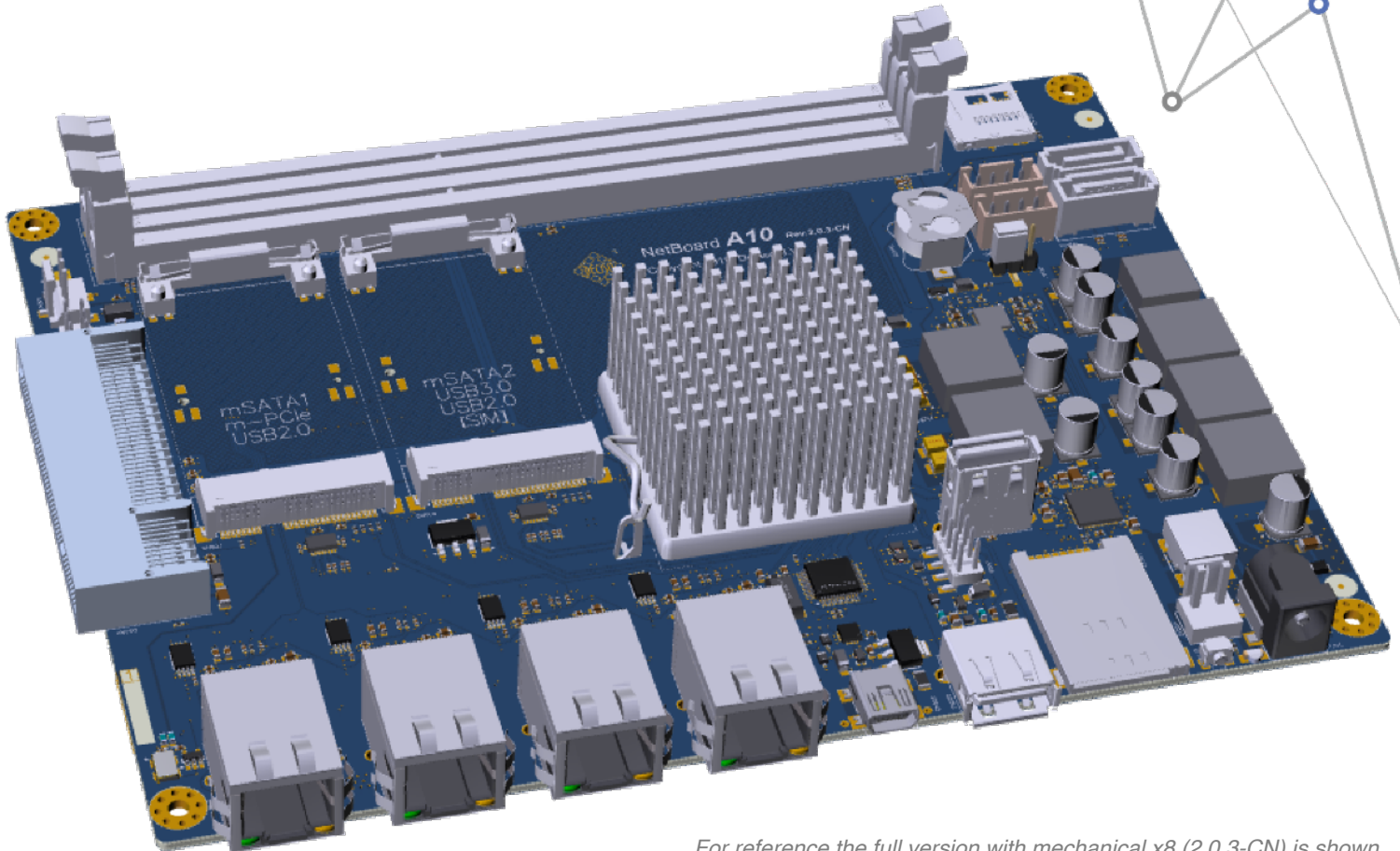




NETBOARD A10 Revision 2.0.1-CN

MODEL: E, F & G



For reference the full version with mechanical x8 (2.0.3-CN) is shown.

The **NETBOARD A10 Revision 2.0.1-CN** is an embedded mainboard intended for demanding 24/7 applications. The board is designed with integrated programmable DC-DC power supply and automatic inrush current limiter. It has a wide range voltage input (7-24VDC) and can react to input voltage changes within milliseconds over its full range. The A10 is a fixed BOM solution using only components from respected manufacturers and a high quality bare board with controlled stack-up. The board has been designed and is produced in The Netherlands.

Securing Networks

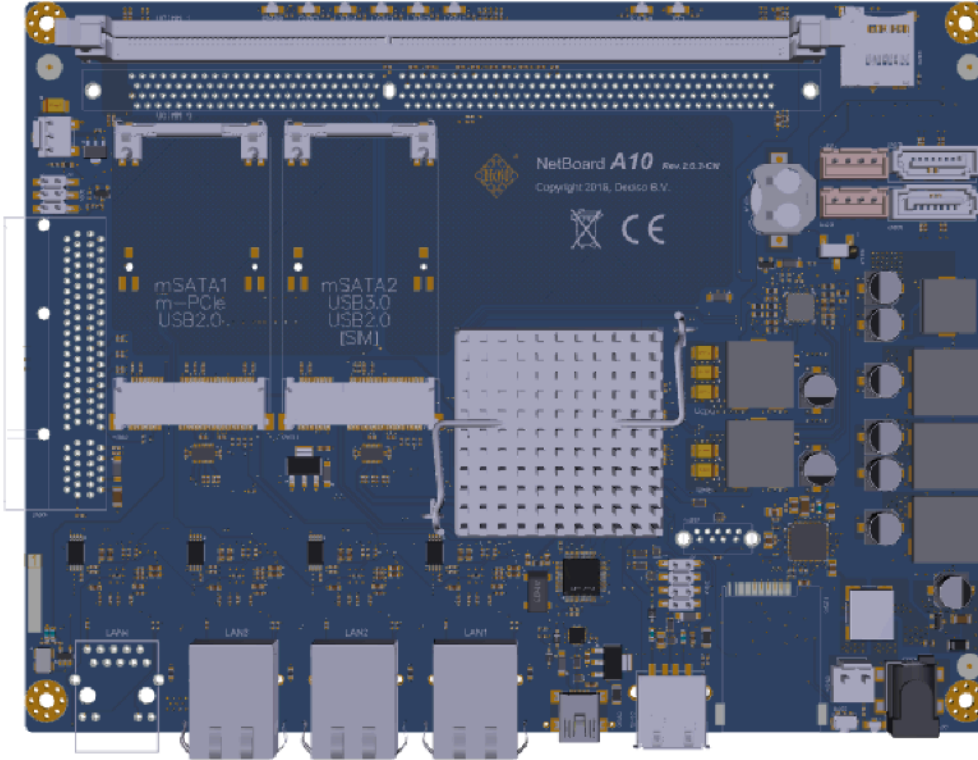


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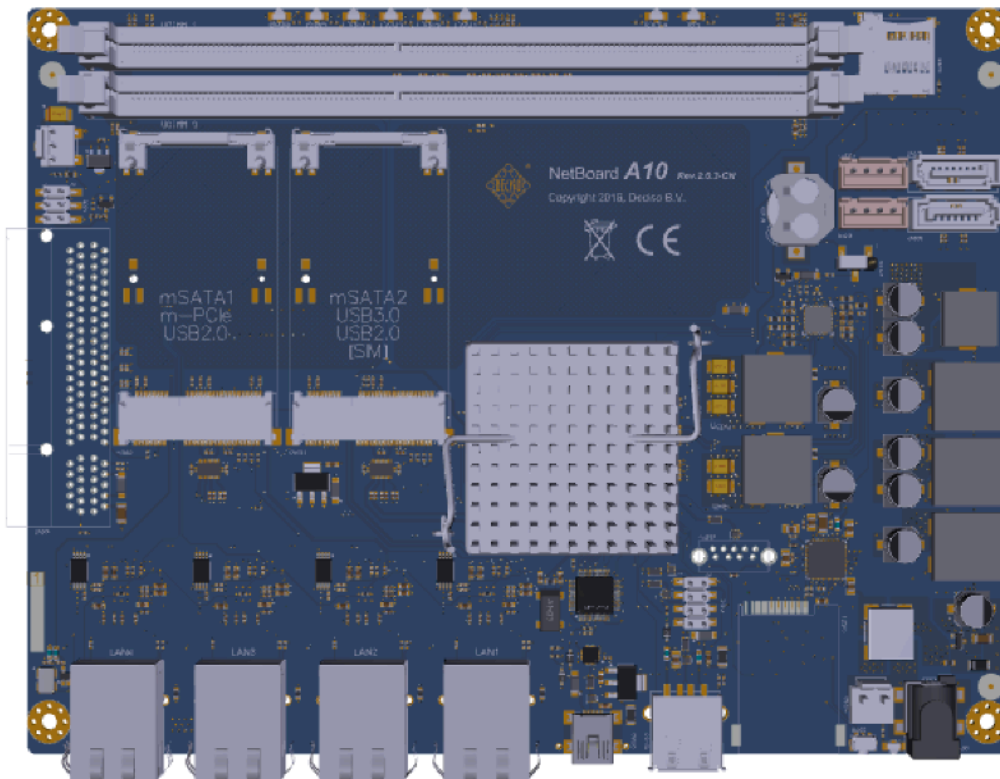
HARDWARE

DUTCH QUALITY - MADE IN THE NETHERLANDS

MODEL F, dual core CPU, 3x ethernet, 2x mSATA, 1x UDIMM



MODEL E & G, quad core CPU, 4x ethernet, 2x mSATA, 2x UDIMM (standard version)



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BIOS - COREBOOT / SEABIOS INTENDED FOR EMBEDDED APPLICATIONS



Coreboot is an Open Source project aimed at replacing the proprietary BIOS (firmware) found in most computers. Coreboot performs a little bit of hardware initialization and then executes additional boot logic, called a payload.

With the separation of hardware initialization and later boot logic, coreboot can scale from specialized applications that run directly from firmware, run operating systems in flash, load custom bootloaders, or implement firmware standards, like PC BIOS services or UEFI. This allows for systems to only include the features necessary in the target application, reducing the amount of code and flash space required.

SeaBIOS is an open-source legacy BIOS implementation which can be used as a coreboot payload. It implements the standard BIOS calling interfaces that a typical x86 proprietary BIOS implements.

```
Memtest86+ 5.01 coreboot 00 | AMD GX-420MC SOC
CLK: 1996 Mhz (X64 Mode) | Pass 1%
L1 Cache: 32K 43398 MB/s | Test 62% #####
L2 Cache: 2048K 14466 MB/s | Test #3 [Moving inversions, 1s & 0s Parallel]
L3 Cache: None | Testing: 2048M - 3328M 1280M of 4079M
Memory : 4079M 2167 MB/s | Pattern: 00000000 | Time: 0:00:19

-----
Core#: 0 (SMP: Disabled) | CPU Temp | RAM: 800 Mhz (DDR3-1600) - BCLK: 100
State: - Running... | 59 C | Timings: CAS 11-11-12-28 @ 64-bit Mode
Cores: 1 Active / 1 Total (Run: All) | Pass: 0 Errors: 0

-----
Memory SPD Informations
-----
- Slot 0 : 4096 MB DDR3-1600 - Transcend TS512MLK64V6H

(ESC)exit (c)configuration DecisocNetboard A10 V2scroll_unlock
```

integrated memory testing

```
coreinfo 0.1
CPU Information
Vendor: AMD
Processor: AMD GX-420MC SOC
Family: F
Model: 30
Stepping: 1
Brand: 0
CPU Speed: 1998 Mhz

Features:
fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
pse36 clflush mmx fxsr sse sse2 ht
AMD Extended Flags:
fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
lahf/sahf CmpLegacy svm ExtApicSpace LockMovCr0 abm sse4a misalignsse 3dnowPro
osvw ibs skinit wdt

F1: System F2: Firmware 04/30/2017 - 22:31:44
```

coreinfo - diagnostics

Features and Payloads

Deciso's Coreboot version has been optimised for use on its Netboard A10 platform and includes SeaBIOS, Memtest86+ , PXE boot, and Coreinfo as standard payload.

Boot Options

Our optimised coreboot version can boot support operating systems from a diverse media including network boot.

- mSATA,
- SATA III,
- USB,
- microSD,
- PXE boot.



SPECIFICATIONS

PERFORMANCE & FEATURES

Netboard A10 Revision 2.0.1-CN	
Hardware Specifications	
CPU Model E	AMD Embedded GX-416RA G-Series SOC (4x 1.65Ghz, L2 cache 2MB, 15W, No GPU)
CPU Model F	AMD Embedded GX-210UA G-Series SOC (2x 1.0Ghz, L2 cache 1MB, 8.5W, No GPU)
CPU Model G	AMD Embedded GX-420MC G-Series SOC (4x 2.0Ghz, L2 cache 2MB, 17.5W, No GPU)
DRAM	UDIMM DDR3 (Model E & G have 2 sockets), total memory capacity max. 32GB (Model F 16GB), ECC & Non ECC
Chipset	Integrated in SoC (single-chip)
Ethernet	Model E/G: 4x Intel® i210, Model F: 3x Intel® i210
Hardware acceleration	SoC has integrated AESNI instructionset including support for GCM
Standard I/O Interfaces	
	uSD card socket
	3 x USB 2.0 (2 on header, 1 external port)
	2x miniPCI socket (1x mSATA, m-PCIe and USB 2.0 & 1x mSATA, USB3.0 and optional SIM card support)
	1 x Serial Console with integrated usb serial converter on miniUSB B port
	1 micro switch configured as power button (can also be configured as GPI or reset button by component placement)
	2 x SATA 3 (shared with mSATA sockets / auto sensing) + mini power header (JST)
BIOS Features	
Power Management	64 MBit serial SPI firmware flash with Coreboot & SEABIOS
Operating Systems	ACPI 3.0 (With 5V power rail always active / S3 Sleep state not support by current BIOS)
Power Supply	Linux, FreeBSD, Windows, others OS support upon request available
Optional I/O interfaces	External 12V [wide range capable 7-24VDC]
(revision 2.0.3-CN: mechanical x8)	1 x PCIe x4 Edge Connector, shared with first miniPCIe socket (auto sensing)
	DC-in on header for systems with integrated power supply
	internal USB 3.0 port (upright)
	SIM card socket
Dimensions	
Width x Length (mm)	185 x 140
Width x Length (inches)	7.28 x 5.51
Form Factor	Proprietary Network Board
Weight (Kg)	without heatsink or fan
Environment	
Power Requirements	7-24VDC (12VDC is required if PCIe edge connector is used)
Maximum Current (@ 12VDC)	3A
Power Consumption (Typical)	Model E: 20W, Model F: 15W, Model G: 25W
Heat Dissipation (Typical in BTU/hr)	Model E: 68.3, Model F: 51.2, Model G: 85.3
Operating Temperature	0 to +45°C (depends on applied cooling solution / value assumes default heatsink + standard fan)
Storage Temperature	-20 to +70°C
Humidity	10-90% non-condensing
Regulatory Compliance	
	FCC part 15 Class A, CE, Rohs