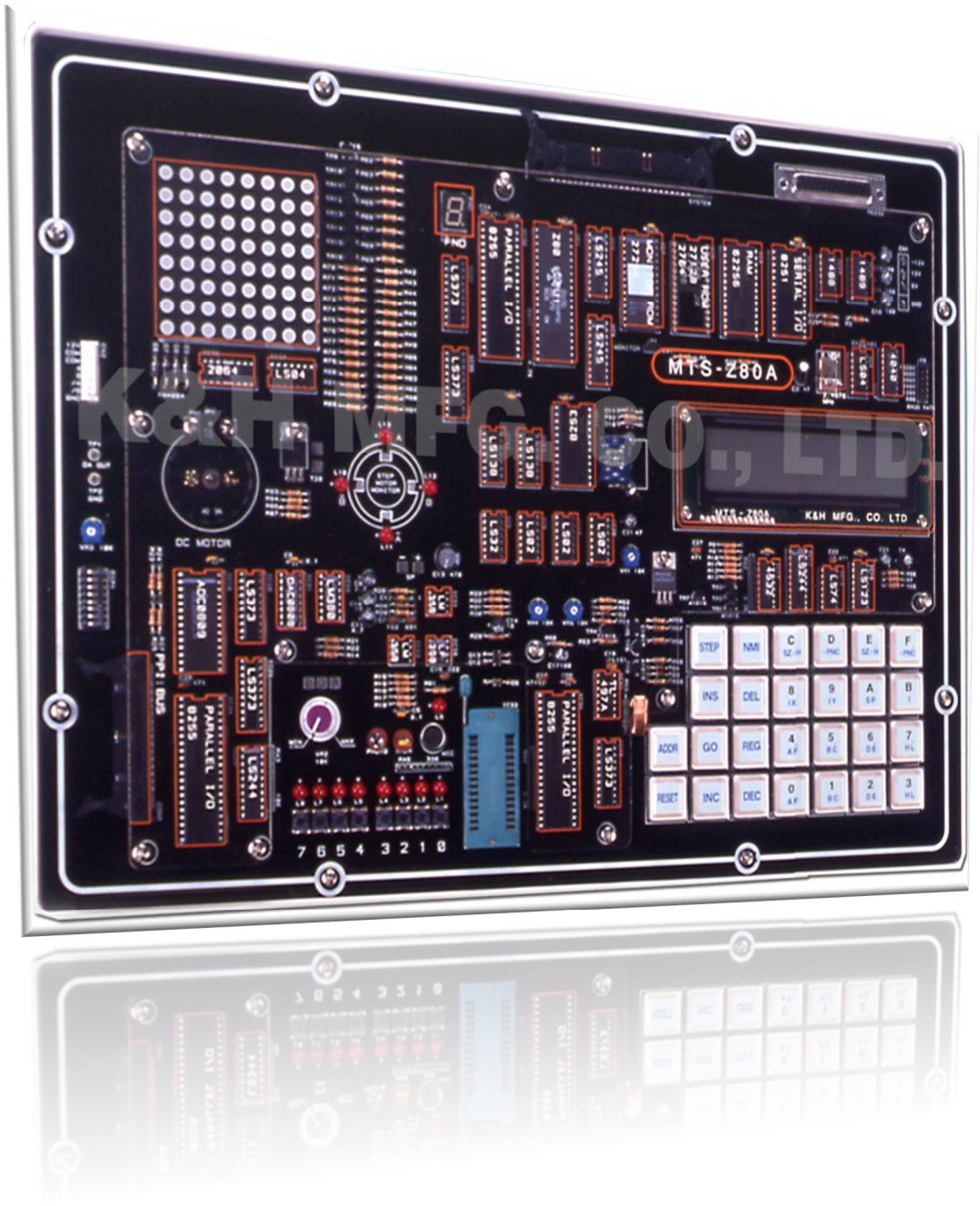
MICROCOMPUTING SYSTEMS



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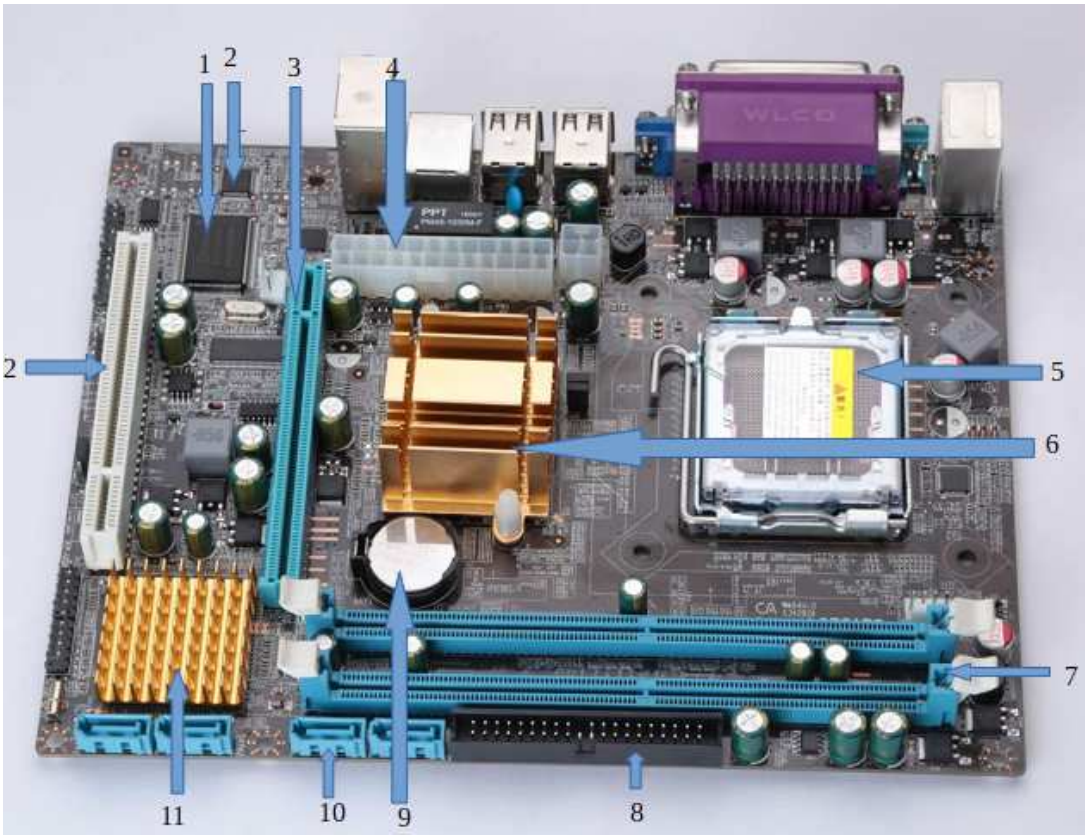
DW1E – 09-02-2022

1. **Identify all the different components you know in the following motherboards.**

Number 1



1.- Flash memory: is an electronic (solid-state) non-volatile computer storage medium that can be electrically erased and reprogrammed. It can keep stored data and information even when the power is off. The two main types of flash memory, NOR flash and NAND flash, are named for the NOR and NAND logic gates. NOR and NAND flash use the same cell design, consisting of floating gate MOSFETs.

2.- CMOS memory: Complementary metal-oxide-semiconductor (CMOS) is **a small amount of memory on a computer motherboard** that stores the Basic Input/Output System (BIOS) settings. The BIOS is the software stored on the memory chip on the motherboard.

3.- PCI Express x16: is a high-speed serial computer expansion bus standard, designed to replace the older PCI, PCI-X and AGP bus standards. It is the common motherboard interface for personal computers' graphics cards, hard disk drive host adapters, SSDs, Wi-Fi and Ethernet hardware connections.

4.- ATX Power Connector x24: is found on motherboards within a computer case. This connector provides power to cooling fans and is typically used on the fan that cools the CPU.

5.- CPU Socket: contains one or more mechanical components providing mechanical and electrical connections between a microprocessor and a printed circuit board (PCB). This allows for placing and replacing the central processing unit (CPU) without soldering.

6.- Northbridge: is the most important integrated circuit of the chipset (chipset) that constitutes the heart of the motherboard. ... Its main function is to control the operation of the processor bus, memory and AGP or PCI-Express port.

7.- RAM memory DDR Slots: Double Data Rate (DDR) memory is characterized by being able to perform two operations in each clock cycle, unlike SDR (Single Data Rate), which only perform a read or write operation.

8.- IDE connector (Parallel ATA): The ATA, P-ATA or PATA interface, originally known as IDE, is an interface standard for connecting mass data storage devices and optical disk drives that uses the ATA derived standard and the ATAPI standard.

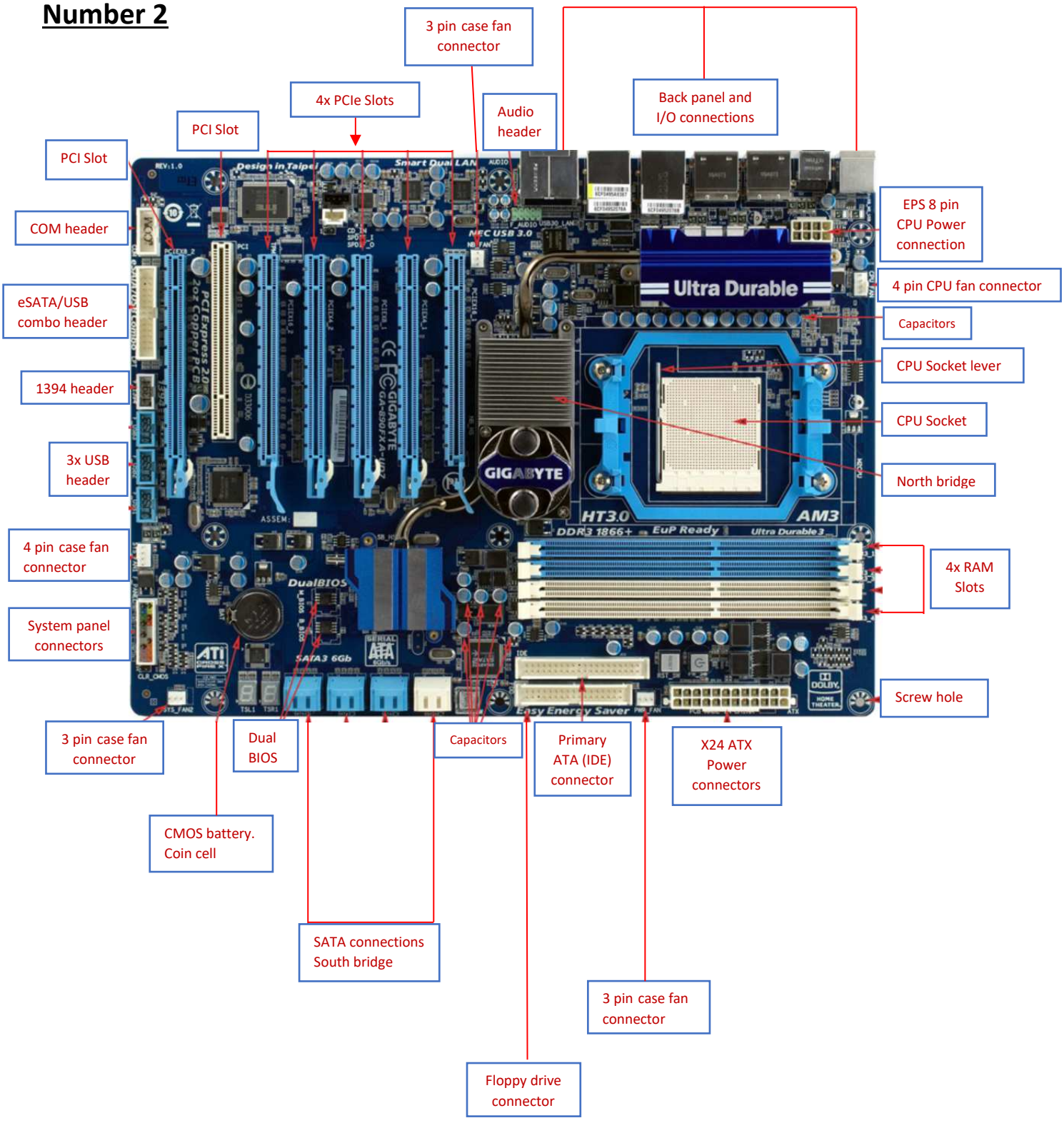
9.- CMOS Backup Battery: The BIOS is a computer chip on the motherboard composed of a CMOS battery, except that its purpose is to communicate between the microprocessor and other hardware components such as hard disk, solid state disk, USB ports, sound card, video card and many other components. A computer without a BIOS would not understand how these interconnected pieces of hardware could work together.

10.- Sata Connectors: This is a bus interface for transferring data between the motherboard and other components that you connect to it. Its use mostly targets connecting storage drives to the motherboard, such as various types of hard drives including SSD models, or disk drives like BluRay or DVDs.

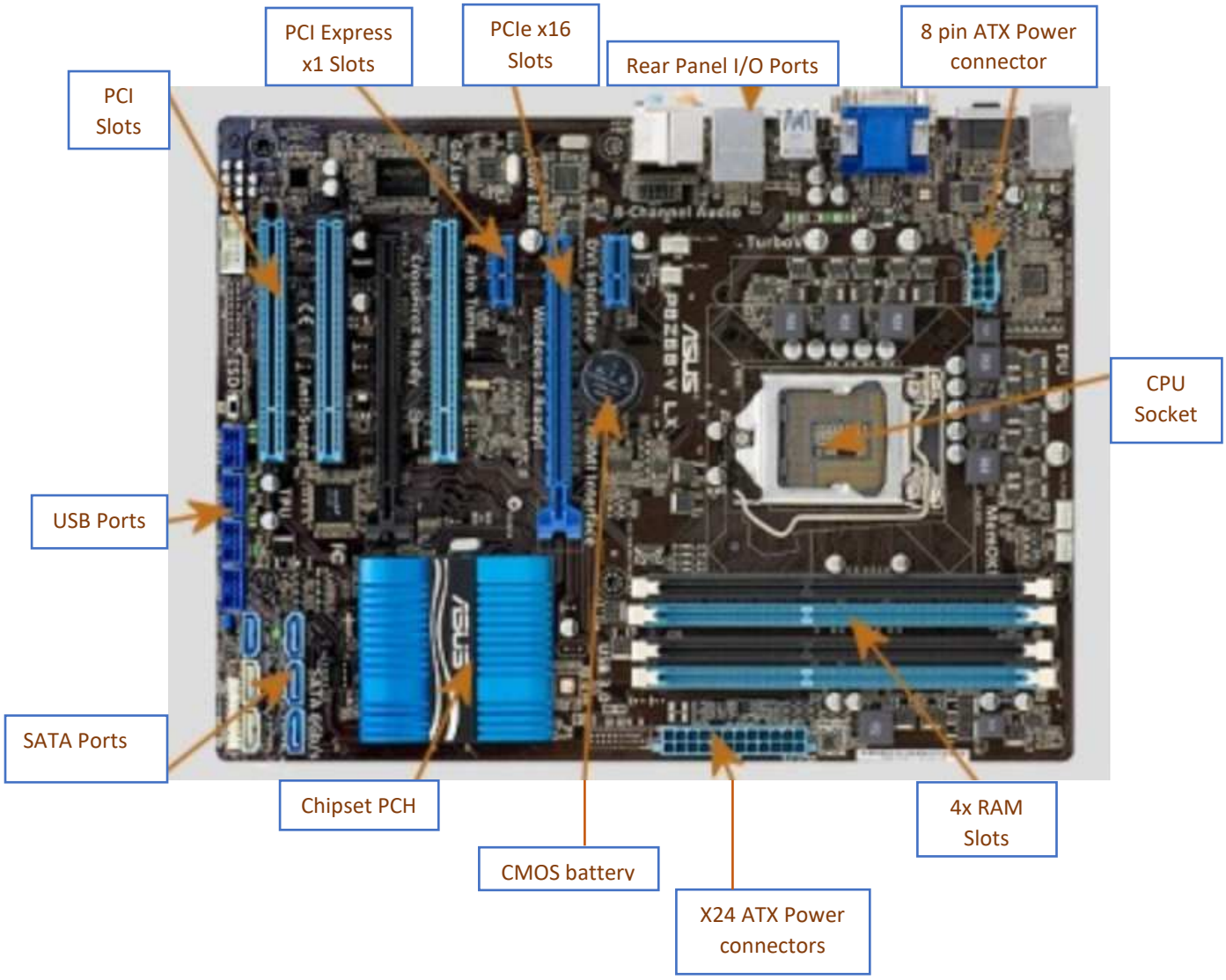
11.- Southbridge: The SouthBridge is actually a bridge to access other slower buses such as PCI, IDE, or USB to which the BIOS, mouse and keyboard controller, or serial and parallel ports are connected. The SouthBridge joins the NorthBridge using its own bus called the Hub Link.

12.- PCI: Peripheral Component Interconnect, or PCI, is a standard computer bus for connecting peripheral devices directly to the motherboard. These devices can be integrated circuits adjusted in this or expansion cards that fit into connectors.

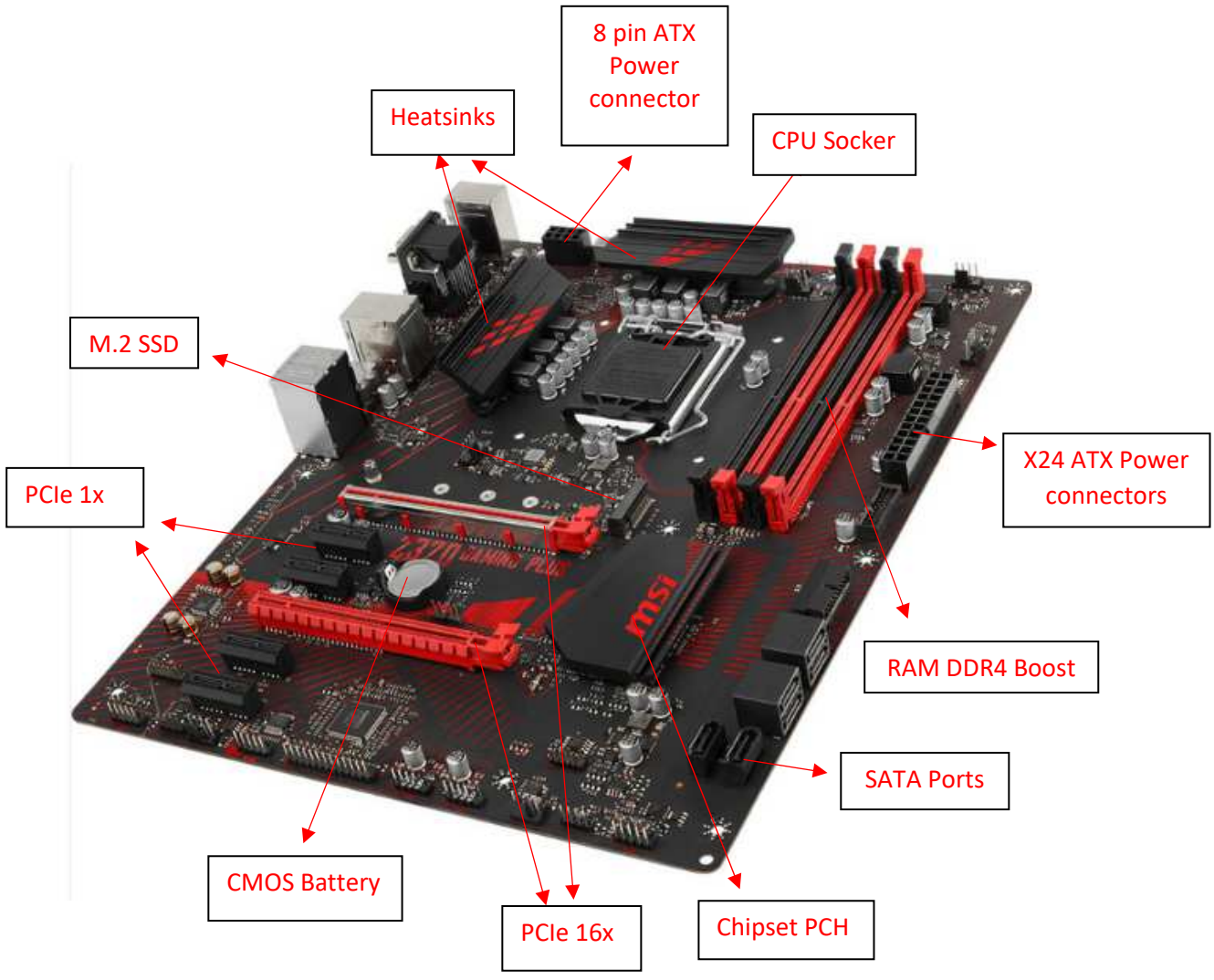
Number 2


3 pin case fan connector
4x PCIe Slots
Audio header
Back panel and I/O connections
PCI Slot
PCI Slot
COM header
eSATA/USB combo header
1394 header
3x USB header
4 pin case fan connector
System panel connectors
3 pin case fan connector
Dual BIOS
CMOS battery. Coin cell
SATA connections South bridge
Capacitors
Primary ATA (IDE) connector
Floppy drive connector
X24 ATX Power connectors
3 pin case fan connector
Screw hole
4x RAM Slots
EPS 8 pin CPU Power connection
4 pin CPU fan connector
Capacitors
CPU Socket lever
CPU Socket
North bridge
Ultra Durable
GIGABYTE
DualBIOS
HT3.0
AM3
DDR3 1866+
EuP Ready
Ultra Durable 3
Smart Dual LAN
NEC USB 3.0
SATA3 6Gb
Easy Energy Saver

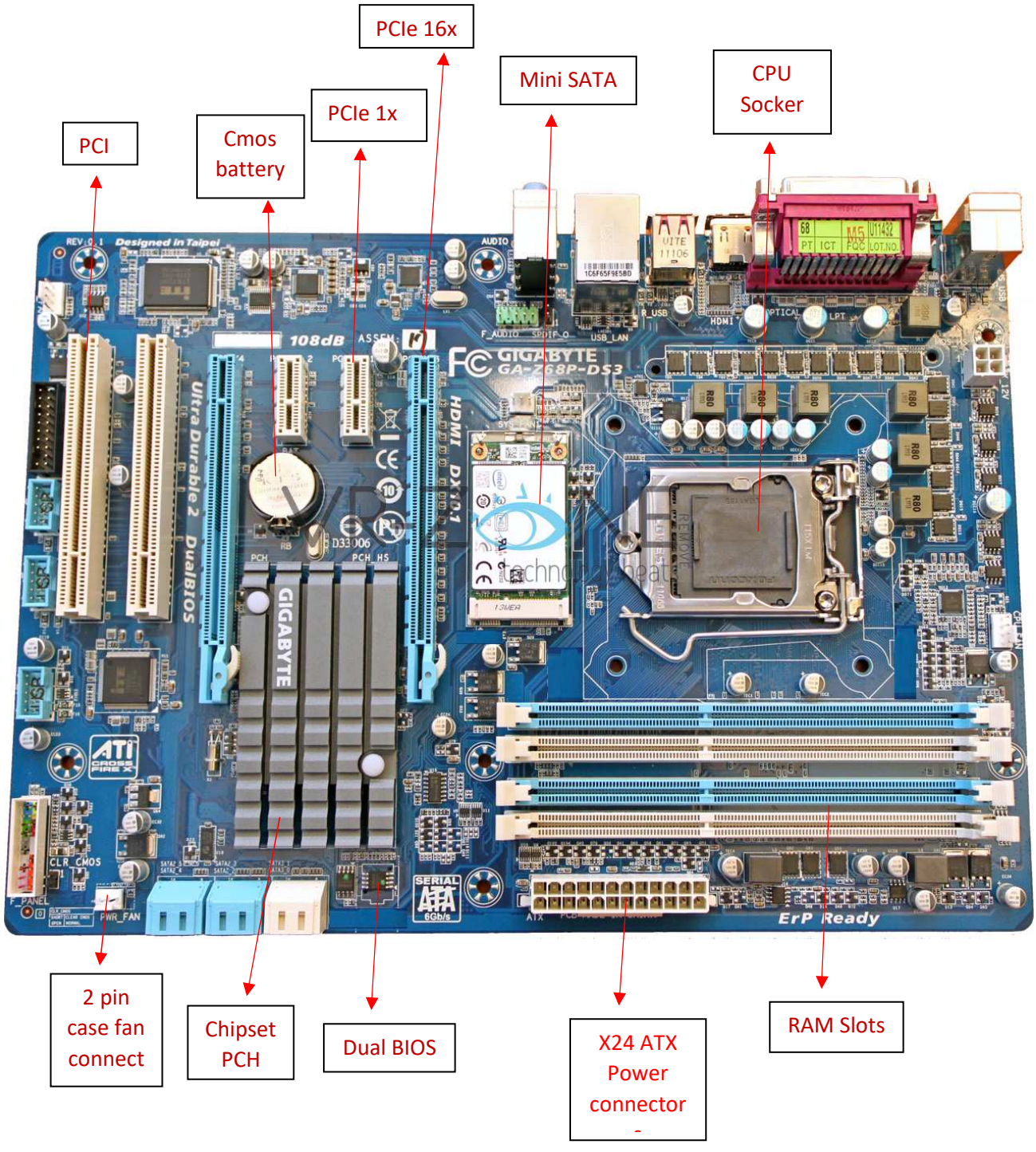
Number 3


PCI Express x1 Slots
PCIe x16 Slots
Rear Panel I/O Ports
8 pin ATX Power connector
PCI Slots
CPU Socket
USB Ports
SATA Ports
Chipset PCH
CMOS battery
X24 ATX Power connectors
4x RAM Slots

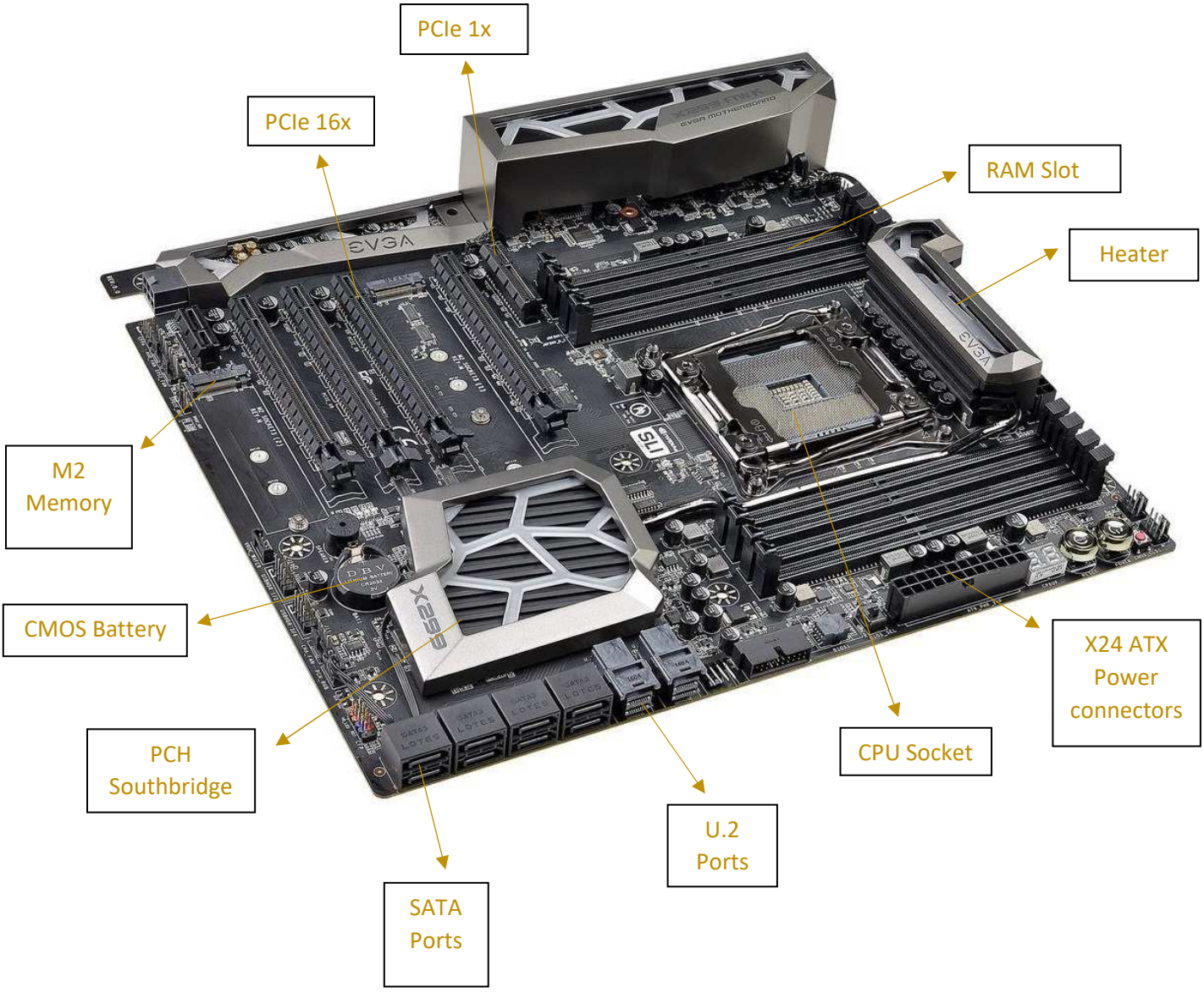
Number 4


8 pin ATX Power connector
Heatsinks
CPU Socker
M.2 SSD
X24 ATX Power connectors
PCIe 1x
RAM DDR4 Boost
SATA Ports
CMOS Battery
PCIe 16x
Chipset PCH

Number 5

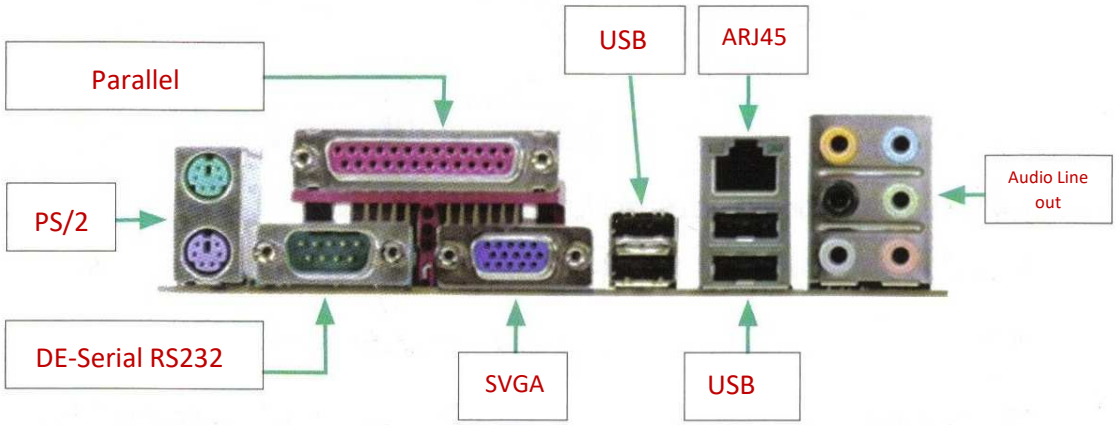

PCIe 16x
Mini SATA
CPU Socker
PCIe 1x
PCI
Cmos battery
2 pin case fan connect
Chipset PCH
Dual BIOS
X24 ATX Power connector
RAM Slots

Number 6

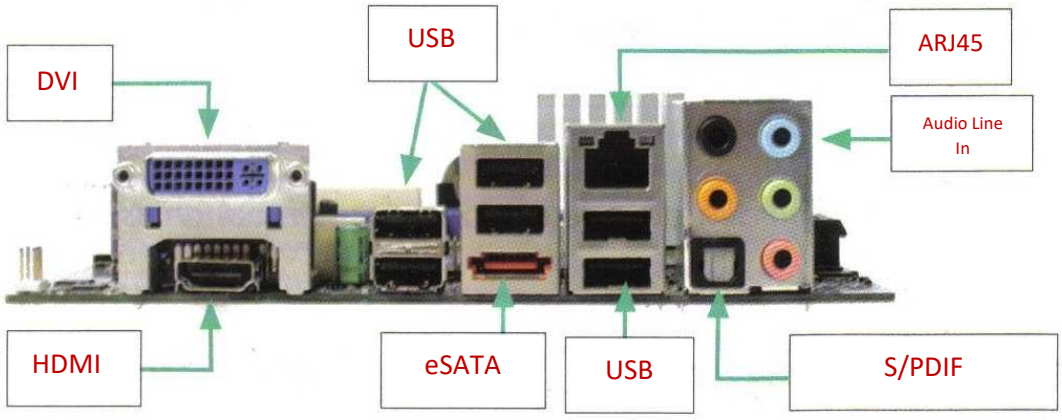

PCIe 1x
PCIe 16x
RAM Slot
Heater
M2 Memory
CMOS Battery
PCH Southbridge
SATA Ports
U.2 Ports
CPU Socket
X24 ATX Power connectors

2. Identify the external connectors in the following pictures

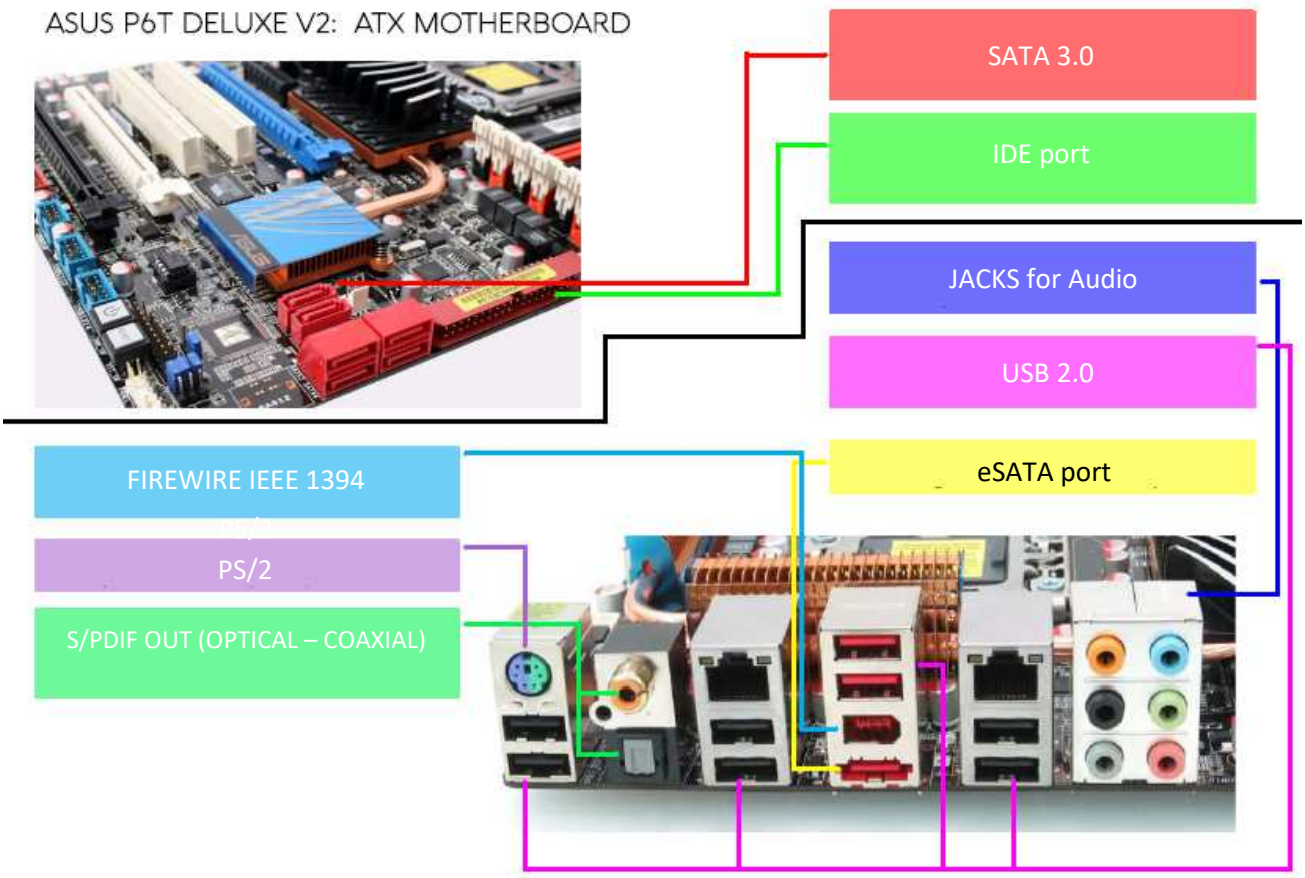
Number 1



Number 2



Number 3



Number 4