ALCATEL

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PE-MACMII™

10 / 100 Mbps Dual-Speed Ethernet MAC (Media Access Controller)

The Alcatel PE-MACMII™ module is a 10 / 100 Mbps Ethernet Media Access Controller (MAC) designed with several key features including wide support for Physical layer devices and dual 100 Mbps and 10 Mbps operating speeds. This core technology was originally shipped in 1995, and is currently shipping in silicon in millions of units per year.

FEATURES

- Fully compliant with IEEE 802.3 standard
- Supports Single and Multi-Mode fiber optic devices
- Supports 802.3x Full Duplex Flow Control and Half Duplex back pressure
- Proven in silicon & is currently shipping in multiple licensees' products
- Frame address detection
- Flexible Transmit and Receive Frame options
- Expanded statistics vectors for RMON & Etherstats Applications
- Supports Control frames
- Supports 10 or 100 Mbps MII based PHY Devices including: 10Base-T, 100Base-TX, 100Base-FX, and 100Base-T4
- Supporting Interface modules available

MACMII Core Specifics		
Device Family	APEX20K	APEX20KE
Device Used	EP20K400FC672-1	EP20K400EFC672-1
Logic Cell Usage[1]	1807	1805
EAB/ESB Usage	0	0
Fmax[2]	52	61
Core I/O Count[3]	223	223
Included with MACMII Core		
Documentation	Module Level Documentation	
File Format[4]	EDIF netlist	
Constraint Files	Quartus .esf file, Quartus .csf file	
Verification Files[5]	Verilog Functional Test Bench	
Support	Provided by Alcatel Technology Licensing Group	
Software Tools Used[6]		
QuartusII 1.0	Leonardo Spectrum v2000.1b Level 1 OEM Version	Verilog Native Compiler v2.1

Note:

1. Logic cell usage includes only the MII Interface, additional Interface modules are available including RMII, SMII, ENDEC, and PMD.
2. IEEE 802.3 specification only requires an Fmax of 25MHz.
3. I/O Count assumes all core signals are routed to I/O pins on the chip. Usually customer designs will incorporate many of these signals internally in the device.
4. EDIF netlist is encrypted and cannot be modified by the customer. However Verilog RTL code is available.
5. Functional test bench is for software verification of the core once incorporated into the device.
6. Actually results may vary with newer versions of the Quartus software and OEM versions of Leonardo Spectrum.

CONTACT INFORMATION

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