

## 3D-performance van grafische kaarten vergeleken

Grafische kaart	Shaders	Architectuur	Geheugenomvang / -soort / -bus	DirectX	4K HEVC / DisplayPort 1.4 / HDMI 2.0	3DMark (Time Spy / Fire Strike) [punten]	Energieverbruik (idle / 3D) [watt]	3DMark per euro	Prijs vanaf ca. [euro]
<b>Gamen in UHD (3840 x 2160)</b>									
GeForce RTX 2080 Ti	4352	Turing (TU102)	11 GB / GDDR6 / 352-bit	12 (FL12_1)	✓ / ✓ / ✓	13006/26269	13 / 250	25,0	1050
GeForce RTX 2080 Super	3072	Turing (TU104)	11 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	11248/23365	- <sup>2</sup> / - <sup>2</sup>	32,5	720
GeForce RTX 2080	2944	Turing (TU104)	8 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	10566/22939	12 / 235	35,8	640
Nvidia Titan X (Pascal)	3584	Pascal (GP102)	12 GB / GDDR5X / 384-bit	12 (FL12_1)	✓ / ✓ / ✓	9246/22830	13 / 246	- <sup>1</sup>	n.v.
GeForce GTX 1080 Ti	3584	Pascal (GP102)	11 GB / GDDR5X / 352-bit	12 (FL12_1)	✓ / ✓ / ✓	9229/22654	9 / 231	- <sup>1</sup>	n.v.
GeForce RTX 2070 Super	2560	Turing (TU104)	8 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	10157/22599	15 / 224	43,5	520
Radeon VII	3840	GCN 5 (Vega)	16 GB / HBM2 / 4096-bit	12 (FL12_1)	✓ / ✓ / ✓	8692/22397	13 / 300	32,0	700
Radeon RX 5700XT	2560	RDNA (Navi 10)	8 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	8616/22017	12 / 217	56,5	390
<b>Gamen in WQHD (2560x 1440) of VR in full-hd (1920 x 1080)</b>									
GeForce GTX 1080	2560	Pascal (GP104)	8 GB / GDDR5X / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	8006 / 20679	10 / 179	- <sup>1</sup>	n.b.
GeForce RTX 2070	2304	Turing (TU104)	8 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	8842/20423	11 / 185	42,5	480
Radeon RX 5700	2304	RDNA (Navi 10)	8 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	7760/20212	11 / 186	59,4	340
GeForce RTX 2060 Super	2176	Turing (TU104)	8 GB / GDDR6 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	8979/19963	12 / 207	49,9	400
Radeon RX Vega 64	4096	GCN 5 (Vega)	8 GB / HBM2 / 2048-bit	12 (FL12_1)	✓ / ✓ / ✓	7328/19629	13 / 284	56,1	350
GeForce RTX 2060	1920	Turing (TU106)	6 GB / GDDR6 / 192-bit	12 (FL12_1)	✓ / ✓ / ✓	7589/17930	10 / 160	54,3	330
GeForce GTX 1070 Ti	2432	Pascal (GP104)	8 GB / GDDR5 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	6962/17502	11 / 165	- <sup>1</sup>	n.b.
Radeon RX Vega 56	3584	GCN 5 (Vega)	8 GB / HBM2 / 2048-bit	12 (FL12_1)	✓ / ✓ / ✓	6366/17026	12 / 213	65,5	260
GeForce GTX 1070	1920	Pascal (GP104)	8 GB / GDDR5 / 256-bit	12 (FL12_1)	✓ / ✓ / ✓	6478/16913	11 / 180	- <sup>1</sup>	n.b.
Nvidia GeForce Titan X	3072	Maxwell 2.0 (GM200)	12 GB / GDDR5 / 384-bit	12 (FL12_1)	- / - / ✓	5691/15979	13 / 246	- <sup>1</sup>	n.b.
GeForce GTX 980 Ti	2816	Maxwell 2.0 (GM200)	6 GB / GDDR5 / 384-bit	12 (FL12_1)	- / - / ✓	5371/15350	- <sup>2</sup> / - <sup>2</sup>	- <sup>1</sup>	n.b.
Radeon R9 Fury X	4096	GCN 3 (Fiji)	4 GB / HBM / 4096-bit	12 (FL12_0)	- / - / -	5463/15330	20 / 273	- <sup>1</sup>	n.b.
GeForce GTX 1660 Ti	1536	Turing (TU116)	6 GB / GDDR6 / 192-bit	12 (FL12_1)	✓ / ✓ / ✓	6624/14676	8 / 134	55,4	265
Radeon RX 590	2304	GCN 4 (Polaris 30)	8 GB / GDDR5 / 256-bit	12 (FL12_0)	✓ / ✓ / ✓	5146/13695	15 / 214	68,5	200
Radeon RX 580	2304	GCN 4 (Polaris 20)	8 GB / GDDR5 / 256-bit	12 (FL12_0)	✓ / ✓ / ✓	4749/12998	12 / 207	78,8	165
Radeon RX 390X	2816	GCN 2 (Hawaii)	8 GB / GDDR5 / 512-bit	12 (FL12_0)	- / - / -	4552/12759	11 / 287	- <sup>1</sup>	n.b.
GeForce GTX 1660	1408	Turing (TU116)	6 GB / GDDR5 / 192-bit	12 (FL12_1)	✓ / ✓ / ✓	5832/12525	10 / 128	56,9	220
Radeon RX 480	2304	GCN 4 (Polaris)	8 GB / GDDR5 / 256-bit	12 (FL12_0)	✓ / ✓ / ✓	4327/12479	16 / 156	- <sup>1</sup>	n.b.
GeForce GTX 980	2048	Maxwell 2.0 (GM204)	4 GB / GDDR5 / 256-bit	12 (FL12_1)	- / - / ✓	4499/11983	11 / 173	- <sup>1</sup>	n.b.
GeForce GTX 1060 6GB	1280	Pascal (GP106)	6 GB / GDDR5 / 192-bit	12 (FL12_1)	✓ / ✓ / ✓	4610/11725	5 / 117	- <sup>1</sup>	n.b.
Radeon RX 570	2048	GCN 4 (Polaris)	4 GB / GDDR5 / 256-bit	12 (FL12_0)	✓ / ✓ / ✓	4178/11643	12 / 150	89,6	130
Radeon RX 470	2048	GCN 4 (Polaris)	8 GB / GDDR5 / 256-bit	12 (FL12_0)	✓ / ✓ / ✓	4205/11540	14 / 185	- <sup>1</sup>	n.b.
GeForce GTX 1060 3GB	1152	Pascal (GP106)	3 GB / GDDR5 / 192-bit	12 (FL12_1)	✓ / ✓ / ✓	4376 / 11312	9 / 132	- <sup>1</sup>	n.b.
Radeon RX 470	2048	GCN 4 (Polaris)	4 GB / GDDR5 / 256-bit	12 (FL12_0)	✓ / ✓ / ✓	3889/10592	13 / 134	- <sup>1</sup>	n.b.
<b>Gamen in full-hd (1920 x 1080)</b>									
GeForce GTX 970	1664	Maxwell 2.0 (GM204)	4 GB / GDDR5 / 256-bit <sup>2</sup>	12 (FL12_1)	- / - / ✓	0/9896 <sup>2</sup>	12 / 153	- <sup>1</sup>	n.b.
Radeon RX 380X	2048	GCN 3 (Tonga)	4 GB / GDDR5 / 256-bit	12 (FL12_0)	- / - / -	0/8889 <sup>2</sup>	14 / 178	- <sup>1</sup>	n.b.
GeForce GTX 1650	896	Turing (TU117)	4 GB / GDDR5 / 128-bit	12 (FL12_1)	✓ / ✓ / ✓	3895/8451	9 / 85	56,3	150
Radeon RX 380	1792	GCN 3 (Tonga)	4 GB / GDDR5 / 256-bit	12 (FL12_0)	- / - / -	0/8334 <sup>2</sup>	15 / 165	- <sup>1</sup>	n.b.
GeForce GTX 1050 Ti	768	Pascal (GP107)	4 GB / GDDR5 / 128-bit	12 (FL12_1)	✓ / ✓ / ✓	2606/7184	4 / 51	55,3	130
GeForce GTX 960	1024	Maxwell 2.0 (GM206)	2 GB / GDDR5 / 128-bit	12 (FL12_1)	✓ / - / ✓	0/6979 <sup>2</sup>	9 / 118	- <sup>1</sup>	n.b.
GeForce GTX 960	1024	Maxwell 2.0 (GM206)	4 GB / GDDR5 / 128-bit	12 (FL12_1)	✓ / - / ✓	0/6752 <sup>2</sup>	10 / 115	- <sup>1</sup>	n.b.
GeForce GTX 1050	640	Pascal (GP107)	2 GB / GDDR5 / 128-bit	12 (FL12_1)	✓ / ✓ / ✓	0/6429 <sup>2</sup>	4 / 60	53,6	120
GeForce GTX 950	768	Maxwell 2.0 (GM206)	2 GB / GDDR5 / 128-bit	12 (FL12_1)	✓ / - / ✓	0/6167 <sup>2</sup>	9 / 103	- <sup>1</sup>	n.b.
GeForce GTX 1050	768	Pascal (GP107)	3 GB / GDDR5 / 96-bit	12 (FL12_1)	✓ / ✓ / ✓	0/5962 <sup>2</sup>	6 / 68	41,1	145
Radeon RX 370	1024	GCN 1 (Pitcairn)	4 GB / GDDR5 / 256-bit	12 (FL12_0)	- / - / -	0/5837 <sup>2</sup>	9 / 116	- <sup>1</sup>	n.b.
Radeon RX 460	896	GCN 4 (Polaris)	4 GB / GDDR5 / 128-bit	12 (FL12_0)	✓ / ✓ / ✓	0/5829 <sup>2</sup>	8 / 89	- <sup>1</sup>	n.b.
Radeon RX 560D	896	GCN 4 (Polaris)	4 GB / GDDR5 / 128-bit	12 (FL12_0)	✓ / ✓ / ✓	0/5444 <sup>2</sup>	8 / 72	51,8	105
Radeon RX 460	896	GCN 4 (Polaris)	2 GB / GDDR5 / 128-bit	12 (FL12_0)	✓ / ✓ / ✓	0/5323 <sup>2</sup>	13 / 65	- <sup>1</sup>	n.b.
GeForce GT 1030	384	Pascal	2 GB / DDR4/GDDR5 / 64-bit	12 (FL12_1)	✓ / ✓ / ✓	0/3355 <sup>2</sup>	3 / 29	44,7	75

gemeten onder Windows 10 (1809/1903) op Intel Core i7-8700K (OC 4,7 GHz), 32 GB RAM, VSync uit,

<sup>1</sup> restvoorraad, onrealistische prijzen, geen berekening

<sup>2</sup> geen meting

<sup>3</sup> geheugen niet gelijkmatig snel verbonden

✓ aanwezig - niet aanwezig n.b. niet beschikbaar