

Review Intel Cedar Trail (D2500HN, D2500CC, D2700DC, D2700MUD, DN2800MT)

Preface






Better too late than never. Intel launched the new Atom-series „Cedar Trail-D“ later than expected, but the performance is able to convince us. The new series is starting with 5 models. That's a record ! Seems Intel wants to address a wider target group.

Basically we can compare these 5 boards by their CPU. The more cheaper models D2500HN and D2500CC are equipped with the Atom D2500 CPU (2x 1.86Ghz) without Hyper-Threading, the models D2700MUD and D2700DC with the Atom D2700 CPU (2x 2.13Ghz) with Hyper-Threading. A bit special is the successor of the half-height board D945GSEJT : DN2800MT is equipped with a „Mobile“ Atom CPU. It's a N2800 (2x 1.86Ghz) CPU with Hyper-Threading. You however will find no difference with the chipset. Just like the previous boards (D425KT, D525MW) the “NM10 Express Chipsatz” is used and all boards have to be equipped with SO-DDR-3 RAM.

Most innovations are found on DN2800MT. The board has support for Z-U130 Flash Drives, TPM, Mobile SATA SSD and ExpressCard/34. The onboard power supply accepts 10-19VDC input. As a first-timer you will find HDMI output on DN2800MT and D2700DC. And the D2500CC-board has a second LAN-port.

Exemplarily we have made some benchmarks with the D2700MUD board, which you can find below.

Views

Modell	D2500HN	D2700MUD	D2700DC
			
Modell	D2500CC	DN2800MT	
			

Specifications

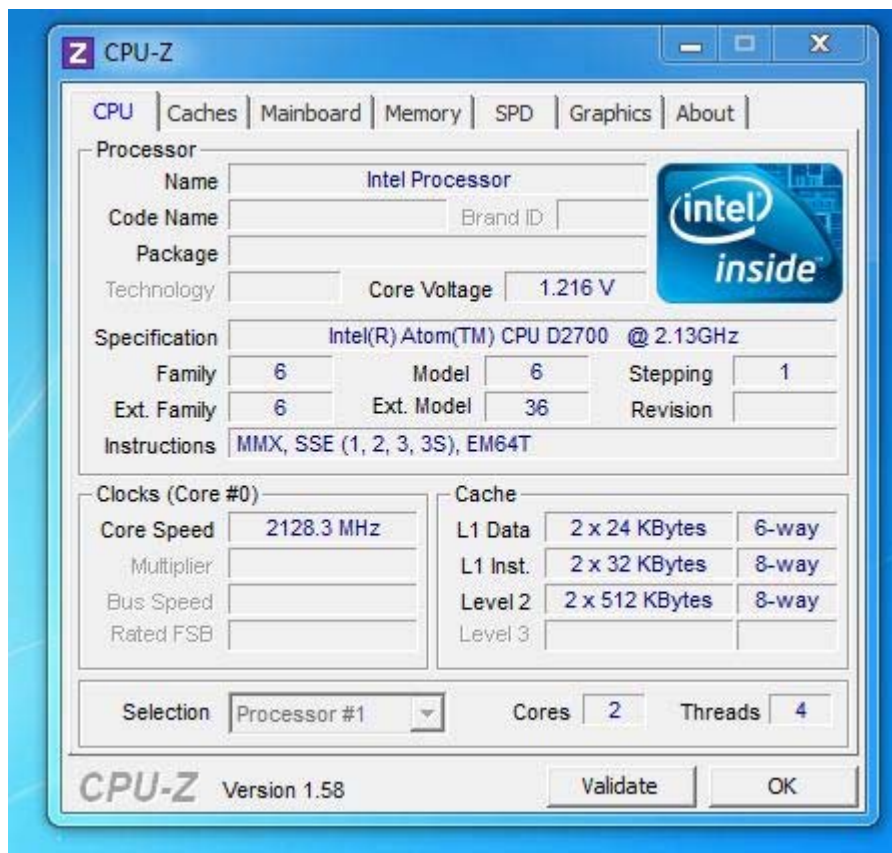
Modell	D2500HN	D2700MUD	D2700DC	D2500CC	DN2800MT
Form-Factor	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Half-Height Mini-ITX
CPU	Intel® Atom™ D2500 (2x 1.86GHz) 1MB Cache, Without Hyper-Threading	Intel® Atom™ D2700 (2x 2.13GHz) 1MB Cache, With Hyper-Threading	Intel® Atom™ D2700 (2x 2.13GHz) 1MB Cache, With Hyper-Threading	Intel® Atom™ D2500 (2x 1.86GHz) 1MB Cache, Without Hyper-Threading	Intel® Atom™ N2800 (2x 1.86GHz) 1MB Cache, With Hyper-Threading
Chipset	Intel NM10 Express Chipset	Intel NM10 Express Chipset	Intel NM10 Express Chipset	Intel NM10 Express Chipset	Intel NM10 Express Chipset
RAM	2x SO-DDR3 800/1066, 4GB max, Single channel	2x SO-DDR3 800/1066, 4GB max, Single channel	2x SO-DDR3 800/1066, 4GB max, Single channel	2x SO-DDR3 800/1066, 4GB max, Single channel	2x SO-DDR3 800/1066, 4GB max, Single channel
Graphics	VGA	VGA + DVI-D + LVDS	DVI-D + HDMI	VGA + DVI-I + LVDS	VGA + HDMI + LVDS + eDP
Audio	2+2 Channel HD Audio	5.1 Channel HD Audio	5.1 Channel HD Audio	6+2 Channel HD Audio	2+2 Channel HD Audio
LAN	1x Intel 10/100/1000 MBit	1x Intel 10/100/1000 MBit	1x Intel 10/100/1000 MBit	2x Intel 10/100/1000 MBit	1x Intel 10/100/1000 MBit
Rear I/O	<ul style="list-style-type: none"> - 4x USB 2.0 - 1x LAN RJ-45 - 3x Audio - 1x PS/2 - 1x LPT - 1x RS232 - 1x VGA 	<ul style="list-style-type: none"> - 4x USB 2.0 - 1x LAN RJ-45 - 3x Audio - 1x PS/2 - 1x LPT - 1x DVI-D - 1x VGA 	<ul style="list-style-type: none"> - 4x USB 2.0 - 1x LAN RJ-45 - 3x Audio - 1x DVI-D - 1x HDMI - 1x SPDIF 	<ul style="list-style-type: none"> - 4x USB 2.0 - 2x LAN RJ-45 - 3x Audio - 2x PS/2 - 2x RS232 - 1x DVI-I - 1x VGA 	<ul style="list-style-type: none"> - 4x USB 2.0 (2x with High-Current 1.3A) - 1x LAN RJ-45 - 2x Audio - 1x HDMI - 1x VGA - 1x DC-In (10-19V)
OS	Windows 7, MeeGo, Chrome OS, Linux	Windows 7, MeeGo, Chrome OS, Linux	Windows 7, MeeGo, Chrome OS, Linux	Windows 7, MeeGo, Chrome OS, Linux	Windows 7, MeeGo, Chrome OS, Linux
Internal I/O	<ul style="list-style-type: none"> - 2x SATA-II (3GB/s) - 4x USB 2.0 - 1x PCI - 1x Mini-PCie - 1x RS232 - Front Audio 	<ul style="list-style-type: none"> - 2x SATA-II (3GB/s) - 3x USB 2.0 - 1x PCI - 1x Mini-PCie - 2x RS232 - Front Audio - 1x TPM - 1x SPDIF - LVDS (Single 24bit) 	<ul style="list-style-type: none"> - 2x SATA-II (3GB/s) - 3x USB 2.0 - 1x PCI - 1x Mini-PCie - Front Audio 	<ul style="list-style-type: none"> - 2x SATA-II (3GB/s) - 3x USB 2.0 - 1x PCI - 1x Mini-PCie - 2x RS232 - Front Audio - LVDS (Dual 24bit) 	<ul style="list-style-type: none"> - 2x SATA-II (3GB/s) - 4x USB 2.0 - 1x PCIe - 2x Mini-PCie - Front Audio - SPDIF - 1x LPT - 2x RS232 - LVDS (Dual 24bit) - eDP (4-lane 24bit) - Z-U130 Flash Drive support - TPM stuffing option - Mobile SATA (SSD) support via Mini-PCie - ExpressCard/34 support via Mini-PCie

Benchmarks

In our tests, we used this hardware:

- Intel D2700MUD Mini-ITX Mainboard
- 2x 1GB DDR3 PC3-8500S SO DIMM HYNIX
- 80GB INTEL SSD
- CD LW SLOT IN (CW-8124B)
- PicoPSU-90
- 84 Watt AC Adapter

D2700-CPU



The screenshot shows the CPU-Z application window with the 'CPU' tab selected. The processor is identified as an Intel Atom D2700. The core speed is 2128.3 MHz. The cache configuration includes L1 Data (2 x 24 KBytes, 6-way), L1 Inst. (2 x 32 KBytes, 8-way), and Level 2 (2 x 512 KBytes, 8-way). The software also shows 2 cores and 4 threads.

Processor			
Name	Intel Processor		
Code Name		Brand ID	
Package			
Technology		Core Voltage	1.216 V
Specification			
Intel(R) Atom(TM) CPU D2700 @ 2.13GHz			
Family	6	Model	6
Ext. Family	6	Ext. Model	36
Stepping	1		
Revision			
Instructions	MMX, SSE (1, 2, 3, 3S), EM64T		
Clocks (Core #0)		Cache	
Core Speed	2128.3 MHz	L1 Data	2 x 24 KBytes 6-way
Multiplier		L1 Inst.	2 x 32 KBytes 8-way
Bus Speed		Level 2	2 x 512 KBytes 8-way
Rated FSB		Level 3	
Selection	Processor #1	Cores	2
		Threads	4

CPU-Z Version 1.58 Validate OK

Windows 7 Performance Index

System


Klassifikation: **3,4** Windows-Leistungsindex

Prozessor: Intel(R) Atom(TM) CPU D2700 @ 2.13GHz 2.13 GHz

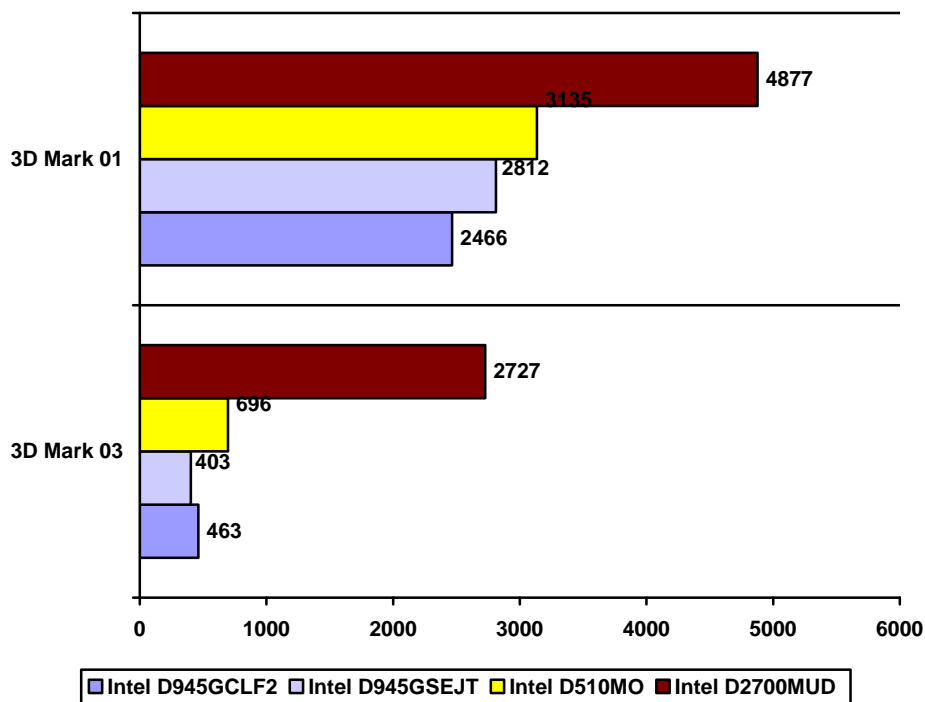
Installierter Arbeitsspeicher (RAM): 4,00 GB (2,99 GB verwendbar)

Systemtyp: 32 Bit-Betriebssystem

Stift- und Fingereingabe: Für diesen Bildschirm ist keine Stift- oder Fingereingabe verfügbar.

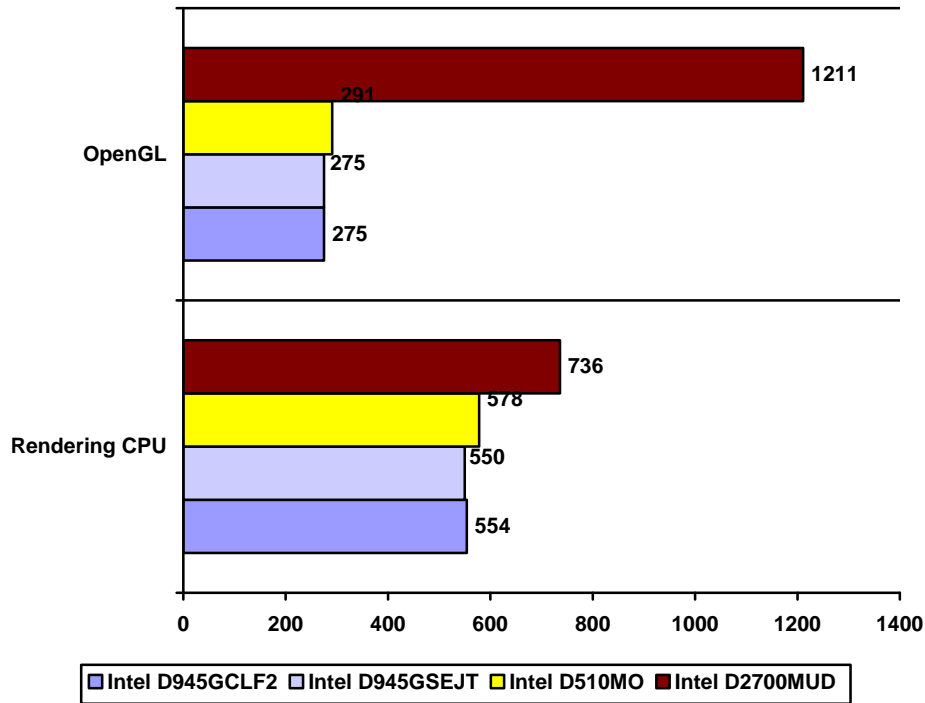
Komponente	Was wurde bewertet	Teilbewertung	Gesamtbewertung
Prozessor:	Berechnungen pro Sekunde	3,8	 Ergibt sich aus der niedrigsten Teilbewertung
Arbeitsspeicher (RAM):	Speichervorgänge pro Sekunde	5,3	
Grafik:	Desktopleistung für Windows Aero	5,9	
Grafik (Spiele):	3D-Business- und Gaminggrafikleistung	3,4	
Primäre Festplatte:	Datentransferrate	7,4	

3D Mark Test



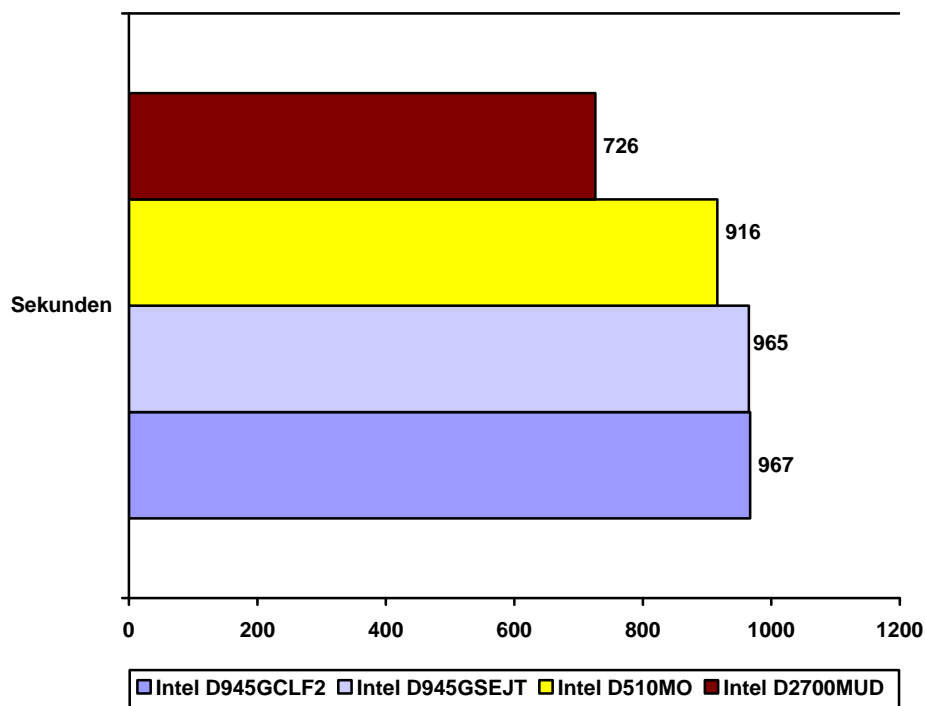
The new board has a much better graphics performance than the previous models.

Cinebench R10 Test



With Cinebench we see an increase of approx. 440% with graphics- and 30% with CPU-performance.

Super PI 8M Test



With Super PI the new CPU is 20% faster.

Power consumption

	D525MW	D2700MUD
Bootphase	30W	28W
Idle	22W	25W
Last	30W	34W
CD/DVD Load	29W	32W
DVD	29W	35W

When compared to the previous model D525MW, the D2700MUD needs approx. 3 watts more power.

Shop-Links

[Intel D2500CC \(Intel Atom 2x 1.86Ghz CPU, 2x LAN, 4x RS232\) \[LÜFTERLOS\]](#)

[Intel D2500HN \(Intel Atom 2x 1.86Ghz CPU\) \[LÜFTERLOS\]](#)

[Intel D2700DC \(Intel Atom 2x 2.13Ghz CPU, HDMI\) \[LÜFTERLOS\]](#)

[Intel D2700MUD \(Intel Atom 2x 2.13Ghz CPU, TPM, DVI\) \[LÜFTERLOS\]](#)

[Intel DN2800MT Half-Height \(Intel Atom 2x1.86Ghz CPU, 10-19VDC\) \[LÜFTERLOS\]](#)