SAPPHIRE NITRO+ Radeon RX 590 8GD5 (AMD 50TH ANNIVERSARY EDITION)- SKU number: **11289-07**

SPECIFICATIONS

- GPU: AMD Radeon RX 590 Graphics
- Stream Processors: Up to 2304 unit
- Compute Units: 36
- Boost Core Clock: Up to 1560 MHz
- Memory Clock: Up to 2100 MHz , Effective 8400 Mbps
- Memory Size: 8192 MB
- Memory Bus: 256 bit
- Firmware: Dual UEFI BIOS
- Form Factor: 2.2 slot, ATX
- Cooler Fan: Dual Fan, 95mm, Dual Ball Bearing
- Cooling Module: 8mm x2 + 6mm x2 Heat-pipes
- Back-Plate: Yes
- Power Design: 6 Phase VDDC
- PCB Layers: 8 Layers
- External Power: 1 x 8p + 1 x 6p

SYSTEM REQUIREMENTS

- PCI Express® compliant motherboard with one x16 graphics slot.
- 500W (or greater) power supply with minimum one PCIE 8 pin and one PCIE 6 pin power connector is required.
- Minimum 4GB of system memory. Recommended 8GB.
- Supported operating systems include Windows® 10, and Windows® 7.
- 64-bit operating system required.
- See amd.com / VR ready for more information.

FEATURES – SAPPHIRE NITRO+

- SAPPHIRE Dual-X Cooling Technology
- Intelligent Fan Control III
- Precision Fan Control
- Fuse Protection
- Long-life Capacitor
- Tri-XX Supported
- Black Diamond Choke 4th
- Quick Connect Fan

FEATURES – AMD RADEON

- AMD LiquidVR™ Technology (Radeon VR Ready Premium)
- HDR Ready
- DirectX® 12 Optimized
- Vulkan® Optimized
- Radeon Freesync™ 2 Ready
- Next Gen FinFET 12 Technology
- 4th Generation GCN Architecture
- OpenGL® 4.5 support
- OpenCL™ Support
- HDMI™ 4K60 / Display Port 1.4
- AMD Eyefinity technology
- AMD CrossFire™ technology (bridgeless) **up to 2 GPUs'**
- Radeon XConnect™ technology
- Compatible with AMD and Intel Platforms

DIMENSION:

- 260 (L) x 135 (W) x 43 (H) mm
- 5 x Maximum Display Monitors support
- 2 x DP / 2 x HDMI / 1 x DVI-D

ACCESSORIES

- Driver DVD

MAXIMUM DISPLAY RESOLUTION

- HDMI: 4096 × 2160 @ 60Hz
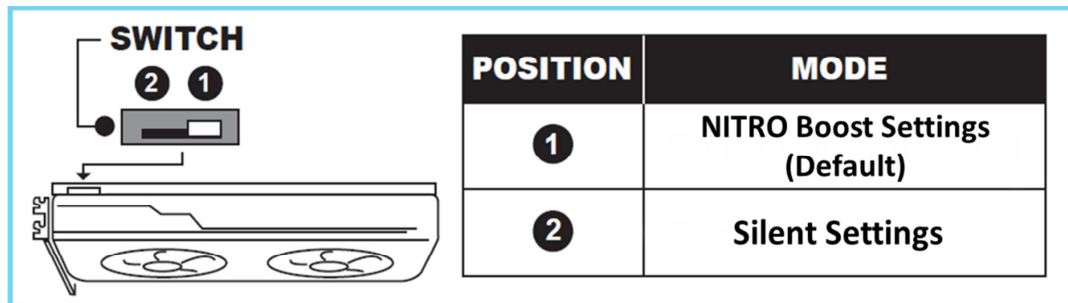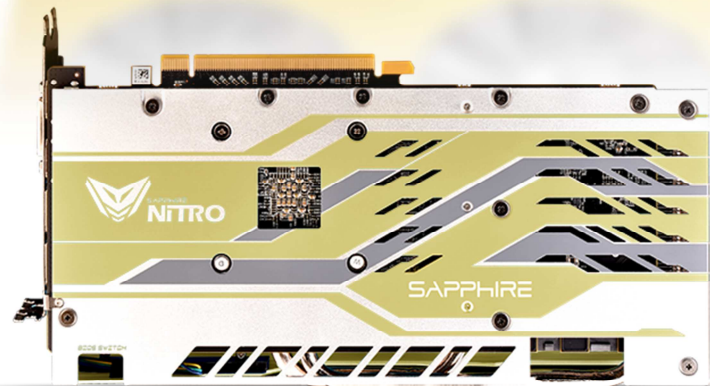- DisplayPort 1.4: 5120 × 2880 @ 60Hz
- DL-DVI-D: 2560×1600@60Hz

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NITRO Boost Settings (Default)	
Engine Clock	Boost Clock 1560 MHz
Memory Clock	2100 MHz, 8.4 GBPs
Target GPU Temperature	75℃ / Fan Start 54℃ / Fan Stop46℃
Fan Speed	Nominal 0~2280 RPM / Maximum 3200 RPM
Silent Settings	
Engine Clock	Boost Clock 1545 MHz
Memory Clock	2000 MHz, 8.0 Gbps
Target GPU Temperature	75℃ / Fan Start 54℃ / Fan Stop46℃
Fan Speed	Nominal 0~2280 RPM / Maximum 3200 RPM

POSITION	MODE
❶	NITRO Boost Settings (Default)
❷	Silent Settings

SWITCH
❷ ❶

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Black Diamond 4th Chokes

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

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.

Fuse Protection

In order to protect your card, the SAPPHIRE NITRO+ series cards have fuse protection built into the circuit of the external PCI-E power connector to keep the components safe.

New Tri-XX

New Tri-XX adds two new gaming modes: Power and Stealth. In Power mode Tri-XX relaxes the power limit so that you get the best possible performance with no compromise – ideal for those must win situations.

Quick Connect

If there's a fan problem, you don't have to return the entire card. SAPPHIRE or our channel partners will send out a replacement fan directly to you! All the SAPPHIRE NITRO + Radeon RX590 fans use our **Quick Connect** system. That means they're easy to remove, clean and replace, with just one screw holding them securely in place.

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NITRO Cool Tech - Precision fan control

Standard industry fans may have up to 10% difference between their fan rotation cycles (RPM). With the new Fan IC Control on SAPPHIRE NITRO + graphics cards, this differential is reduced to 3%. This 70% improvement on accuracy ensures that cooling and noise performance of every NITRO + card is up to scratch.

VR Friendly

The SAPPHIRE 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

NITRO Cool Tech - Intelligent Fan Control III

With the SAPPHIRE NITRO Gaming Series cards' **Intelligent Fan Control III**, the fan starts precisely at **54** degrees Celsius to smartly balance performance against fan noise.

NITRO Cool Tech - Robust VRM Cooling

The SAPPHIRE NITRO+ cards are designed with robust VRM cooling and have a high thermal conductivity pad on the back-plate to take away the heat efficiently and effectively.

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? SAPPHRE NITRO cards come with an 8 pin power connector to plug in and enable Nitro Boost.

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.

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 # The LED color is "White" at default setting in RX590 AMD 50th Anniversary Edition.

SAPPHIRE Corporate Blue	Static blue (Default Mode)
Rainbow	Random colors
PCB Temperature Indicator	< = 60 ℃ slow breathing blue(6 secs) ; ↓ > 60℃ <70 ℃ mid-slow breathing light purple(3 secs) ;↓ > 70℃ < 80℃ mid-slow breathing deep purple(3 secs) ;↓ > 80℃ 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.
LEDs off	

SAPPHIRE NITRO+ Series

Designed from the ground up, we've crammed in everything you need to truly maximize your gaming experience. The SAPPHIRE NITRO+ series features the highest performing latest technology: cherry-picked, limited edition cores, two Tri-XX gaming modes, the very best cooling technologies and much more. With sleek, elegant contours and unique styling these cards have been designed to suit any build. Featuring the very latest graphics architecture from AMD with NITRO+ you'll have a fast, reliable gaming experience whatever your game. No matter what kind of gamer you are, the SAPPHIRE NITRO series offers you the maximum gaming experience