

Here's a comparison between the **ASUS Phoenix Radeon RX 550 4GB DDR5 Evo** and the **MSI GeForce GT 1030 4GD4 LP OC 4GB GDDR4** graphics cards:

1. Architecture

- **Radeon RX 550:** Based on AMD's **Polaris architecture** (14nm), which is optimized for gaming and **multimedia tasks**.
- **GeForce GT 1030:** Based on NVIDIA's **Pascal architecture** (16nm), which is efficient but designed for **entry-level tasks** like basic gaming and media consumption.

2. Memory Type

- **RX 550: 4GB GDDR5** memory, which **has a faster data transfer rate compared to GDDR4**.
- **GT 1030: 4GB GDDR4** memory, which is **slower than GDDR5**, impacting performance in games and more demanding tasks.

3. Performance in Games

- **RX 550:** Offers better performance in gaming due to faster memory (GDDR5) **and higher processing power**. It can handle games at 1080p with medium to low settings for many modern titles.
- **GT 1030:** A more basic card, **suitable for light gaming** at 720p or 1080p **with lower settings**. Its **slower GDDR4 memory and fewer CUDA cores** mean it's not ideal for modern AAA titles.

4. Clock Speeds

- **RX 550:** Base clock speed around **1100–1200 MHz**, depending on the manufacturer.
- **GT 1030:** Base clock speed around **1252 MHz**, but due to architectural differences and slower memory, it still underperforms compared to the RX 550.

5. CUDA Cores / Stream Processors

- **RX 550:** Has **512 stream processors** (AMD's equivalent to CUDA cores).
- **GT 1030:** Has **384 CUDA cores**. Fewer CUDA cores mean less parallel processing power, which impacts gaming and graphics-heavy applications.

6. Power Consumption

- **RX 550:** TDP (Thermal Design Power) of around **50W**, making it power-efficient but slightly more demanding than the GT 1030.
- **GT 1030:** TDP of around **30W**, meaning it requires less power and can run on systems with lower wattage power supplies.

7. DirectX and API Support

- **RX 550**: Supports **DirectX 12**, **OpenGL 4.5**, and **Vulkan**, which helps with better gaming performance in modern titles.
- **GT 1030**: Supports **DirectX 12**, **OpenGL 4.6**, but lacks support for Vulkan, which can make it less future-proof for certain games.

8. Ports

- **RX 550**: Typically comes with **DisplayPort, HDMI, and DVI** output options, making it more versatile for multi-monitor setups.
- **GT 1030**: Often comes with **HDMI and DVI** outputs but lacks DisplayPort, which could be a downside for some users.

9. Price and Use Case

- **RX 550**: Slightly more expensive but offers better performance in gaming, multitasking, and some content creation (video editing, 3D rendering, etc.).
- **GT 1030**: Cheaper and more suitable for casual users who need to upgrade from integrated graphics for light gaming, media consumption, or general use.

Conclusion:

- If you're focused on gaming or handling more graphically demanding tasks, the **Radeon RX 550** would provide a better experience due to its faster memory (GDDR5) and more powerful architecture.
- If you're more budget-conscious and only need a basic graphics card for light gaming, video playback, or basic tasks, the **GeForce GT 1030** is more than sufficient. However, the GDDR4 variant of the GT 1030 is less capable compared to other cards in its class.

For gaming and performance, the **RX 550** is a clear winner, but for general usage and low-power needs, the **GT 1030** could be more appropriate.