

Wireless Test Systems

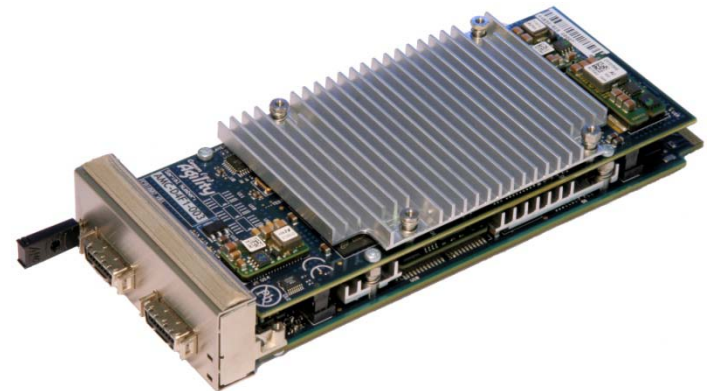
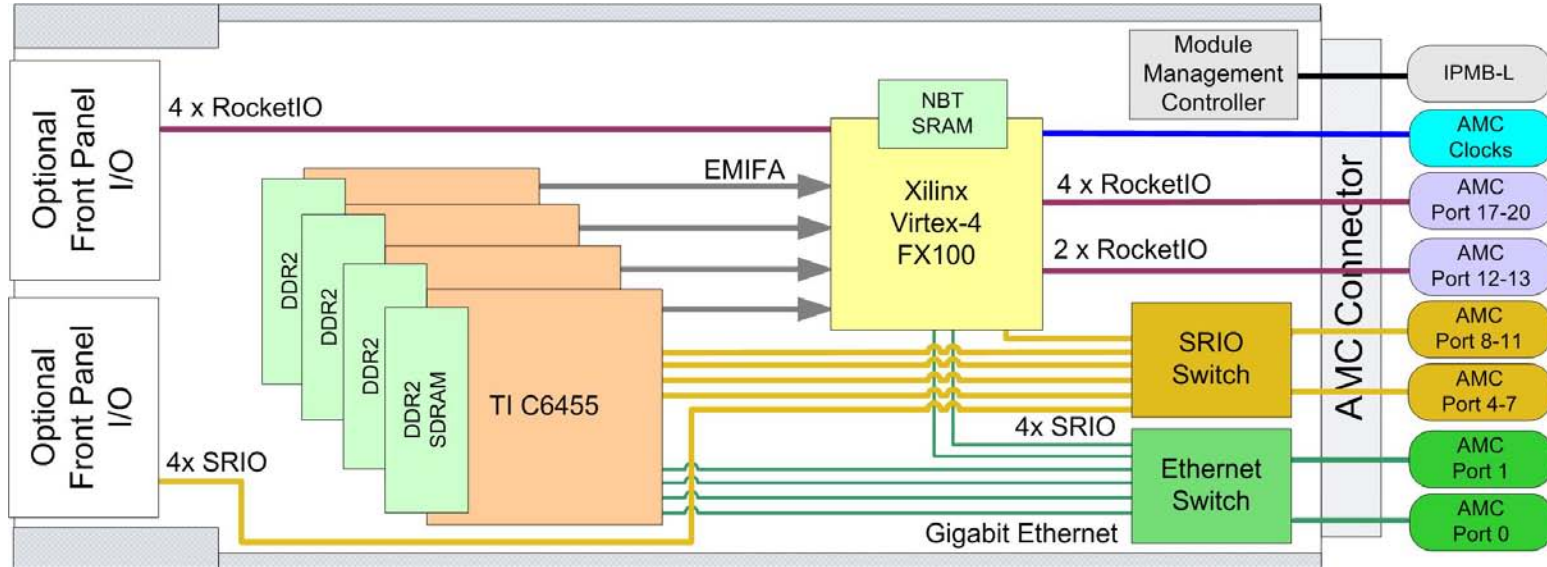
Wireless Test

- Typically leads the standards
- Higher performance required
- Flexibility, programmability, bandwidth are the key requirements
- Lower system volumes
 - But higher margins and less peaky
 - Often multiple cards per system

Test Requirements

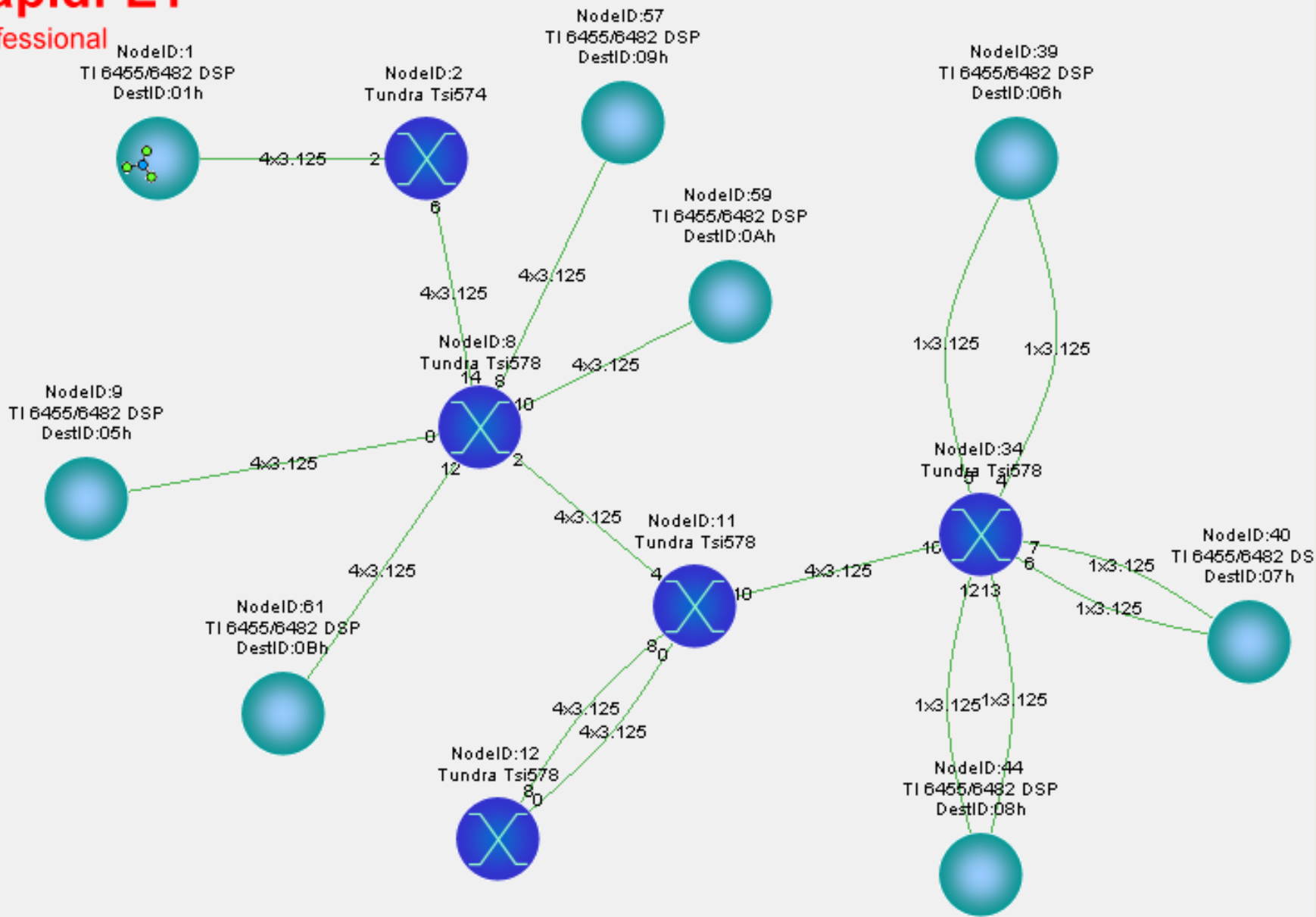
- Additional flexibility and performance required to cope with evolving standards
- SW based for field upgrade – new standards etc
- Additional data generation and logging
 - Load testing and channel simulation
 - Earlier, less optimised code implementations
 - Requires multiple baseband processing cards
- Larger SRIO systems possible in uTCA have a key role
 - Builds on the flexibility and low latency of SRIO – routes traversing multiple switches on cards and MCH
 - Direct SRIO links to radio cards are often used
 - 1 or 2 MCH for 10 or 20Gbps off-card bandwidth – soon 40Gbps!

AMC-D4F1



RapidFET™

Professional



Example Application

- Aeroflex: TM500 LTE Wireless Test
- MicroTCA System using AMC-D4F1
 - SRIO is primary system interconnect
 - 3 to 10 SRIO DSP AMCs per system
 - 1 to 4 uTCA MCHs with SRIO
 - Order of magnitude performance improvement over previous system (customised cPCI)
- Demonstrates the capabilities of MicroTCA for high end applications

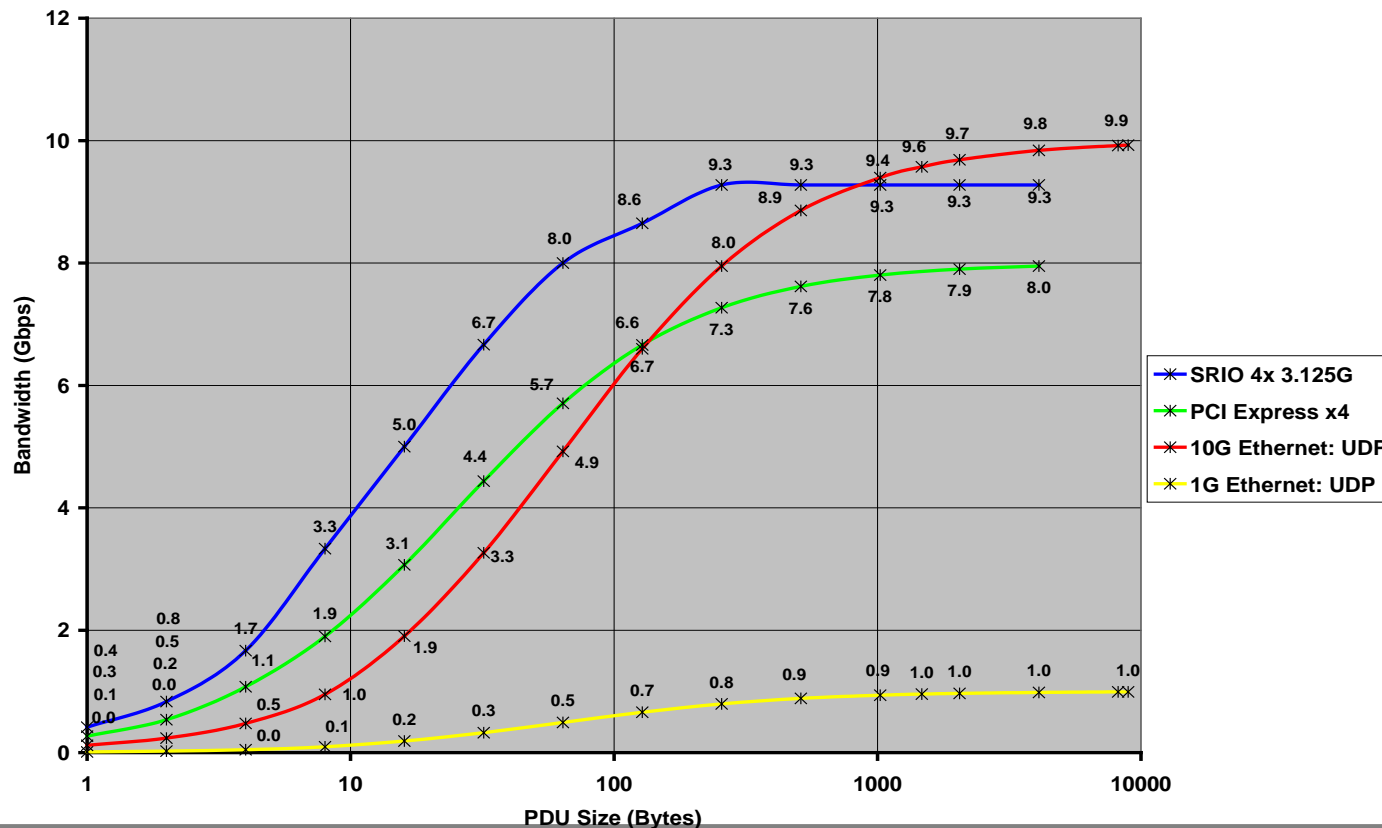


Serial RapidIO Interconnect

- Flexibility
 - Point to point, packetised architecture
 - Arbitrary topologies with routing tables
 - Card level extending to system level
 - Backplane and cable support at 10Gbps
 - Discovery and management from any node, inc DSP
 - Master and slave operation at every node
- Performance
 - High speed, low overhead and latency
 - Multicast and multiple masters
 - Good flow control

SRIO Efficiency

- Most efficient option for smaller packet sizes
- DMA read/write keeps software overhead low



SRIO in Wireless

- Availability
 - Native on TI DSPs
 - Crystal Cube forecast: DSPs with SRIO will be 34% of DSP market by 2011
 - Xilinx FPGA IP cores
- Wireless baseband fit and market
 - Good fit to requirements
 - Very high penetration in wireless systems