

# Sapphire Nitro+ RX 470 8GD5 (UEFI) SKU number: 11256-14

# SAPPHIRE



## SPECIFICATION

- GPU: AMD Radeon **RX 470** Graphics
- Stream Processors: Up to **2048** unit
- Compute Units: **32**
- Boost Clock: Up to **1216** MHz
- Base Clock: **1121** MHz
- Memory Clock: Up to **1750** MHz , Effective **7000**Mbps
- Memory Type: **8192**MB
- Bus Interface: PCI-E 3.0 x 16
- HDCP support: Yes
- Firmware: **Dual UEFI** BIOS
- External Power: PCIe Graphic External **1 x 8** pin
- Cooling System: Dual slot, **Dual Fan**
- Bracket: Full Height
- Software: Driver DVD
- Crossfire Support: Crossfire up to 2 GPUs (Bridgeless)

## SYSTEM REQUIREMENTS

- PCI Express® based PC is required with one X16 lane graphics slot available on the motherboard.
- NOTE: Minimum recommended system power supply wattage is based on the specific graphics card and the typical power requirements of other system components. Your system may require more or less power.
  - **500W** (or greater) power supply with minimum **one PCIE 8 pin** power connector is required.
- OEM and other pre-assembled PCs may have different power requirements.
- Minimum 4GB of system memory. Recommended 8GB.
- Installation software requires a keyboard, a mouse, and a display.
- DVD playback requires DVD drive and a DVD.
- A display with digital input (HDMI™ or DisplayPort) is required.
- Blu-ray™ playback requires Blu-ray drive a
- Supported operating systems include Windows® 10, and Windows® 7.
- 64-bit operating system required.

## PRODUCT FEATURES

- **Sapphire Dual-X** Cooling Technology
- FinFET 14 Technology
- Microsoft DirectX® 12 Support (DirectX®12 OPTIMIZED)
- 4th GCN Architecture (Powered by Polaris Architecture)
- Vulkan™ API support
- Virtual Super Resolution (VSR)
- AMD FreeSync™ Technology
- AMD Eyefinity
- OpenGL® 4.5 support
- OpenCL™ Support
- XConnect Support
- HDMI™ 2.0b / Display Port 1.4 (DisplayPort 1.2 Certified, DisplayPort 1.3/1.4 Ready)
- Dolby® TrueHD and DTS-HD Master Audio™ Support
- AMD TrueAudio™ Next Technology
- Frame Rate Target Control (FRTC)



## DIMENSION:

- **240(L)x 125(W)x 41 (H)**mm
- **5** x Maximum Display Monitors support
- **2 x DP / 2 x HDMI / 1 x DVI-D**

## ACCESSORIES

- NA

## MAXIMUM DISPLAY RESOLUTION

- HDMI 2.0: 3840x2160p (60 Hz)
- DisplayPort 1.4: 3840x2160 (120Hz)
- DL-DVI-D: 2560x1600 (60Hz)



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## Cooling System (Dual-X Cooling)

Cooling Fan	95mm x 2 Dual Ball Bearing Quick Connect Support
Cooling Module	8mm Heat-Pipe x2 + 6mm Heat-Pipe x1
NITRO Back-Plate	Yes



## Board Design

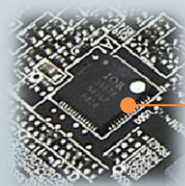
Power Design	4 VDDC + 1VDDCI + 1MVDD IR3567B Controller IC+ PowerStage integrated Mosfet
PCB Layer	8 Layers
RGB LED	Yes
External Power Connector	PCI-Express x 8 pin power connector
Product Positioning	Faster Than RX 480 MBA, 10% Faster than GTX 970

## NITRO Boost settings(Default)

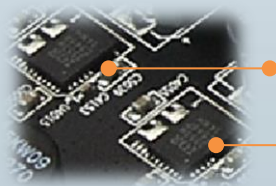
Engine Clock	Boost Clock 1216 MHz / Base Clock 1121 MHz
Memory Clock	1750 MHz, 7.0 Gbps
Target GPU Temperature	75°C
Fan Speed	Nominal 0~2200 RPM / Maximum 3200 RPM

## Silent Mode Settings

Engine Clock	Boost Clock 1206 MHz / Base Clock 926 MHz
Memory Clock	1750 MHz, 7.0 Gbps
Target GPU Temperature	75°C
Fan Speed	Nominal 0~1900 RPM / Maximum 3200 RPM



IR3567B



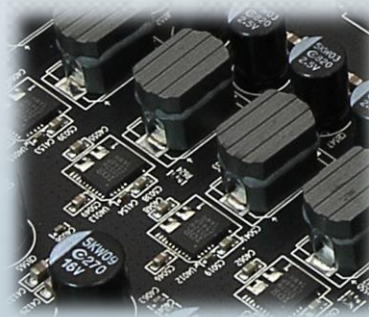
PowerStage

## Dual-X Cooling

SAPPHIRE's acclaimed Dual-X Cooling is powered by two massive yet silent fans and state-of-the-art radiator design. The new form of our 95mm blades mean greater airflow and superior heatsink coverage at lower noise compared to standard cooling designs. These feature dual ball bearing fans, which have an 85% longer lifespan than sleeve bearings in our tests. The improvements to the fan blades means the solution is up to 10% quieter than the previous generation.

## NITRO Boost

The new NITRO Boost switch increases the boost clock and power limit for higher performance to unleash the gaming performance of the card. Planning to overclock or looking for maximum performance? SAPPHIRE NITRO cards come with an 8 pin power connector to plug in and enable Nitro Boost.



## Black Diamond 4th Chokes

Our Black Diamond Chokes are 10% cooler and 25% more power efficient than a normal choke - and these Mark 4 Chokes reduce the coil temperatures by other 15% over the Mark 3s. These exclusive chokes will maintain gaming stability using their built-in heatsinks and help minimize coil whine.



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### Fan Check

Fan Check allows users to check the cooler's status and immediately contact customer support through Fan Service in case of problems.



### Quick Connect

If there's a fan problem, you don't have to return the entire card – SAPHIRE or our channel partners will send out a replacement fan directly to you!



### NITRO Cool Tech

With the SAPHIRE NITRO Gaming Series cards' Intelligent Fan Control III, the fan starts precisely at 52 degrees Celsius to smartly balance performance against fan noise.

### NITRO Free Flow

We looked at the traditional axial fan design system, and found that the way it circulates the hot air back to the fan inlet resulted in a higher temperature over time. With NITRO Free Flow we redesigned the airflow of the entire cooler and board, so that the hot air is expelled through the system fan instead, rapidly dissipating heat.

### VR Friendly

The SAPHIRE NITRO Gaming Series cards come with Dual HDMI ports, specifically designed to work with VR. By having two HDMI ports, you can have both an HD monitor and cutting-edge VR headset running at the same time.

The ports are HDMI 2.0b, the latest update, with an 18Gbps bandwidth, up to 32 audio channels, and is able to support 4K 50/60 resolutions like 2160P, whilst remaining entirely backwards compatible with older HDMI specifications.



### NITRO Glow

The graphics card is more than another component; it's the beating heart of your gaming system. It should look as good as it costs. With tasteful shroud design augmented by RGB LEDs, each card is practically a piece of art. You can even change the colors of the LED, for your own customized design. This can be controlled via software using the latest version of SAPHIRE's Award Winning Overclocking Utility - **TriXX 3.0**, or through hardware by pressing the red button on the back of your SAPHIRE NITRO Gaming Series card. Users can choose from a set of five different modes including Fan Speed Mode, PCB Temperature Mode or the colorful rainbow mode. If you prefer, LEDs can also be turned off.



Modes	Function/State	Note
SAPHIRE Corporate Blue	Static blue	default
Rainbow	Random colors	
PCB Temperature Indicator	< = 60 °C slow breathing blue(6 secs) ; > 60°C <70 °C mid-slow breathing light purple(3 secs) > 70°C <80°C mid-slow breathing deep purple(3 secs) > 80°C faster breathing red (2 secs)	
Fan Speeds	0 ~ 200rpm slow breathing blue(6 secs) > 201 < 1000rpm mid-slow breathing light purple(3 secs) > 1001 <1500rpm mid-slow breathing deep purple(3 secs) > 1501rpm faster breathing red (2 secs)	
Customized LEDs	End user can customize the color. Static State.	Control by New TriXX
LEDs off		



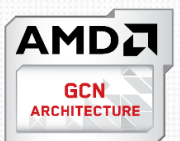
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## Ready for AMD XConnect™ Technology

Should a PC gamer on the go buy a gaming notebook that's tough to carry, or a thin notebook that's tough to game on? AMD XConnect™ unlocks the best of both worlds on systems designed for Thunderbolt™ 3 eGFX enclosures—an ideal form factor for fast and efficient Polaris-powered GPUs.



## AMD 4th GCN Architecture

4th Gen GCN Architecture for AMD's unified graphics processing and compute cores features enhanced shader performance, a new Geometry Engine, and new memory compression technology that allows for improved performance and efficiency.



## AMD FreeSync™ Technology

AMD FreeSync™ technology in select AMD APU and GPU synchronizes the update rate of a monitor to your favorite game, eliminating tears and choppiness for effortlessly smooth gameplay.



## AMD Eyefinity Technology

Expand your territory and customize your field of vision. Connect up to six displays on a single GPU for dynamic, panoramic multi-screen gaming.



## AMD CrossFire™

Multi-GPU support offers superior scalability. AMD CrossFire™ technology enables a bridgeless AMD CrossFire multi-GPU configuration.



## AMD TrueAudio™ Next Technology

A revolutionary audio processing environment utilizing the 4th Generation GCN compute units to create the most realistic 3D surround environments for VR gaming.



## Virtual Super Resolution (VSR)

VSR automatically re-renders games at higher resolutions (up to 4K-quality) and then dynamically rescales them for HD displays at higher quality and details.



## Microsoft DirectX® 12 Support

RADEON™ RX 400 Series Graphics fully support Microsoft® DirectX® 12, with the following enhancements:

- Faster Tessellation
- Tiled Resources: Support for massive virtual textures, enabling dynamic loading of tiles into graphics RAM for expansive game world details.

## DirectX® 12 OPTIMIZED

AMD's key advantage of Async Shaders bring increased levels of utilization for graphics, compute, and memory workloads to ensure your games don't miss a beat.

## Powered by Polaris Architecture

Radeon™ RX graphics cards feature the latest Polaris architecture which includes the 4th Gen GCN graphics cores, a brand new display engine, new multimedia cores, all on the revolutionary FinFET 14 process technology for enhanced performance and efficiency.

## Dolby® TrueHD and DTS-HD Master Audio™ Support

Support of content-protected, high-bandwidth, 7.1 channels of surround sound over HDMI™ and DisplayPort.

*NOTE: Receiver or HDTV that supports these audio formats required.*

## FinFET 14

The FinFet 14 process technology puts more transistors in less space, enabling dramatic increases in processing power and power efficiency.

## Frame Rate Target Control (FRTC)

Allows users to set a frame rate target when playing an application; the benefit being that users can reduce GPU power consumption (great for games running at frame rates much higher than the display refresh rate).

## Vulkan™

Next generation multi-platform API enables improved graphics and fluid visuals for next generation gaming