Rincon Research Corporation

Base Board with Transceiver
70 MHz-6GHz to Packets

Base Board

LPFE is a Compact

Zynq™-based

I/O-to-Packets

Solution

Specifications

Typical Applications

	LPFE enables signal collection and processing in a stand-alone package.
	Servers/laptops are not required to process collected data
	Linux OS enables secure remote operation
Standalone (No I/O Mezzanines)	Demodulation of packetized (digital-IF) data
With RF/IF Mezzanines	Coherent F1/F2 RF transponder (repeater)
	RF to disk: Signals may be recorded to PCIe or USB2 attached HDDs,
	no servers/laptops required
	Test signal transmitter, time aligned with 1PPS and 10 MHz

FPGA Functions

FPGA Operations	Sub-band Tuner, Channelizer, Demodulation, custom functions
Digital I/O Formats	VITA-49, SDDS, BrikData
	May be integrated with Redhawk, GNU Radio, and X-Midas infrastructures

Dimensions

PCB	4.755" x 2.32"

Specifications (Cont'd)

Power Options

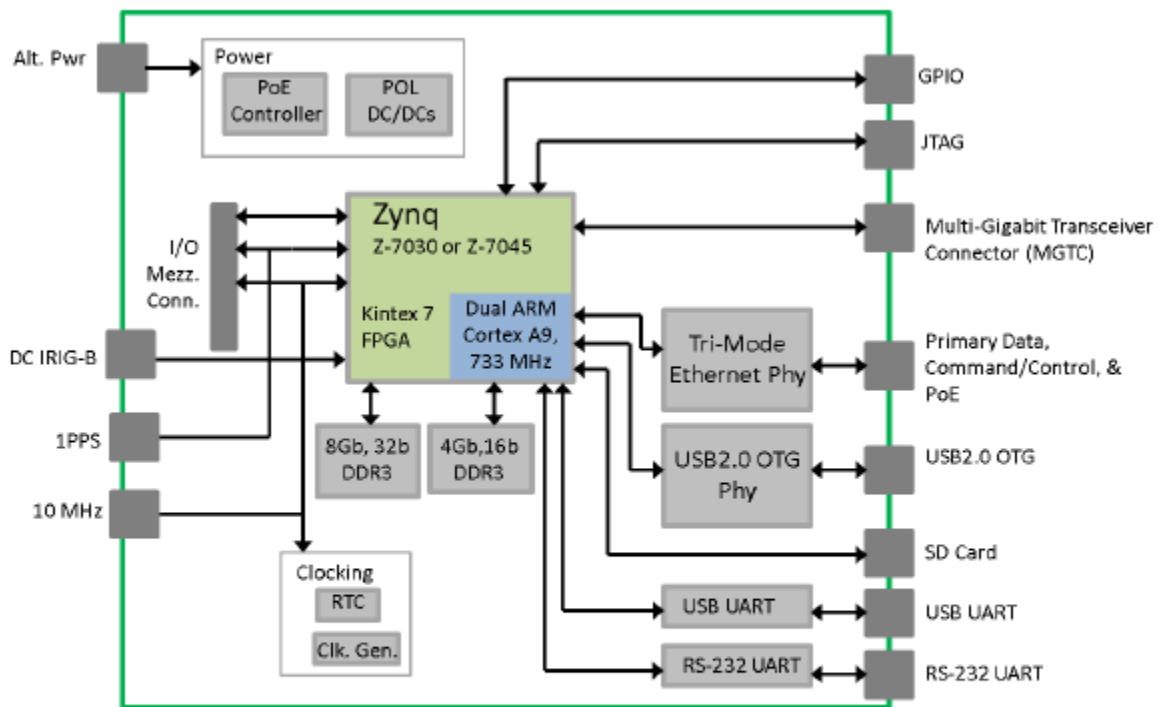|	
Power-over-Ethernet	PoE (Type 2) Powered Device (up to 25.5 Watts available)
Alternate Input Power	10 - 57V DC
Power Consumption	12 W typical, varies with FPGA load and I/O configuration

I/O Mezzanines

Dual Transceiver: LPM-RFXR-0200	70 - 6000 MHz, 200 kHz to 56 MHz BW, 6 dB NF, Zero-IF, MIMO Capable
Dual ADC, Dual DAC: LPM-IFXR-0200	ADC: 16 bit, 250 Msps, adjustable IF gain, DAC: 16 bit 1 Gsps
Cable Driver:	LVDS, LVPECL, or RS-422

Base Board

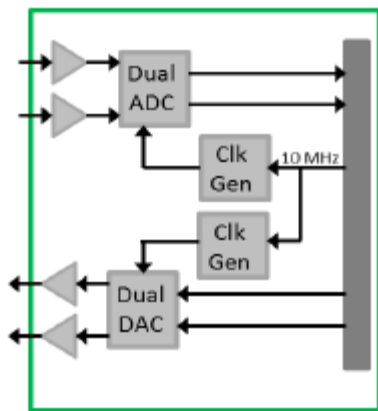|		Z7030	Z7045
SoC	Xilinx Zynq:	Z7030	Z7045
Processor	Dual ARM® Cortex™-A9	733 MHz	733 MHz
FPGA LUTs	Kintex™-7 Fabric	78,6002	18,600
FPGA DSP Slices	25 x 18 MAC, up to 650 MHz	400	900
Multi-Gigabit Transceivers	Up to 6.6 Gpbs	4	8
FPGA Memory	DDR3-1066 SDRAM, 1 GByte		
ARM Memory	DDR3-1066 SDRAM, 512 MBytes		
OS	Linux		
Storage	MicroSD card, optional SATA HD via PCIe		
I/O	10/100/1000 Base-T Ethernet, USB 2.0 OTG		
Multi-Gigabit Transceiver Modes	PCIe, 1Gb Ethernet, 10 Gb Ethernet		

Ordering Information

LPC-10-Z7045	LPFE Base board with Zynq 7045 SoC
LPC-10-Z7030	LPFE Base board with Zynq 7030 SoC
LPM-RFXR-0200	LPFE Base board with Zynq 7030 SoC
LPM-IFXR-0200	LPFE Base board with Zynq 7030 SoC

LPFE
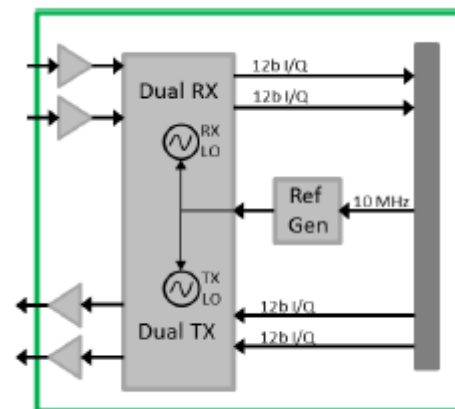## Low-Power Front-End Flexible I/O Packetizer

LPC-10-Z7045

Base board has 1 GByte snapshot memory,
1 GbE, and PCIe available on MGT connector

LPM-IFXR-0200

Multiple I/O Mezzanine Options

LPM-RFXR-0200

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