

AMC-2C87W3

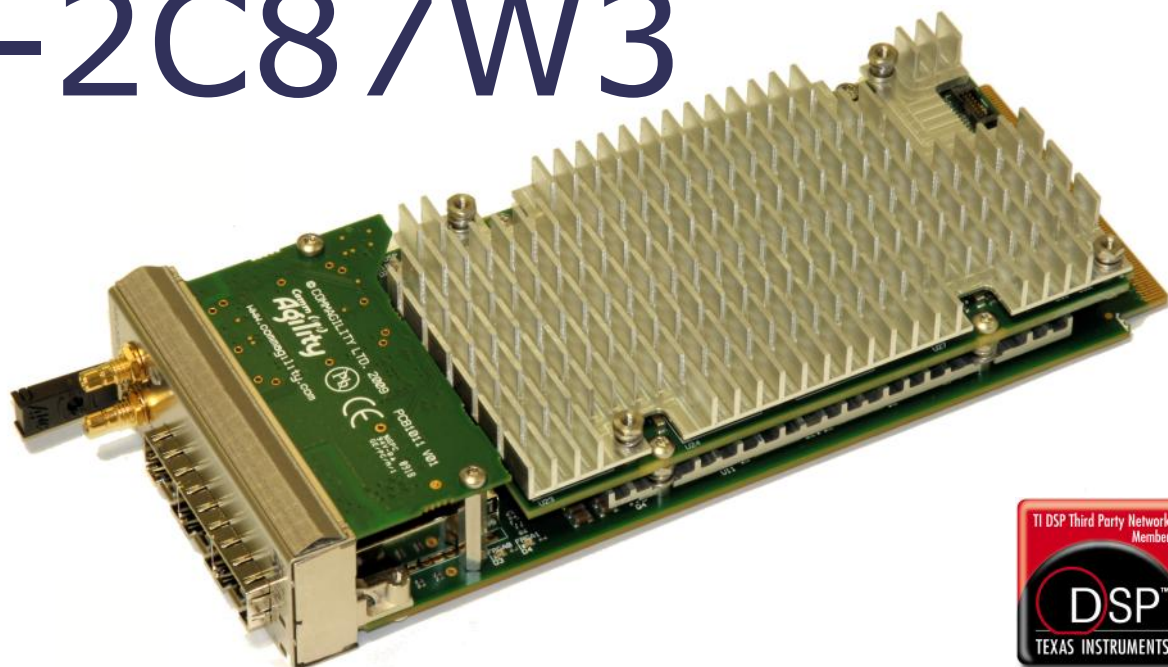
DATASHEET

A complete Digital Baseband solution on a single card, in industry standard AMC form factor

Full LTE eNodeB or WiMAX Base Station capability, from raw radio IQ data to backhaul IP packets

Three flexible SFP optical interfaces supporting Remote Radio Heads or Ethernet backhaul

Timing support from integrated GPS or IEEE1588; optional holdover capability



KEY FEATURES

- Wintegra WinPath3 network processor with 12 DataPath cores for user plane and dual MIPS cores for control plane
- Two Texas Instruments' TCI6487 multi-core DSPs running at 1.2 GHz
- Xilinx Virtex-5 LX110T-2 FPGA
- Three front panel optical interfaces configurable as CPRI/OBSAI or GigE
- Timing and synchronisation from GPS or IEEE1588, with optional holdover; front panel or backplane clock I/O
- Single width, full-size PICMG AMC.0 R2.0 Advanced Mezzanine Card
- Partner companies for full LTE/WiMAX software and Remote Radio Heads

RESULTING BENEFITS

- ⇒ Supports all S1/X2 Transport interface processing and control, security processing for the backhaul and air interface, RRC, RLC/MAC and MAC-Scheduling
- ⇒ Layer 1 PHY processing for a single sector 10MHz, 2x2 MIMO LTE system
- ⇒ FPGA resource for CPRI/OBSAI, DSP co-processing and board control logic
- ⇒ Flexible connectivity to Remote Radio Heads and optical Ethernet backhaul
- ⇒ No additional timing equipment needed, significantly reducing system complexity; syncs easily to wireless test equipment
- ⇒ Works with Industry standard MicroTCA chassis; can also run standalone
- ⇒ Enables a complete solution for a highly compact and cost effective eNodeB

The CommAgility AMC-2C87W3 provides complete L1 PHY and L2 MAC processing, backhaul and timing for LTE or WiMAX in the extremely compact single width, full-size Advanced Mezzanine Card form factor.

Processing capability is assured by a combination of the latest Wintegra Winpath3 Wireless Network Processor, two Texas Instruments' TCI6487 multicore DSPs, and a Xilinx Virtex 5 FPGA for interfacing and algorithm acceleration.

The three SFP sockets are each able to support either CPRI/OBSAI interfaces to Remote Radio Heads, or optical Gigabit Ethernet backhaul, allowing the system configuration and redundancy to be optimised to customer needs.

CommAgility-provided low level software enables fast application porting to the card. As an alternative, multiple partners for Software and Remote Radio Heads enable an integrator or equipment supplier quickly and easily to build a complete eNodeB which is highly compact and cost effective.

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HARDWARE SPECIFICATIONS

Access Packet Processor: Wintegra WinPath3 WP32C2W2XFFI-400. With:

- 512 Mbytes of DDR3-1066 SDRAM in application, parameter, packet memory
- 128 Mbytes of parallel FLASH
- Two 1x SRIO links to switch
- 3 GigE to switch; 1 GigE to each DSP
- 2 GigE for optical backhaul, via FPGA
- Host debug Enet to switch, via FPGA
- 1x PCI Express link to FPGA

FPGA: Xilinx Virtex-5™ FPGA, standard configuration is LX110T-2. With:

- 2 x 128 Mbytes x16 DDR2-600 SDRAM
- 128 Mbytes of parallel FLASH
- 10 Gbps 4x SRIO link to switch
- 3 Gigabit Ethernet ports to switch

DSPs: Two 1 or 1.2 GHz multi-core TMS320CI6487 DSPs. Each DSP has:

- 256 Mbytes x16 DDR2-667 SDRAM
- Two 1x SRIO links to switch
- Gigabit Ethernet port to WinPath3
- Reset and configuration from FPGA
- DSP boot over SRIO or Ethernet

Timing: full timing and sync support:

- On-board GPS receiver
- IEEE1588 master or slave via WP3
- Front panel clock input
- AMC Telecom clock A-D support
- Configurable PLL and jitter cleaner
- Optional OCXO for timing holdover

Form Factor: Advanced Mezzanine Card

- AMC.0 Rev 2.0 compliant
- Full-size, single-width
- IDT Tsi578™ switch for AMC.4 compliant 10 Gbps x4 connections to AMC ports 4-7, 8-11 and 20-17
- Broadcom BCM5389 switch for AMC.2 compliant GigE to AMC Ports 0 and 1
- Hot swap support

Debug: DSP or FPGA JTAG debug via CommAgility Breakout Board (AMC-BB). WinPath3 debug via EJTAG cable

IPMI: ATmega128 IPMI controller:

- AMC.0 IPMB_L interface
- FRU EEPROM data
- Power & reset, health monitoring

ENVIRONMENT/EMC/SAFETY

- Operating temp: 0-40°C ambient
- Power consumption: up to 48W max
- Designed for NEBS/ETSI compliance when used in appropriate chassis
- 2004/108/EC and FCC EMC compliant
- 2002/95/EC RoHS, 2002/96/EC WEEE and 2006/95/EC LVD compliant

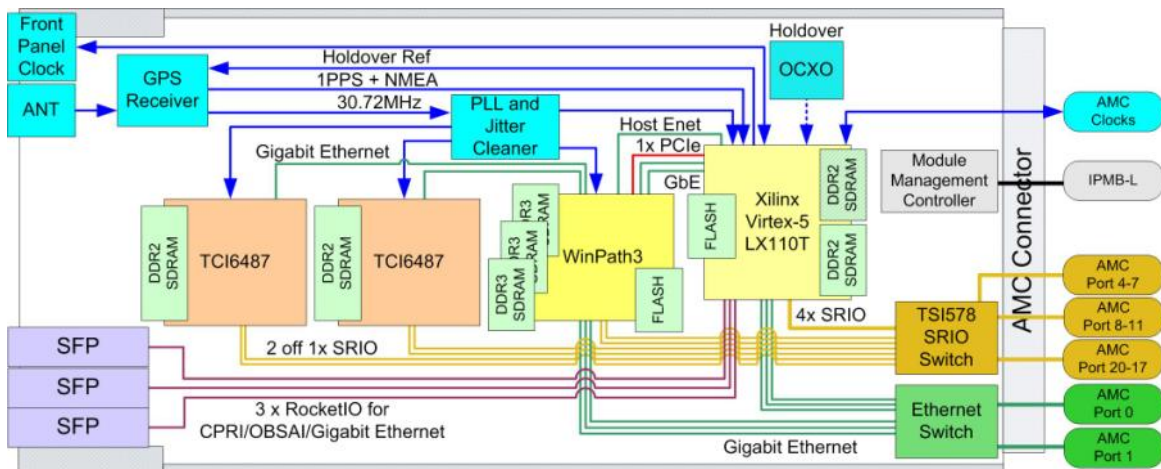
SOFTWARE

WinPath3: Board Support Library (BSL) for booting, interfacing and Flash update. Supports Wintegra LTE framework.

DSP: Board Support Library for DSP setup, interfaces, SRIO and Ethernet

FPGA: Xilinx ISE and EDK project to demonstrate configuration functionality; MicroBlaze BSL including Flash update

MMC: full card management suite



OEM PARTNERSHIP SERVICES are available covering Development, Manufacture and Lifecycle Management. These include customisation and support; lead-time reduction; extended warranty; extended lifecycle and obsolescence management.

LICENSING is offered for high volume projects.

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