

Lattice HetNet Solutions

With the rise of heterogeneous networks (HetNet), Lattice is uniquely positioned to offer a portfolio of low cost, low power programmable solutions for high volume applications including small cells, low power radios and millimeter wave backhaul.

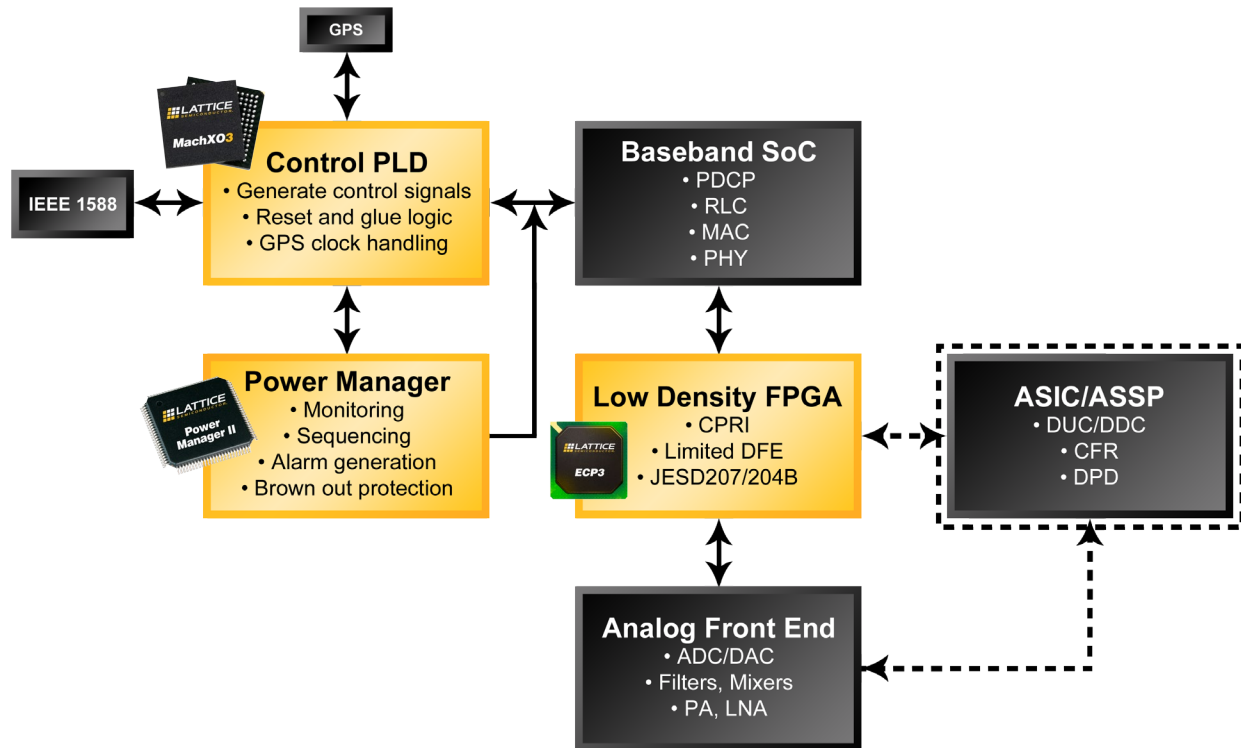


Figure 1: Block diagram of typical functional blocks in a Pico/Metro cell

Low cost, low power Device portfolio

- **Low density ECP3 FPGA:** With up to 16 3.2 Gbps serdes channels and more than 500 IO, ECP3 FPGAs offer the perfect low cost connectivity solution to interface with custom ASICs and off-the-shelf ASSPs typically used in HetNet systems.
- **Ultra low density MachXO2 and MachXO3:** With integrated Flash and high IO-to-logic ratio, MachXO2 and XO3 PLDs offer the perfect instant-on solution for quickly implementing system control and glue logic functions including timing offload, IO expansion and bridging.
- **Platform and Power Manager II:** Programmable, high precision and integrated power management solutions for board level functions including power supply sequencing, monitoring, voltage measurement and power-ride-through control for brown out protection.

IP and Reference Design Portfolio

Connectivity IP	Data Path IP
CPRI	FIR
SRIO	FFT
JESD207	DUC
JESD204B	NCO
PCI Express	CFR
GigE MAC	FEC cores
IEEE 1588 v2	Encryption cores

Lattice small cell DFE demo

Lattice offers an integrated digital front end (DFE) solution for small cells that operate under 1W transmit power, and do not require additional power amplifier linearization.

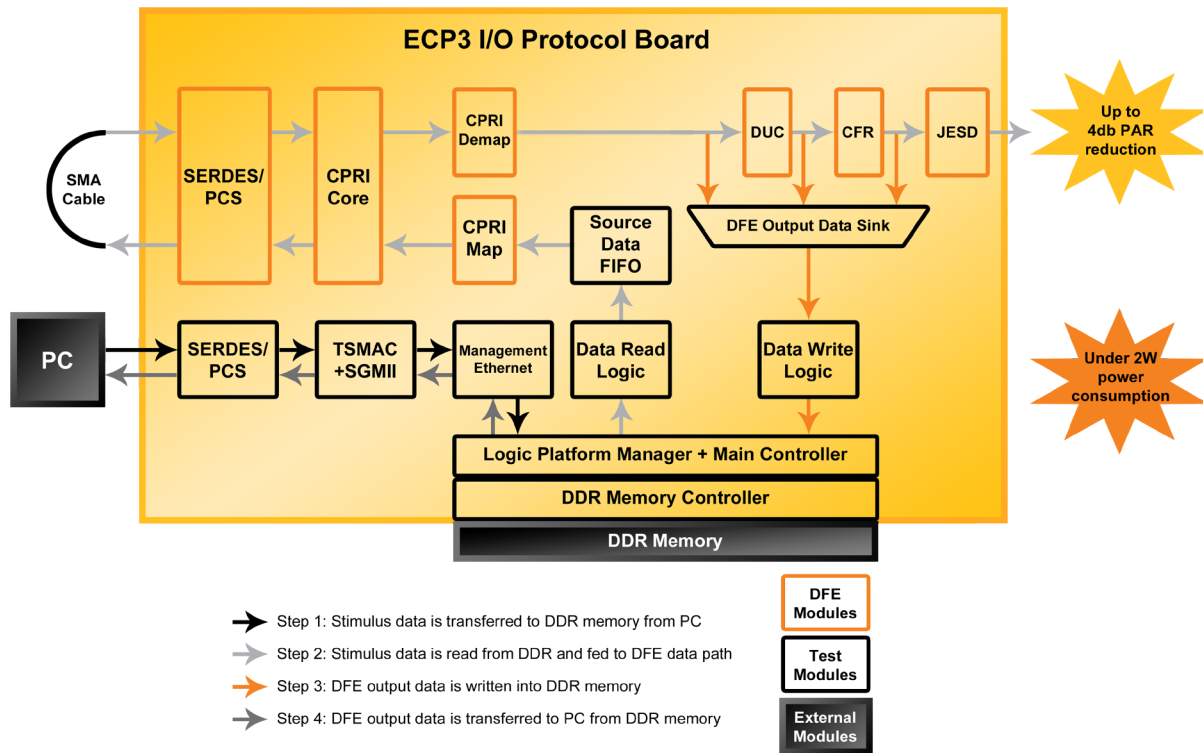


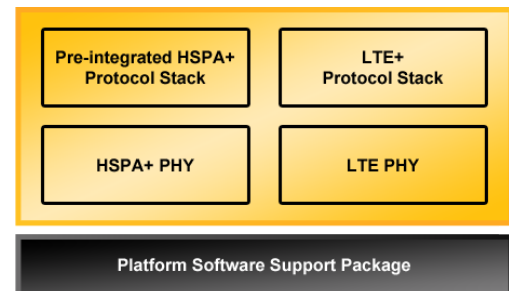
Figure 2: Block diagram of Lattice DFE demo for LTE 20 MHz 2 Tx antennas

Lattice Partner Azcom small cell solutions

Azcom technology offers a system level, off-the-shelf LTE/HSPA+ small cell reference platform based on TI baseband SoC and Lattice FPGA, along with fully verified software stacks and FPGA code.

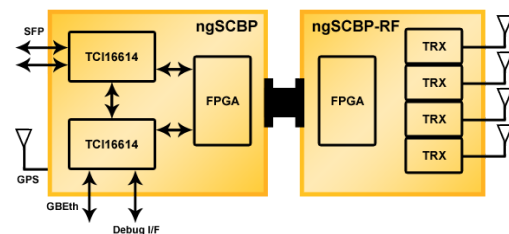
Baseband board – ngSCBP

- Ideal for LTE and HSPA+ dual mode, hosts two TC16614 DSPs and one Lattice ECP3-70 FPGA.
- FPGA functions include CPRI interface management, GPS interface control, glue logic etc.
- Software stacks include 3GPP Rel 9 compliant LTE and HSPA+ L1/L2/L3 layers.



RF board – ngSCBP-RF

- Simultaneously supports LTE and HSPA+ from 700MHz to 2.6GHz and up to 4x4 MIMO.
- Lattice ECP3-150 FPGA functions include CPRI, DUC/DDC, CFR and JESD207.
- Includes Lime Microsystems transceiver, Triquint PA and supports up to 27dBm output power.



Applications Support

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