

COM4

COM3

PCI 1

PCI 2

PCI 3

PCI 4

PCI 5

USB 10-11

USB 8-9

Intel ICH10DO

USB 6-7

USB 4-5

SATA 4-5

SATA 2-3

SATA 0-1

ATX Power

DIO

FDD

COM1

COM2

PS/2 K/B

PS/2 Mouse

LAN2

LAN1

VGA

DVI-I (DVI-D signal)

USB 2-3

USB 0-1

12V power

PCIe x4

PCIe x16

LGA 775

Intel Q45

DDR3_1

DDR3_2

DDR3_3

DDR3_4



CHIPSET	Intel® Q45/ ICH10DO
CPU	Intel® Core™2 Quad/ Duo Intel® Pentium® Intel® Celeron®
MEMORY	4 DDR3 DIMM up to 8GB
EXPANSION	1 PCI e x16, 1 PCI e x4, 5 PCI
DISPLAY OUTPUTS	1 DVI-I (DVI-D signal), 1 VGA
LAN	2 Gigabit LAN ports
COM	4 COM
USB	12 USB 2.0
STORAGE	6 SATA 2.0 1 FDD
DIO	8-bit DIO

Figure 1 is a mechanical drawing of the PCB layout for the 1000MHz 16MB version. The drawing shows a top-down view of the PCB with various components labeled with their part numbers. The layout includes a central processor area, memory modules, and various peripheral components. Dimensions are provided in millimeters (mm) along the edges and between components.

Key components and dimensions shown in the drawing include:

- Processor Area:** Labeled with "L.6.30".
- Memory Modules:** Labeled with "288.29", "281.94", "276.22", "250.38", "214.30", "183.89", "161.36", "142.20", "128.03", "124.46", "105.72", "85.39", "78.74", "65.07", "44.75", "24.43", "4.11", "0.00", and "16.51".
- Peripheral Components:** Labeled with "10.16", "0.00", "154.94", "227.33", "233.68", "124.46", "288.25", "281.94", and "233.68".

The diagram illustrates the system architecture of the Intel Atom D5015T. It features a **Core2 Quad/ Core2 Duo** processor at the top, which is connected to **VRD 11.1** and **CK505**. The processor communicates with the **Q45** chipset via an **AGTL+ Bus** (ADDR, CTRL, DATA) at 800/1066/1333MHz. The **Q45** chipset is connected to the **ICH10DO** chipset via **CL** and **DMI** interfaces. The **Q45** also manages **Channel A** and **Channel B** for **DDR3 2 DIMM** memory at 800/1066MHz. The **ICH10DO** chipset is the central hub for various I/O devices, including **USB 12x** (48MHz), **SATA 6x** (SATA2.0), **PCI 5x**, **PCI to IDE Bridge**, **IDEPORT**, **COM Port 2x**, **PS/2 K/B**, **PS/2 Mouse**, **FDD**, **TPM (Opt.)**, **F81216AD (COM3/4 Port)**, **Digital I/O Port 8-bit**, **Watchdog**, and **Timer**. The **ICH10DO** also connects to the **Super I/O** via **LPC** and **3Gb** interfaces. The **Super I/O** is connected to the **Q45** via **PCIe x4**, **PCIe x1**, and **PCIe x1** interfaces at 100MHz. The **Q45** also connects to the **ICH10DO** via **PCIe x4**, **PCIe x1**, and **PCIe x1** interfaces at 100MHz. The **ICH10DO** also connects to the **Q45** via **PCIe x4**, **PCIe x1**, and **PCIe x1** interfaces at 100MHz. The **ICH10DO** also connects to the **Q45** via **PCIe x4**, **PCIe x1**, and **PCIe x1** interfaces at 100MHz.

Specifications

PROCESSOR

- LGA 775 socket for:
 - Intel® Core™2 Quad Q9400
 - Intel® Core™2 Duo E8400/E7400/E6400/E4300
 - Intel® Pentium® E6500/E5300/E2160
 - Intel® Celeron® E3400/E1500/440
- Supports Intel® Enhanced Memory 64 Technology (EMT64T)
- Supports Enhanced Intel SpeedStep Technology (EIST)
- 1333/1066/800MHz FSB

CHIPSET

- Intel® chipset
 - Intel® Q45 Express chipset
 - Intel® ICH10DO I/O Controller Hub

SYSTEM MEMORY

- Four 240-pin DDR3 DIMM sockets
- Supports DDR3 800/1066MHz DIMM
- Maximum memory bandwidth of 17GB/s in dual channel mode when using DDR3 1066MHz
- Supports dual channel memory interface
- Supports up to 8GB system memory
- Supports unbuffered x8 and x16 DIMMs

EXPANSION SLOTS

- 1 PCI Express x16 slot (PCI E 2.0)
- 1 PCI Express x4 slot (PCI E 1.1)
- 5 PCI slots (PCI 2.3)

ONBOARD GRAPHICS FEATURES

- Integrated Intel GMA 4500
 - Supports 3D, 2D and video capabilities, DX10 and OpenGL 2.1
- Display ports: DVI-I (Chrontel CH7307C) and VGA

ONBOARD AUDIO FEATURES

- Realtek ALC262 2-channel High Definition Audio
- Two 24-bit stereo DACs and three 20-bit stereo ADCs
- S/PDIF audio interface

ONBOARD LAN FEATURES

- Two Realtek RTL8111C PCI Express Gigabit Ethernet controllers
- Supports 10Mbps, 100Mbps and 1Gbps data transmission
- IEEE 802.3 (10/100Mbps) and IEEE 802.3ab (1Gbps) compliant

SERIAL ATA (SATA) INTERFACE

- 6 SATA (Serial ATA) interfaces compliant with SATA 1.0 specification
- SATA speed up to 3Gb/s (SATA 2.0)
- Supports RAID 0/1/5/10

IDE INTERFACE

- Supports up to two IDE devices
- Supports Ultra ATA 133/100/66/33

BIOS

- Award BIOS
 - 8Mbit SPI BIOS

REAR PANEL I/O PORTS

- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 2 DB-9 RS232 serial ports
- 1 DVI-I port (DVI-D signal)
- 1 DB-15 VGA port
- 2 RJ45 LAN ports
- 4 USB 2.0/1.1 ports
- Mic-in, line-in and line-out

I/O CONNECTORS

- 4 connectors for 8 external USB 2.0/1.1 ports
- 2 connectors for 2 external RS232 serial ports
- 1 8-bit DIO connector
- 1 front audio connector for line-out and mic-in jacks
- 1 CD-in connector
- 1 S/PDIF connector
- 6 Serial ATA connectors
- 1 40-pin IDE connector
- 1 FDD connector
- 1 24-pin ATX power connector
- 1 4-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 3 fan connectors

ENERGY EFFICIENT DESIGN

- ACPI v3.0b specification
- System Power Management
- Wake-On-Events include:
 - Wake-On-PS/2 Keyboard/Mouse
 - Wake-On-USB Keyboard/Mouse
 - Wake-On-LAN
 - Wake-On-Ring
 - RTC timer to power-on the system
- AC power failure recovery

DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors CPU/DIMM/3.3V/5V/12V/Chipset Vcore/VBAT voltages and failure alarm
- Monitors CPU/system/2nd fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Watchdog timer function

POWER CONSUMPTION

- 120.22 W with Intel® Core™2 Quad Q9400 at 2.66GHz and 2x 1GB DDR3 DIMM

TEMPERATURE

- 0°C to 60°C

HUMIDITY

- 10% to 90%

DIMENSIONS

- ATX form factor
- 305mm (12") x 244mm (9.6")

CERTIFICATION

- CE
- FCC Class B
- UL
- RoHS

Packing List

- 1 EL630-NR motherboard
- 1 IDE cable
- 2 USB cables
- 2 Serial ATA data cables
- 2 Serial ATA power cables
- 1 COM port mounted on a bracket (2 pcs)
- 1 I/O shield
- 1 CD
- 1 QR (Quick Reference)

Optional Items

- USB port cable
- COM port cable
- Serial ATA data cable
- Serial ATA power cable
- I/O shield
- IDE cable