted USRP products for their development. As a member of this community, users can find assistance for application development, share knowledge to further SDR technology, and contribute their own innovations.



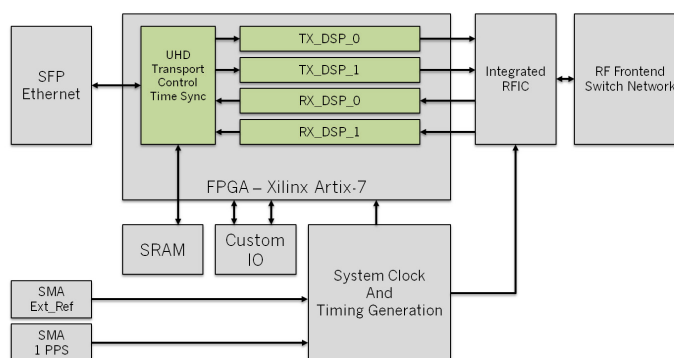
Features

- Envelope Generation Interface supporting NewEdge RF Front Ends
- Crest Factor Reduction firmware to reduce LTE waveforms to 8dB PAR
- Proprietary Digital Pre-distortion Algorithms supporting NewEdge RF Front Ends
- RF coverage from 70 MHz – 6 GHz
- Fully-coherent 2x2 MIMO capability
- 2 TX & 2 RX, Half or Full Duplex
- Up to 56 MHz of instantaneous bandwidth in 1x1
- Up to 30.72 MHz of instantaneous bandwidth in 2x2
- Flexible rate 12 bit ADC/DAC
- 9 Mbit SRAM
- Xilinx Artix-7 XC7A100T FPGA
- GNU Radio, C++ and Python APIs
- GPIO capability
- JTAG connector
- Dual SFP ports for 1GigE interface
- Dual Custom IO interface connectors
- Dual Power connections
- Grounded mounting holes

Specifications

Power	DC Input	6V
Conversion Performance and Clocks	ADC Sample Rate (max)	61.44 MS/s
	ADC Resolution	12 bits
	ADC Wideband	SFDR 78 dBc
	DAC Sample Rate (max)	61.44 MS/s
	DAC Resolution	12 bits
	Host Sample Rate (16b)**	61.44 MS/s
RF Performance (single channel)	Frequency Accuracy	±2.0 ppm
	SSB/LO Suppression	-35/50 dBc
	3.5 GHz	1.0 deg RMS
	6 GHz	1.5 deg RMS
	Power Output	>10 dBm
	IIP3 (@ typ NF)	-20 dBm
Physical	Receive Noise Figure	<8 dB
	Dimensions	17x14.6x1.8 cm
	Weight	165 g

*All specifications are subject to change without notice. ** See benchmark results for sample rates in various configurations.



Disclaimer

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