



Unit 1

Raspberry Pi

Introduction

- *A single-board computer.*
- *The Raspberry Pi is a credit-card sized computer that plugs into your TV and a keyboard.*
- *Created by **Raspberry Pi Foundation***
- *launched in 2012, and there have been several iterations and variations released since then.*
- *All the components that make up a computer, such as the processor, memory, and graphics chip, are all soldered to a single circuit board.*
- *There are also no integrated peripheral devices.*

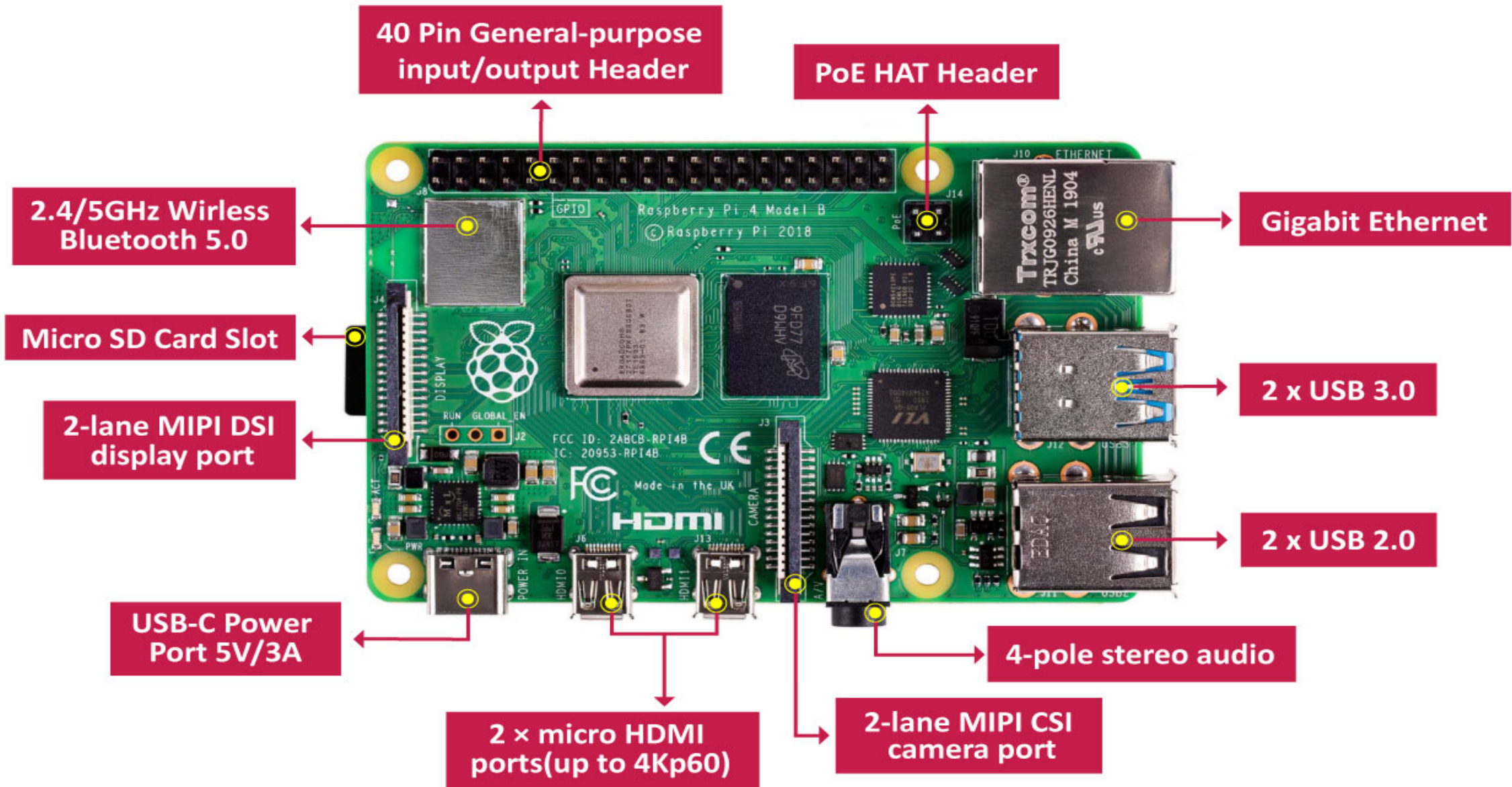
Arduino

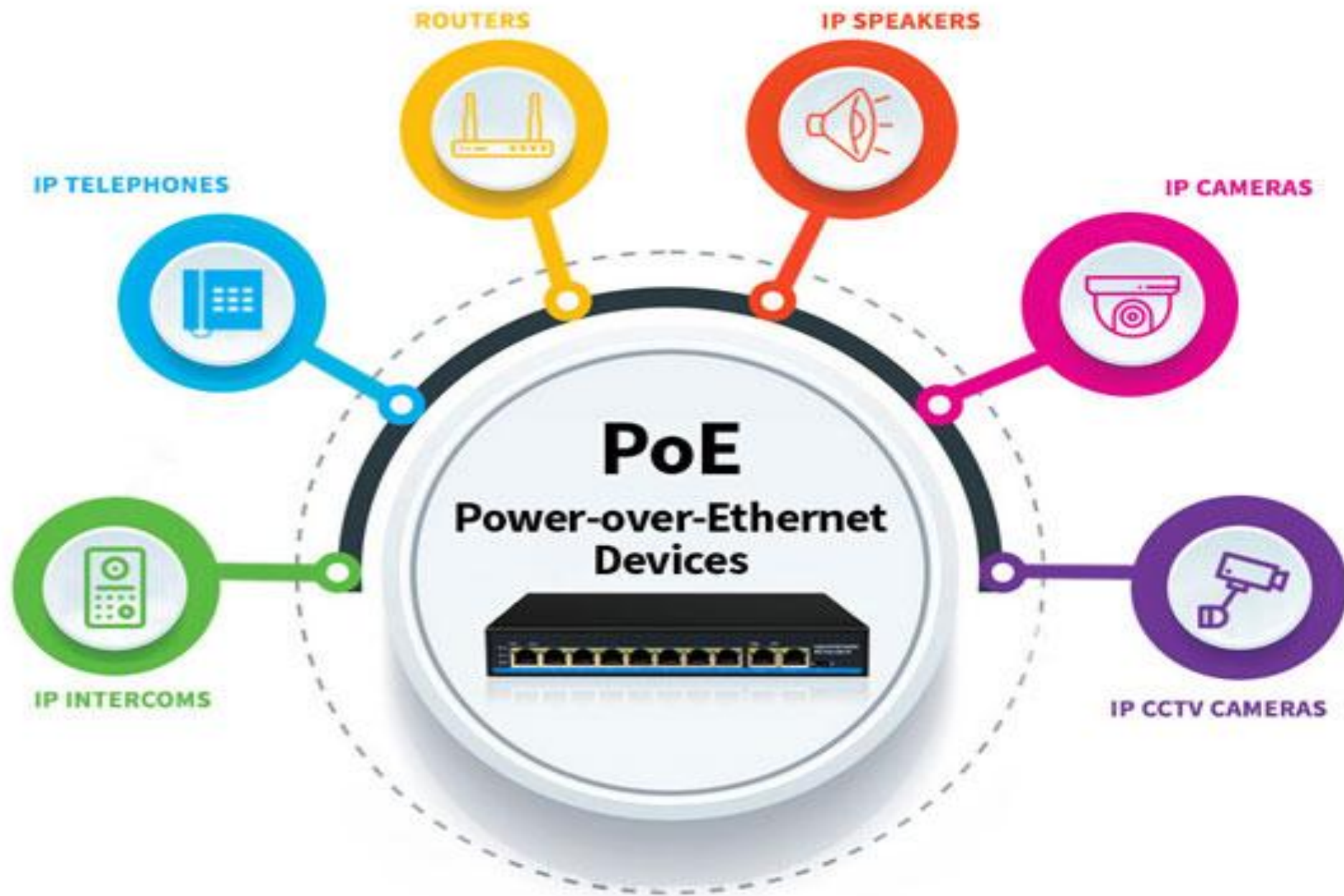
- *Microcontroller*
- *16MHz clock frequency*
- *CPU architecture: 8 bit*
- *Computer required*
- *1 USB port*
- *Cannot connect with keyboard , mouse*
- *Storage upto 32kb*
- *Less cost (around Rs. 400 – 600)*
- *C,C++*
- *Control unit is from Atmega family.*
- *consumes about 200 MW of power.*

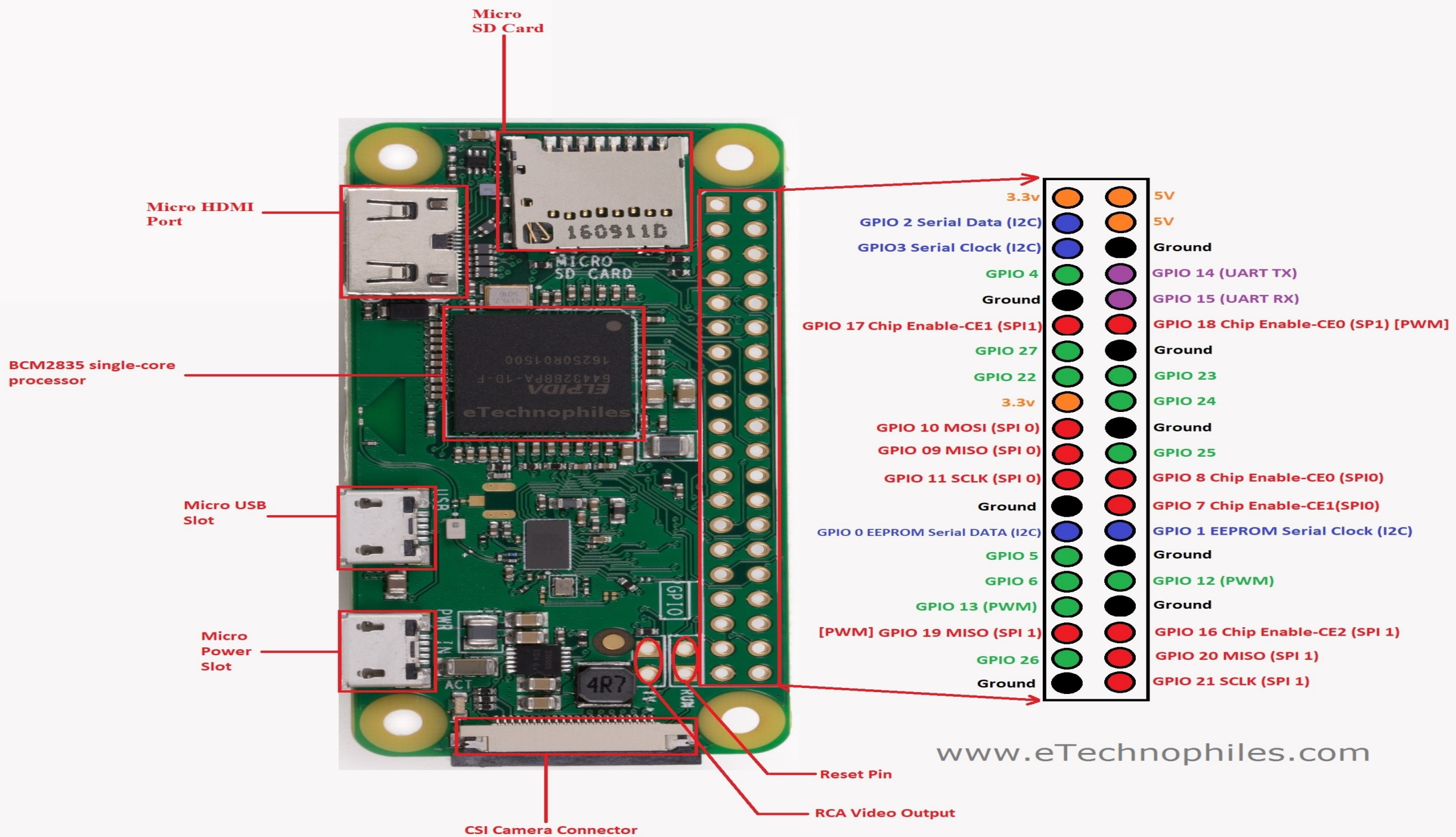
Raspberry Pi

- *Mini computer (OS – Raspbian)*
- *1GHz clock frequency or more.*
- *CPU architecture: 64 bit*
- *Computer not required*
- *4 USB Port*
- *Can connect keyboard mouse*
- *Supports upto 128GB or more(external SD card)*
- *Costly (around Rs. 3k – 5k)*
- *Python, C, C++, Java, Ruby, etc.*
- *control unit is from ARM family.*
- *consumes about 700 MW of power.*









Raspberry Pi Platform	RAM	Processor	USB	Ethernet	Wi-Fi	Bluetooth	HDMI	Other Video	Micro SD
Raspberry Pi A+	512MB	700 MHz ARM11	1 Port	-	-	-	Yes	DSI, Composite	Yes
Raspberry Pi B +	512MB	700 MHz ARM11	4 Ports	10/100Mbps	-	-	Yes	DSI, Composite	Yes
Raspberry Pi 2 B	1GB	900 MHz Quad-Core ARM Cortex-A7	4 Ports	10/100Mbps	-	-	Yes	DSI, Composite	Yes
Raspberry Pi 3 B	1GB	1.2 GHz, Quad-Core 64-bit ARM Cortex A53	4 Ports	10/100Mbps	802.11n	4.1	Yes	DSI, Composite	Yes
Raspberry Pi 3 B+	1GB	1.4 GHz 64-bit ARM Cortex A53	4 Ports	300/Mbps/PoE	802.11a	4.2	Yes	DSI, Composite	Yes
Raspberry Pi Zero	512MB	1 GHz single-core ARM11	1 Micro USB	-	-	-	Mini-HDMI	-	Yes
Raspberry Pi Zero W	512MB	1 GHz single-core ARM11	1 Micro USB	-	802.11	4.1	Mini-HDMI	-	Yes