

Affordable tablet for school and home: Lenovo Tab review

Big and affordable: Lenovo Idea Tab Pro review

A battery marvel - Xiaomi Pad 7 Pro reviewed

Tablet for work and play: Lenovo Yoga Tab Plus review

Lenovo Tab K12 11.6 inch tablet w

Laptop Video Graphics Cards - Benchmark List

The table below can be used to sort through currently available mobile graphics cards by performance or specification. GPUs are ranked by approximate performance.

Also refer to our [Comparison of Graphics Cards](#) for more information on the listed cards and the [Gaming Performance List](#) for gaming benchmarks.

(Manufacturer, Model, Series, Codename), Connect search words with and or .

Show only notebook GPUs

Consumer and Professional GPUs

DirectX 12 only

Single and multiple GPUs

Announced at least months ago (>0)

Show only items with known benchmark results

Still available (not archived)

Show benchmarks

Show single scores on hover

Show Percent

Show performance classes

Perf. Rating

Model

Codename

Architecture

Pixel Shaders

Vertex Shaders

Core speed

Shader Speed

Boost / Turbo

Memory Bus

Memory Type

Max. Memory

DirectX

OpenGL

Process (nm)

Days old

all, none

3DMark Ice Storm GPU

3DMark Cloud Gate Standard Score

3DMark Cloud Gate GPU

3DMark11 P

3DMark11 P GPU

3DMark Fire Strike Score

3DMark Fire Strike Graphics

3DMark Time Spy Score

3DMark Time Spy Graphics

3DMark Vantage F

3DMark01

GFXBench

GFXBench 3.0 1080p Manhattan Offscreen

GFXBench 3.1 Manhattan ES 3.1 Offscreen

Basemark GPU 1.2 Vulkan Medium Offscreen

Basemark X 1.1 Medium Quality

Basemark X 1.1 High Quality

Unigine Heaven 3.0 DX 11, Normal Tessellation, High Shaders

Unigine Valley 1.0 Extreme HD DirectX

Cinebench R15 OpenGL 64Bit

Cinebench R10 32Bit OpenGL

ComputeMark v2.1 Normal, Score

LuxMark v2.0 64Bit Sala GPUs-only

all, none

Restrict

Permalink:

https://v

Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMar P GPU
1. High-End Graphics Cards													
These graphics cards are able to play the latest and most demanding games in high resolutions and full detail settings with enabled Anti-Aliasing.													
<div><div></div></div> 9*	Nvidia GeForce RTX 5090 Laptop	Blackwell	10496					256	GDDR7				
<div><div></div></div> 15*	Nvidia GeForce RTX 5080 Laptop	Blackwell	7680					256	GDDR7				
<div><div></div></div> 20	NVIDIA GeForce RTX 4090 Laptop GPU	Ada Lovelace	9728			2040	20000	256	GDDR6	83.3	554375 ⁿ³	143162 ⁿ¹⁴	64746
<div><div></div></div> 21	NVIDIA RTX 5000 Ada Generation Laptop GPU	Ada Lovelace	9728	930	1680		20000	256	GDDR6	~64 ^{60%}			51771
<div><div></div></div> 28	AMD Radeon RX 7900M	RDNA 3	4608	1825	2090		18000	256	GDDR6	~86.7 ^{60%}			59943
<div><div></div></div> 30	NVIDIA GeForce RTX 4080 Laptop GPU	Ada Lovelace	7424	1860	2280		20000	192	GDDR6X	80.2	713034 ⁿ²	130026 ⁿ¹¹	57701
<div><div></div></div> 32	NVIDIA RTX 4000 Ada Generation Laptop GPU	Ada Lovelace	7424				16000	192	GDDR6	~74.9 ^{80%}		152418	54921
<div><div></div></div> 35*	Nvidia GeForce RTX 5070 Ti Laptop	Blackwell	5888					192	GDDR7				
<div><div></div></div> 38	NVIDIA RTX 3500 Ada Generation Laptop GPU	Ada Lovelace	5120				16000	192	GDDR6	~55.7 ^{60%}			41630
<div><div></div></div> 44*	Nvidia GeForce RTX 5070 Laptop	Blackwell	4608					128	GDDR7				
<div><div></div></div> 48	NVIDIA GeForce RTX 3080 Ti Laptop GPU	Ampere	7424	975	1590		14000	256	GDDR6	67.2	648870 ⁿ⁸	152074 ⁿ²⁶	42275
<div><div></div></div> 49*	Apple M4 Max 40-Core GPU		40				8533		LPDDR5x-8533				
<div><div></div></div> 50	NVIDIA GeForce RTX 4070 Laptop GPU	Ada Lovelace	4608	1605	2175		16000	128	GDDR6	66.1	622724 ⁿ⁶	157673 ⁿ²⁵	41196
<div><div></div></div> 51	NVIDIA RTX 3000 Ada Generation Laptop GPU	Ada Lovelace	4608				16000	128	GDDR6	~38 ^{80%}		70502 ⁿ²	29411
<div><div></div></div> 52	NVIDIA RTX A5500 Laptop GPU	Ampere	7424				16000	256	GDDR6	~48.2 ^{80%}		104565	35376
<div><div></div></div> 57	NVIDIA GeForce RTX 3080 Laptop GPU	Ampere	6144	780	1245		14000	256	GDDR6	55.9	544242 ⁿ¹²	107695 ⁿ³⁵	37933
				1100	1710								

<input type="checkbox"/>	63	AMD Radeon RX 6850M XT	RDNA 2	2560		2463	18000	192	GDDR6	~65.4 ^{80%}		172972 ⁿ²	42015	
<input type="checkbox"/>	64	NVIDIA GeForce RTX 3070 Ti Laptop GPU	Ampere	5888	915	1480	14000	256	GDDR6	60.1		581927 ⁿ⁵	141689 ⁿ²⁵ 36969	
<input type="checkbox"/>	65	NVIDIA RTX A4500 Laptop GPU	Ampere	5888	930	1500	16000	256	GDDR6					
Pos		Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMar P GPU
<input type="checkbox"/>	66	NVIDIA RTX A5000 Laptop GPU	Ampere	6144	1215	1770	14000	256	GDDR6	~42.8 ^{80%}		50153.5 ⁿ²	36163	
<input type="checkbox"/>	67	NVIDIA GeForce RTX 4060 Laptop GPU	Ada Lovelace	3072		2370	16000	128	GDDR6	61.2		598142 ⁿ³	156428 ⁿ²⁵ 35770	
<input type="checkbox"/>	68	NVIDIA RTX 2000 Ada Generation Laptop GPU	Ada Lovelace	3072			16000	128	GDDR6	~43.5 ^{80%}		115230 ⁿ²	28909	
<input type="checkbox"/>	70	NVIDIA Quadro RTX 6000 (Laptop)	Turing	4608	1275	1455	14000	384	GDDR6					
<input type="checkbox"/>	71	AMD Radeon RX 6800M	RDNA 2	2560	2116	2300	16000	192	GDDR6	63.4		482999 ⁿ³	160859 ⁿ³ 40390	
<input type="checkbox"/>	75	NVIDIA GeForce RTX 2080 Super Mobile	Turing	3072	1365	1560	14000	256	GDDR6	~53 ^{80%}		141486 ⁿ³	34875	
<input type="checkbox"/>	76	NVIDIA GeForce RTX 3070 Laptop GPU	Ampere	5120	780	1290	14000	256	GDDR6	55.2		510435 ⁿ¹¹	136558 ⁿ³¹ 33996	
<input type="checkbox"/>	77*	NVIDIA RTX A4000 Laptop GPU	Ampere	5120	780	1680	12000	256	GDDR6					

2. Mid-Range Graphics Cards

With these GPUs you are able to play modern and demanding games fluently at medium detail settings and HD resolution.

<input type="checkbox"/>	78	AMD Radeon RX 6800S	RDNA 2	2048	1800	1975	16000	128	GDDR6	~55.6 ^{80%}		163510 ⁿ²	36101	
<input type="checkbox"/>	79*	Nvidia GeForce RTX 5060 Laptop	Blackwell	4608				128	GDDR7					
<input type="checkbox"/>	80*	AMD Radeon RX 8060S	RDNA 3.5	40		2900				~49.6 ^{60%}			40732	
<input type="checkbox"/>	81*	AMD Radeon RX 7600M XT	RDNA 3	2048		2300	18000	128	GDDR6	59.2	494478 ⁿ⁸	154102 ⁿ⁷	38690	
<input type="checkbox"/>	84*	AMD Radeon RX 7700S	RDNA 3	2048		2200	18000	128	GDDR6	~47.1 ^{60%}			37918	
<input type="checkbox"/>	87*	Apple M3 Max 40-Core GPU		40					LPDDR5-6400					
<input type="checkbox"/>	88*	Apple M2 Max 38-Core GPU		38					LPDDR5-6400					
<input type="checkbox"/>	89	NVIDIA GeForce RTX 2080 Mobile	Turing	2944	1380	1590	14000	256	GDDR6	54.5	458810 ⁿ⁴	139346 ⁿ¹⁶	34897	
<input type="checkbox"/>	90	AMD Radeon RX 6700M	RDNA 2	2304		2300	16000	160	GDDR6	~46.1 ^{80%}		91672	33497	
<input type="checkbox"/>	97*	Apple M3 Max 30-Core GPU		30					LPDDR5-6400					
<input type="checkbox"/>	98	NVIDIA Quadro RTX 5000 (Laptop)	Turing	3072	1035 / 1350	1545 / 1770	14000	256	GDDR6	49.2	501167	117274 ⁿ²	24620	
<input type="checkbox"/>	102*	AMD Radeon RX 7600M	RDNA 3	1792		2070	16000	128	GDDR6	~50.1 ^{80%}		126084	35101	
Pos		Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMar P GPU
<input type="checkbox"/>	104*	Apple M4 Max 32-Core GPU		32				8533		LPDDR5x-8533				
<input type="checkbox"/>	105*	Apple M2 Max 30-Core GPU		30						LPDDR5-6400				
<input type="checkbox"/>	106	NVIDIA GeForce RTX 3060 Laptop GPU	Ampere	3840	817	1702	14000	192	GDDR6	45.9	466087 ⁿ⁶	104826 ⁿ³⁶	27419	
<input type="checkbox"/>	107*	Apple M1 Max 32-Core GPU		32	1296			512		LPDDR5-6400				
<input type="checkbox"/>	108	AMD Radeon RX 7600S	RDNA 3	1792		1865	16000	128	GDDR6	~53.9 ^{80%}		155806 ⁿ³	34217	
<input type="checkbox"/>	109	NVIDIA GeForce RTX 2070 Super Mobile	Turing	2560	1140	1380	14002	256	GDDR6	49.5	481195 ⁿ³	126287 ⁿ⁷	29092	
<input type="checkbox"/>	111	NVIDIA GeForce RTX 2080 Super Max-Q	Turing	3072	975	1230	11000	256	GDDR6	49.5	468363 ⁿ³	127741 ⁿ⁷	29636	
<input type="checkbox"/>	112	NVIDIA RTX A3000 Laptop GPU	Ampere	4096	1080	1560	14000	192	GDDR6	~29.9 ^{80%}		29996	25990	
<input type="checkbox"/>	113*	Apple M1 Max 24-Core GPU		24	1296					LPDDR5-6400				
<input type="checkbox"/>	116	Intel Arc A770M	Xe HPG	4096	1650		16000	256	GDDR6	~52.5 ^{80%}		124487	37375	
<input type="checkbox"/>	118*	AMD Radeon RX 6650M XT	RDNA 2	2048		2162	18000	128	GDDR6					
<input type="checkbox"/>	119*	Apple M3 Pro 18-Core GPU		18						LPDDR5-6400				
<input type="checkbox"/>	120*	Apple M2 Pro 19-Core GPU		19	444	1398				LPDDR5-6400				
<input type="checkbox"/>	122	AMD Radeon RX 6650M	RDNA 2	1792		2222	18000	128	GDDR6	~43.6 ^{60%}			32846	
<input type="checkbox"/>	123	AMD Radeon RX 6600M	RDNA 2	1792	2068	2177	14000	128	GDDR6	52.3	479404 ⁿ⁵	144612 ⁿ⁶	31868	
<input type="checkbox"/>	124	AMD Radeon RX 6700S	RDNA 2	1792	1700	1890	14000	128	GDDR6	~51.3 ^{80%}		153853	32662	
<input type="checkbox"/>	125	NVIDIA GeForce RTX 2070 Mobile	Turing	2304	1215	1440	14000	256	GDDR6	46.3	444708 ⁿ⁴	123004 ⁿ¹⁶	26005	
<input type="checkbox"/>	126	NVIDIA Quadro RTX 5000 Max-Q	Turing	3072	600 930	1350 1455	14000	256	GDDR6	39.6	433183 ⁿ³	64768 ⁿ⁷	26465	
<input type="checkbox"/>	127	NVIDIA GeForce RTX 2080 Max-Q	Turing	2944	735-990	1095-1230	12000	256	GDDR6	46	425550 ⁿ⁵	117764 ⁿ¹⁷	27973	
<input type="checkbox"/>	129	Apple M4 Pro 20-Core GPU		20			8533			LPDDR5x-8533				
Pos		Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMar P GPU
<input type="checkbox"/>	130*	AMD Radeon RX 8050S		32		2800					~43.4 ^{20%}			

<input type="checkbox"/> 131*	AMD Radeon RX 5700M	Navi / RDNA	2304	1465	1720	12000	256	GDDR6					
<input type="checkbox"/> 133	NVIDIA GeForce GTX 1080 Mobile	Pascal	2560	1566	1733	10000	256	GDDR5X	46.1	409018 ⁿ⁸	126690 ^{n2c}	28526	
<input type="checkbox"/> 134	NVIDIA Quadro RTX 4000 (Laptop)	Turing	2560	1110	1560	14000	256	GDDR6	44.8	445161	119052	25370	
<input type="checkbox"/> 136*	Apple M3 Pro 14-Core GPU		14					LPDDR5-6400					
<input type="checkbox"/> 137*	Apple M2 Pro 16-Core GPU		16					LPDDR5-6400					
<input type="checkbox"/> 138*	Apple M1 Pro 16-Core GPU		16	1296				LPDDR5-6400					
<input type="checkbox"/> 139*	AMD Radeon PRO W6600M	RDNA 2	1792			14000	128	GDDR6					
<input type="checkbox"/> 140	NVIDIA GeForce RTX 2070 Super Max-Q	Turing	2560	930	1155	11000	256	GDDR6	47.5	461648 ⁿ²	126747 ⁿ⁷	27724	
<input type="checkbox"/> 141*	NVIDIA Quadro RTX 4000 Max-Q	Turing	2560	780	1380	14000	256	GDDR6	~27.9 ^{80%}		35167	23574	
				960	1485								
<input type="checkbox"/> 143*	Apple M1 Pro 14-Core GPU		14	1296				LPDDR5-6400					
<input type="checkbox"/> 144*	NVIDIA GeForce RTX 2070 Max-Q	Turing	2304	885-1080	1185-1305	12000	256	GDDR6	40.6	413114 ^{n1c}	106564 ^{n2f}	22089	
<input type="checkbox"/> 147*	AMD Radeon RX 6600S	RDNA 2	1792		1881	16000	128	GDDR6					
<input type="checkbox"/> 148	NVIDIA Quadro P5200	Pascal	2560	1316	1569	7216	256	GDDR5	~37.9 ^{80%}		106328 ⁿ²	25100	
<input type="checkbox"/> 149*	NVIDIA Quadro RTX 3000 (Laptop)	Turing	1920	945	1380	14000	192	GDDR6	~31.6 ^{80%}		91394 ⁿ³	19878	
<input type="checkbox"/> 150*	Nvidia GeForce RTX 5050 Laptop	Blackwell	3584				128	GDDR6					
<input type="checkbox"/> 151	NVIDIA GeForce RTX 2060 Mobile	Turing	1920	960	1200	14000	192	GDDR6	38.7	411721 ^{n1c}	99178.5 ⁿ³	21261	
<input type="checkbox"/> 155*	NVIDIA Quadro RTX 3000 Max-Q	Turing	1920	600	1215	14000	192	GDDR6	~26.4 ^{80%}		66284 ⁿ²	17523	
				870	1380								
<input type="checkbox"/> 156	NVIDIA GeForce GTX 1080 Max-Q	Pascal	2560	1101	1278	10000	256	GDDR5X	40.8	387951	114542 ⁿ³	23540	
				1290	1468								
<input type="checkbox"/> 158	NVIDIA GeForce GTX 1070 Mobile	Pascal	2048	1443	1645	8000	256	GDDR5	37.1	338057 ^{n1c}	101041 ⁿ⁵¹	22575	
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 159*	NVIDIA GeForce RTX 2060 Max-Q	Turing	1920	975	1185	11000	192	GDDR6	30.4	308872	58890 ⁿ⁴	19778	
<input type="checkbox"/> 160	NVIDIA Quadro P4200	Pascal	2304	1215	1480	7132	256	GDDR5					
<input type="checkbox"/> 166	NVIDIA GeForce RTX 4050 Laptop GPU	Ada Lovelace	2560		2370	16000	96	GDDR6	52.8	552112 ⁿ²	134084 ^{n2f}	30310	
<input type="checkbox"/> 167	Nvidia RTX 1000 Ada Generation Laptop GPU	Ada Lovelace	2560			16000	96	GDDR6					
<input type="checkbox"/> 168	NVIDIA RTX A2000 Laptop GPU	Ampere	2560	893	1687	14000	128	GDDR6	~25.5 ^{80%}		60336 ⁿ⁷	18058	
<input type="checkbox"/> 169*	Intel Arc A730M	Xe HPG	3072	1100		14000	192	GDDR6	44.9	467230	83396 ⁿ⁴	29144	
<input type="checkbox"/> 170*	AMD Radeon RX 8040S	RDNA 3.5	16		2800								
<input type="checkbox"/> 171*	AMD Radeon Pro 5600M	Navi / RDNA	2560		1265		2048	HBM2					
<input type="checkbox"/> 172	AMD Radeon RX 5600M	Navi / RDNA	2304		1265	12000	192	GDDR6	~32.3 ^{80%}		72335	24213	
<input type="checkbox"/> 173	NVIDIA Quadro P5000	Pascal	2048	1164	1506	6006	256	GDDR5	34.3	401246	86679 ⁿ³	20096	
<input type="checkbox"/> 174*	Apple M4 Pro 16-Core GPU		16					LPDDR5x-8533					
<input type="checkbox"/> 175	NVIDIA GeForce GTX 1660 Ti Mobile	Turing	1536	1455	1590	12000	192	GDDR6	37.5	419800 ⁿ⁶	97517 ⁿ¹⁸	20118	
<input type="checkbox"/> 176	NVIDIA GeForce RTX 3050 Ti Laptop GPU	Ampere	2560	1222	1485	12000	128	GDDR6	33.5	422757 ⁿ³	72925 ⁿ²³	18057	
<input type="checkbox"/> 177	NVIDIA GeForce RTX 3050 6GB Laptop GPU	Ampere	2560	1237	1492	12000	96	GDDR6	34.4	500518	72486	17421	
<input type="checkbox"/> 178*	Intel Arc A570M	Xe HPG	16	900	1300	14000	128	GDDR6					
<input type="checkbox"/> 179	NVIDIA RTX A1000 Laptop GPU	Ampere	2048			14000	128	GDDR6	~24.2 ^{80%}		70880	15134	
<input type="checkbox"/> 182	NVIDIA GeForce GTX 1070 Max-Q	Pascal	2048	1101	1265	8000	256	GDDR5	34.1	334256 ⁿ⁷	99551.5 ⁿ¹	18688	
				1215	1379								
<input type="checkbox"/> 183*	Intel Arc Graphics 140T	Xe+	8						~20.7 ^{80%}		54553	13688	
<input type="checkbox"/> 184*	Intel Arc A550M	Xe HPG	16	900	2005	14000	128	GDDR6	~26 ^{40%}				
<input type="checkbox"/> 186*	NVIDIA Quadro P5000 Max-Q	Pascal	2048	1101	1366	6006	256	GDDR5					
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 188*	AMD Radeon 890M	RDNA 3+	1024		2900	7500			29.4	468363	54913.5 ⁿ¹	15739	
<input type="checkbox"/> 192*	Intel Arc Graphics 130T	Xe+	7										
<input type="checkbox"/> 193	NVIDIA GeForce RTX 3050 A Laptop GPU	Ada Lovelace	1792				64	GDDR6					
<input type="checkbox"/> 194	NVIDIA GeForce RTX 3050 4GB Laptop GPU	Ampere	2048	1238	1500	12000	128	GDDR6	32.5	480364 ⁿ²	65252 ⁿ¹⁸	15712	
<input type="checkbox"/> 195	Nvidia RTX 500 Ada Generation Laptop GPU	Ada Lovelace	2048			12000	64	GDDR6	~25.7 ^{60%}			20239	
<input type="checkbox"/> 196*	Intel Arc A530M	Xe HPG	12	900	1300	14000	128	GDDR6					
<input type="checkbox"/> 197	NVIDIA GeForce GTX 1660 Ti Max-Q	Turing	1536	1140	1335	12000	192	GDDR6	29.1	306910 ⁿ³	63086 ⁿ⁷	17439	
<input type="checkbox"/> 198	NVIDIA RTX A500 Laptop GPU	Ampere	2048			14000	64	GDDR6	~16.8 ^{80%}		48495.5 ⁿ²	10818	

<input type="checkbox"/> 199*	AMD Radeon RX 6550M	RDNA 2	1024	2000	2560	18000	64	GDDR6	~25.1 ^{60%}			20506
<input type="checkbox"/> 200	AMD Radeon RX 6500M	RDNA 2	1024		2191	18000	64	GDDR6	~28.8 ^{80%}		88600.5 ⁿ²	17889
<input type="checkbox"/> 201*	AMD Radeon RX 6550S	RDNA 2	1024		2170	16000	64	GDDR6				
<input type="checkbox"/> 204	NVIDIA GeForce GTX 980 (Laptop)	Maxwell	2048	1126	1228	3500	256	GDDR5	~33.8 ^{80%}	347481 ⁿ³	76705 ⁿ⁷	17200
<input type="checkbox"/> 205	NVIDIA Quadro M5500	Maxwell	2048	1139	1140	6606	256	GDDR5				
<input type="checkbox"/> 210	NVIDIA Quadro P4000	Pascal	1792	1202	1228	6006	256	GDDR5	27.9	369407	53834	15433
<input type="checkbox"/> 211*	NVIDIA Quadro T2000 (Laptop)	Turing	1024	1575	1785	8000	128	GDDR5	~18.5 ^{20%}			13523
<input type="checkbox"/> 213	NVIDIA GeForce GTX 1060 Mobile	Pascal	1280	1404	1670	8000	192	GDDR5	27.3	298378 ^{n2f}	74604.5 ⁿ⁶	14693
<input type="checkbox"/> 214*	Apple M4 10-core GPU		10					LPDDR5X-7500				
<input type="checkbox"/> 215	NVIDIA GeForce GTX 1650 Ti Mobile	Turing	1024	1350	1485	12000	128	GDDR6	28.4	410191 ⁿ³	65163 ⁿ⁷	13266
<input type="checkbox"/> 216*	Intel Arc A370M	Xe HPG	8	1550		14000	64	GDDR6	~16.7 ^{80%}		35604 ⁿ³	12089
<input type="checkbox"/> 217	AMD Radeon RX 5500M	Navi / RDNA	1408	1327	1645	14000	128	GDDR6	23.9	210925 ⁿ²	50946 ⁿ⁵	16476

Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 218*	AMD Radeon Pro 5500M	Navi / RDNA	1536			1300	12000	128	GDDR6	27.6	364184	65776	14725
<input type="checkbox"/> 219	NVIDIA Quadro P4000 Max-Q	Pascal	1792	1113	1240	6006	256	GDDR5	~31.1 ^{80%}	297918	74933	15837	
<input type="checkbox"/> 220	NVIDIA Quadro P3200	Pascal	1792	708 1202	1228	7008	192	GDDR5	33	419543	82506.5 ⁿ⁴	16619	
<input type="checkbox"/> 221*	AMD Radeon RX 580X (Laptop)	Polaris	2304			1340	8000	256	GDDR5				
<input type="checkbox"/> 222	AMD Radeon RX 580 (Laptop)	Polaris	2304	1000	1077	8000	256	GDDR5	26.5	290090	69324.5 ⁿ²	15223	
<input type="checkbox"/> 223*	AMD Radeon RX 6450M	RDNA 2	768	2000	2220	18000	64	GDDR6					
<input type="checkbox"/> 224*	Intel Arc 8-Core iGPU	Xe LPG	8			2300				25.1	408060 ⁿ⁴	44057.5 ⁿ²	12321
<input type="checkbox"/> 227	NVIDIA GeForce RTX 2050 Mobile	Ampere	2048		1477	14000	64	GDDR6	~19.4 ^{80%}		58068 ⁿ⁹	12495	
<input type="checkbox"/> 228*	Intel Arc Graphics 140V	Xe2	8			2050		LPDDR5x	~19.4 ^{80%}		53072 ⁿ⁷	10880	
<input type="checkbox"/> 229*	AMD Radeon RX 6300M	RDNA 2	768		1512	18000	128	GDDR6					
<input type="checkbox"/> 231	NVIDIA GeForce GTX 1650 Mobile	Turing	1024	1380	1560	12000	128	GDDR5, GDDR6	26	364872 ⁿ¹¹	57365 ⁿ²¹	13131	
<input type="checkbox"/> 232	NVIDIA GeForce MX570	Ampere	2048		1477	12000	64	GDDR6	~17.7 ^{80%}		50683	11286	
<input type="checkbox"/> 234	AMD Radeon Pro 5300M	Navi / RDNA	1280		1250	12000	128	GDDR6					
<input type="checkbox"/> 235	AMD Radeon RX 5300M	Navi / RDNA	1408	1036	1445	14000	96	GDDR6	~20.8 ^{80%}		55837	14351	
<input type="checkbox"/> 236	NVIDIA Quadro P3000	Pascal	1280	1088	1215	7008	192	GDDR5	24.9	331998 ⁿ²	63331.5 ⁿ²	12105	
<input type="checkbox"/> 238	NVIDIA GeForce GTX 1060 Max-Q	Pascal	1280	1063 1265	1341 1480	8000	192	GDDR5	28.1	367999 ⁿ⁵	74101 ⁿ¹⁰	13333	
<input type="checkbox"/> 239*	NVIDIA Quadro P3000 Max-Q	Pascal	1280	1075	1240	7008	192	GDDR5					
<input type="checkbox"/> 240*	NVIDIA GeForce GTX 1650 Ti Max-Q	Turing	1024	1035	1200	10000	128	GDDR6	25.5	421834	47657 ⁿ⁷	11538	
<input type="checkbox"/> 241*	NVIDIA Quadro T2000 Max-Q	Turing	1024	930	1500	8000	128	GDDR5	15.2	75193	41106 ⁿ²	11461	

<input type="checkbox"/> 243*	NVIDIA Quadro T1000 (Laptop)	Turing	768	1395	1455	8000	128	GDDR5	25	375510	53628.5 ⁿ²	11377	
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 244*	Intel Arc Graphics 130V	Xe2	7			1850			LPDDR5x	~17 ^{80%}		48426.5 ⁿ²	9566.5
<input type="checkbox"/> 245*	AMD Radeon Pro WX 7100	Polaris	2304			1243	7000	256	GDDR5				
<input type="checkbox"/> 246*	Intel Arc 7-Core iGPU	Xe LPG	7			2200				24	396714	41030.5 ⁿ⁴	11497
<input type="checkbox"/> 248*	AMD Radeon RX 570X (Laptop)	Polaris	2048			1168	7000	256	GDDR5				

Archived (old): NVIDIA GeForce RTX 3080 Max-Q (GN20-E7 GA104), NVIDIA GeForce GTX 1080 SLI (Laptop) (Pascal GP104 SLI), NVIDIA GeForce GTX 1070 SLI

3. Low-Midrange Graphics Cards

Modern games should be playable with these graphics cards at low settings and resolutions. Casual gamers may be happy with these cards.

<input type="checkbox"/> 249*	Apple M4 8-core GPU		8						LPDDR5X-7500				
<input type="checkbox"/> 250*	AMD Radeon RX 570 (Laptop)	Polaris	2048	926	1206	7000	256	GDDR5					
<input type="checkbox"/> 251*	AMD Radeon RX 470 (Laptop)	Polaris	2048	926	1206	7000	256	GDDR5	~20.2 ^{20%}				
<input type="checkbox"/> 252*	NVIDIA GeForce GTX 1650 Max-Q	Turing	1024	1020	1245	8000	128	GDDR5, GDDR6	23.4	373879 ⁿ⁴	45243.5 ⁿ¹	11082	
<input type="checkbox"/> 254*	NVIDIA T1200 Laptop GPU	Turing	1024	855	1425	10000	128	GDDR6	~20.1 ^{80%}		50827 ⁿ²	14387	
<input type="checkbox"/> 255*	NVIDIA Quadro T1000 Max-Q	Turing	768	795 1230	1455	8000	128	GDDR5					
<input type="checkbox"/> 256*	Intel Arc A310	Xe HPG	6		2000	15500	64	GDDR6	~18.4 ^{80%}		53244	11915	
<input type="checkbox"/> 257*	Intel Arc A350M	Xe HPG	6		1150		14000	64	GDDR6	~15 ^{80%}		36314.5 ⁿ²	10730
<input type="checkbox"/> 258*	NVIDIA T600 Laptop GPU	Turing	896		1400	10000	128	GDDR6	~17.3 ^{80%}		53941	10498	

<input type="checkbox"/> 259*	NVIDIA T550 Laptop GPU	Turing	1024	1065	1665	12000	64	GDDR5, GDDR6	~11.4 ^{80%}	33218.5 ⁿ²	8066.1 ⁿ		
<input type="checkbox"/> 269	NVIDIA GeForce GTX 980M	Maxwell	1536	1038	1127	5000	256	GDDR5	25.2	327632 ⁿ¹⁶	65241 ⁿ³³ 12517		
<input type="checkbox"/> 270	AMD Radeon RX Vega M GH	Vega	1536	1063	1190			HBM2	26.1	357446	59162 14302		
<input type="checkbox"/> 271	NVIDIA Quadro M5000M	Maxwell	1536	962	1051	5000	256	GDDR5	~27.7 ^{80%}	324161	63738 ⁿ² 11845		
<input type="checkbox"/> 272	AMD Radeon Pro Vega 20	Vega	1280	815	1283			HBM2	23.1	278586	62318 12289		
<input type="checkbox"/> 273*	AMD Radeon 880M	RDNA 3+	768		2900	7500			~20.1 ^{80%}	54310.5 ⁿ⁴	15386		
<input type="checkbox"/> 274*	Qualcomm Adreno 830		1536		1100			LPDDR5x					
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 275*	Qualcomm SD X Adreno X1-85 4.6 TFLOPS		1536		1500	8448			LPDDR5x	~10.5 ^{60%}			7061
<input type="checkbox"/> 276*	AMD Radeon 780M	RDNA 3	768	1500	3000					25.7	429810 ⁿ¹¹	48139 ⁿ³²	12795
<input type="checkbox"/> 277*	Apple M3 10-Core GPU		10						LPDDR5-6400				
<input type="checkbox"/> 281	NVIDIA GeForce MX550	Turing	1024		1320	12000	64	GDDR6	~14.2 ^{80%}		40364	10005	
<input type="checkbox"/> 282	NVIDIA GeForce GTX 1050 Ti Mobile	Pascal	768	1493	1620	7000	128	GDDR5	20.9	299188 ⁿ¹⁶	50514 ⁿ³⁷	9615.1 ⁿ	
<input type="checkbox"/> 284	AMD Radeon 680M	RDNA 2	768		2400				21.7	359776 ⁿ¹⁵	43225 ⁿ²⁹	10399	
<input type="checkbox"/> 285	NVIDIA Quadro P2000	Pascal	768	1215	1468	6008	128	GDDR5	20.7	350317	43565.5 ⁿ²	8387 ⁿ	
<input type="checkbox"/> 286	NVIDIA Quadro P2000 Max-Q	Pascal	768	1215	1468	6008	128	GDDR5	18.4	326075	28679	8148	
<input type="checkbox"/> 287	NVIDIA Quadro M4000M	Maxwell	1280	975	1013	5012	256	GDDR5	~18 ^{60%}		49204	10259	
<input type="checkbox"/> 288	NVIDIA GeForce GTX 970M	Maxwell	1280	924	1038	5000	192	GDDR5	~22.9 ^{80%}	274626 ⁿ¹¹	51247 ⁿ³⁶	9877.1 ⁿ	
<input type="checkbox"/> 289*	NVIDIA T500 Laptop GPU	Turing	896	1365	1695	10000	64	GDDR5, GDDR6	~9.7 ^{80%}		23453 ⁿ³	7995.1 ⁿ	
<input type="checkbox"/> 290*	NVIDIA GeForce MX450	Turing	896	1395	1575	10000	64	GDDR5, GDDR6	17.7	335125 ⁿ⁷	27570 ⁿ¹³	8250 ⁿ	
<input type="checkbox"/> 295	AMD Radeon R9 M395X	GCN 3	2048		909	5460	256	GDDR5	~14.9 ^{20%}				
<input type="checkbox"/> 296*	NVIDIA GeForce GTX 1050 Ti Max-Q	Pascal	768	1151	1290	7000	128	GDDR5	20.8	324705	46952 ⁿ⁵	8752 ⁿ	
					1290	1417							
<input type="checkbox"/> 297	AMD Radeon Pro Vega 16	Vega	1024					HBM2	~16.9 ^{80%}		56273	10569	
<input type="checkbox"/> 298	AMD Radeon RX Vega M GL / 870	Vega	1280	931	1011			HBM2	19.4	299071 ⁿ³	38812 ⁿ⁵	9862 ⁿ	
<input type="checkbox"/> 299	AMD Radeon Pro WX Vega M GL	Vega	1280	931	1011			HBM2	~14.1 ^{80%}		38986	10020	
<input type="checkbox"/> 300	AMD Radeon R9 M485X	GCN 3	2048			5000	256	GDDR5					
<input type="checkbox"/> 303	NVIDIA Quadro M3000M	Maxwell	1024	1050		5000	256	GDDR5	~15.6 ^{60%}		44602.5 ⁿ²	8288.1 ⁿ	
<input type="checkbox"/> 305	NVIDIA GeForce GTX 1050 Mobile	Pascal	640	1354	1493	7000	128	GDDR5	17.5	287287 ⁿ²⁶	38041.5 ⁿ⁴	7678.1 ⁿ	
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 306	AMD FirePro W7170M	GCN 3	2048	723		5000	256	GDDR5	~16.2 ^{60%}		43124	9708	
<input type="checkbox"/> 307	AMD Radeon R9 M395	GCN	1792	834		5460	256	GDDR5	~14.9 ^{60%}		38490	8656	
<input type="checkbox"/> 311*	NVIDIA GeForce GTX 1050 Max-Q	Pascal	640	999	1139	7000	128	GDDR5	17.8	318811	35392 ⁿ⁴	7153.1 ⁿ	
					1189	1328							
<input type="checkbox"/> 312*	AMD Radeon 860M	RDNA 3+	512		2900	7500			~9.4 ^{80%}		24614	6901	
<input type="checkbox"/> 313*	Apple M3 8-Core GPU		8						LPDDR5-6400				
<input type="checkbox"/> 314*	Apple M2 10-Core GPU		10		1398				LPDDR5-6400				
<input type="checkbox"/> 317*	AMD Radeon 760M	RDNA 3	512	1500	2800				~14.1 ^{80%}		41237 ⁿ⁴	9874.1 ⁿ	
<input type="checkbox"/> 318*	Qualcomm SD X Adreno X1-85 3.8 TFLOPS		1536		1250	8448			~12.2 ^{80%}		40436 ⁿ³	6352 ⁿ	
<input type="checkbox"/> 319	AMD Radeon Steam Deck 8CU	RDNA 2	512		1900								
<input type="checkbox"/> 320	AMD Radeon 660M	RDNA 2	384		1900				15.2	259056 ⁿ²	31180 ⁿ⁹	6651.1 ⁿ	
<input type="checkbox"/> 328*	AMD Radeon Pro WX 4150	Polaris	896		1053	7000	128	GDDR5					
<input type="checkbox"/> 330	NVIDIA GeForce GTX 965M	Maxwell	1024	924 / 935	950 / 1151	5000	128	GDDR5	16.3	259766 ⁿ²	34748 ⁿ¹³	7322 ⁿ	
<input type="checkbox"/> 331	AMD Radeon RX 560X (Laptop)	Polaris	1024	1172	1275	6000	128	GDDR5	15	189597	35511 ⁿ³	8211.1 ⁿ	
<input type="checkbox"/> 332	AMD Radeon RX 560 (Laptop)	Polaris	1024	1090	1292	6000	128	GDDR5	~13.7 ^{60%}		36528 ⁿ³	8329 ⁿ	
<input type="checkbox"/> 333	NVIDIA Quadro M2200	Maxwell	1024	694	1038	5508	128	GDDR5	17.5	289176 ⁿ²	37796 ⁿ³	7372 ⁿ	
<input type="checkbox"/> 341	AMD Radeon RX 460 (Laptop)	Polaris	896		1180	6000	128	GDDR5	~12.4 ^{80%}	96383	31294	7792.1 ⁿ	
<input type="checkbox"/> 344	NVIDIA Quadro P1000	Pascal	512	1493	1519	6008	128	GDDR5	~9.8 ^{80%}		30721 ⁿ³	6001 ⁿ	
<input type="checkbox"/> 345	AMD Radeon R9 M390	GCN	1024		958	5460	256	GDDR5	~9.3 ^{20%}			6819	
<input type="checkbox"/> 346	Intel Iris Xe MAX Graphics	Gen. 12 Xe	96		1650	4266	128	LPDDR4x	14.8	177442 ⁿ²	36993 ⁿ³	8214 ⁿ	
<input type="checkbox"/> 349	AMD Radeon Pro 560X	Polaris	1024	907		5080	128	GDDR5	15.9	255217	32449	7590	
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU

Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 350	AMD Radeon Pro 560	Polaris	1024	907			5080	128	GDDR5	11.9	198867	23105	5305
<input type="checkbox"/> 351	AMD Radeon Pro 460	Polaris	1024	900			5000	128	GDDR5	~10.6 ^{60%}		27064	6749
<input type="checkbox"/> 352*	AMD Radeon Pro WX 4130	Polaris	640			1053	7000	128	GDDR5				
<input type="checkbox"/> 353	Intel Iris Xe Graphics G7 96EUs	Gen. 11 Ice Lake	96	400	1350					13.6	210648 ⁿ⁴²	27028 ⁿ¹⁸²	6523.1 ⁿ
<input type="checkbox"/> 354	NVIDIA GeForce MX350	Pascal	640	1354	1468		7000	64	GDDR5	14.8	285166 ⁿ⁷	24744 ⁿ⁹	6166 ⁿ
<input type="checkbox"/> 355	NVIDIA GeForce GTX 960M	Maxwell	640	1096	1202		5000	128	GDDR5	13.3	226308 ⁿ¹⁶	30085.5 ⁿ⁵	5278 ⁿ
<input type="checkbox"/> 360	NVIDIA Quadro M1200	Maxwell	640	991	1150		5000	128	GDDR5	~15.5 ^{80%}	240298	27557 ⁿ²	5310 ⁿ
<input type="checkbox"/> 361*	NVIDIA Quadro P620	Pascal	512	1177	1442		6000	128	GDDR5	16.2	310112	30409.5 ⁿ²	5909 ⁿ
<input type="checkbox"/> 362	AMD Radeon RX 550X (Laptop)	Polaris	640	1176			7000	128	GDDR5	10.9	184578 ⁿ²	20039 ⁿ²	5344.1 ⁿ
<input type="checkbox"/> 363	AMD Radeon RX 550 (Laptop)	Polaris	640	1287	1476		6000	128	GDDR5	12.6	239256	23049.5 ⁿ⁴	4559 ⁿ
<input type="checkbox"/> 364	AMD Radeon RX 640	Polaris	640	1218	1218		6000	64	GDDR5	~7.1 ^{80%}		19945.5 ⁿ²	5235 ⁿ
<input type="checkbox"/> 365*	AMD Radeon Pro WX 3200	Polaris	640	1082			6000	128	GDDR5	8	105833 ⁿ²	18866 ⁿ²	4337.1 ⁿ
<input type="checkbox"/> 366	AMD Radeon Pro 555X	Polaris	768	855			5080	128	GDDR5				
<input type="checkbox"/> 367	AMD Radeon Pro 555	Polaris	768	855			5080	128	GDDR5	12	217690	22624	5185
<input type="checkbox"/> 368	AMD Radeon Pro 455	Polaris	768	855			5000	128	GDDR5	12.5	229045	23434	5388
<input type="checkbox"/> 370	NVIDIA Quadro P600	Pascal	384	1430	1620		5012	64	GDDR5	13.5	243785	28957 ⁿ²	4655 ⁿ
<input type="checkbox"/> 371	NVIDIA GeForce MX250	Pascal	384	1518	1582		7000	64	GDDR5	12.3	235421 ⁿ⁸	21545 ⁿ²⁵	4633 ⁿ
<input type="checkbox"/> 372	NVIDIA GeForce MX330	Pascal	384	1531	1594		7000	64	GDDR5	12.5	243721 ⁿ²	20729 ⁿ³	4834 ⁿ
<input type="checkbox"/> 373	NVIDIA GeForce MX150	Pascal	384	1468	1532		6008	64	GDDR5	11.5	223740 ⁿ¹⁵	19132 ⁿ⁴³	4494 ⁿ
<input type="checkbox"/> 374*	Intel Arc Graphics 3-core GPU (Arrow Lake)												

Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 375	Intel Iris Xe Graphics G7 80EUs	Gen. 11 Ice Lake	80	400	1350					10.8	166479 ⁿ¹⁵	21931 ⁿ⁹⁵	5337.1 ⁿ
<input type="checkbox"/> 376*	AMD Radeon 840M	RDNA 3+	256			2900	7500						
<input type="checkbox"/> 377*	AMD Radeon 740M	RDNA 3	256		1500	2500				~10.5 ^{80%}		30557 ⁿ²	7211 ⁿ
<input type="checkbox"/> 378*	Intel Graphics 4-Core iGPU (Arc)	Xe LPG	4			1950				16.6	302030 ⁿ²	28416.5 ⁿ¹	6702 ⁿ
<input type="checkbox"/> 380	NVIDIA Quadro M2000M	Maxwell	640	1038	1197		5000	128	GDDR5	~10.1 ^{60%}		29795 ⁿ¹⁰	5143 ⁿ
<input type="checkbox"/> 384*	AMD Radeon RX 540X	GCN 4.0	512			1219	6000	128	GDDR5				
<input type="checkbox"/> 385*	AMD Radeon Pro WX 2100	Polaris	512			1219	6000	128	GDDR5				
<input type="checkbox"/> 386*	AMD Radeon RX 540	Polaris	512			1219	6000	128	GDDR5	9.6	138197	24170 ⁿ⁴	4646 ⁿ
<input type="checkbox"/> 387*	AMD Radeon Pro WX 3100	Polaris	512				6000	128	GDDR5	9.5	176357	18522 ⁿ²	3690.1 ⁿ
<input type="checkbox"/> 390*	Intel Arc Graphics 2-core GPU (Arrow Lake)		2										
<input type="checkbox"/> 398	NVIDIA GeForce GTX 950M	Maxwell	640	914	1124		1800	128	DDR3, GDDR5	10.9	198867 ⁿ⁵	21355.5 ⁿ²	4367 ⁿ
				993			5000						
<input type="checkbox"/> 399	AMD Radeon Pro 450	Polaris	640	800			5080	128	GDDR5	11	200518	21533	4502
<input type="checkbox"/> 400*	Qualcomm SD X Adreno X1-45 2.1 TFLOPS		768				8448	128	LPDDR5x				
<input type="checkbox"/> 401	AMD Radeon 630	GCN 1.0	512			1219	6000	64	GDDR5				
<input type="checkbox"/> 402*	AMD Radeon 540X	GCN 4.0	512			1219	6000	64	GDDR5	~5.5 ^{80%}		15167	4097
<input type="checkbox"/> 403*	AMD Radeon R9 M470X	GCN 2	896	1100			6000	128	GDDR5				
<input type="checkbox"/> 404	AMD Radeon R9 M385X	GCN	896	1100			6000	128	GDDR5	~8.5 ^{60%}		22544 ⁿ²	5514.1 ⁿ
<input type="checkbox"/> 405	NVIDIA Quadro P520	Pascal	384	1303	1493		6000	64	GDDR5	9.1	141330 ⁿ²	19041 ⁿ⁴	4185.1 ⁿ
<input type="checkbox"/> 407	NVIDIA Quadro M1000M	Maxwell	512	993	1072		5000	128	GDDR5	~8.2 ^{60%}		23422 ⁿ²	4229.1 ⁿ
<input type="checkbox"/> 408*	NVIDIA Quadro M620	Maxwell	512	1018			5012	128	GDDR5	~6.6 ^{80%}		22119.5 ⁿ²	3801 ⁿ

Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/> 409*	AMD Radeon RX Vega 11	Vega	704			1240				10.1	157382 ⁿ⁴	20847.5 ⁿ⁴	5483 ⁿ
<input type="checkbox"/> 415	NVIDIA GeForce 945M	Maxwell	512	928	1045		2000	128	DDR3	~11.6 ^{80%}	193684	19405 ⁿ²	3309.1 ⁿ
<input type="checkbox"/> 421*	NVIDIA Quadro P500	Pascal	256	1455	1519		5012	64	GDDR5	~5 ^{60%}		12868	3022
<input type="checkbox"/> 422	Intel UHD Graphics 64EUs (Alder Lake 12th Gen)	Gen. 12	64			1400				11.8	209544 ⁿ⁷	21761 ⁿ¹⁰	5038.1 ⁿ
<input type="checkbox"/> 423*	Intel Iris Plus Graphics G7 (Ice Lake 64 EU)	Gen. 11 Ice Lake	64	300	1100				DDR4	8.6	145594 ⁿ¹⁴	16713 ⁿ²⁴	4187 ⁿ
<input type="checkbox"/> 424*	AMD Radeon RX Vega 10	Vega	640			1300				7	113236 ⁿ⁸	14834.5 ⁿ¹	3389 ⁿ
<input type="checkbox"/> 425	Intel Iris Pro Graphics P580	Gen. 9 Skylake	72	350	1100			eDRAM + 64/128	eDRAM				
<input type="checkbox"/> 426	Intel Iris Pro Graphics 580	Gen. 9 Skylake	72	350	1050			eDRAM + 64/128	eDRAM	~10.2 ^{80%}	184880	14594	3220
<input type="checkbox"/> 429*	Qualcomm SD X Adreno X1-45 1.7 TFLOPS		768				8448	128	LPDDR5x	~7.2 ^{80%}		24402 ⁿ³	4036 ⁿ

<input type="checkbox"/>	432*	AMD Radeon R9 M470	GCN 2	768	1000		6000	128	GDDR5	~9.7 ^{40%}		24365		
<input type="checkbox"/>	444*	AMD FirePro W5170M	GCN	640		925	4500	128	GDDR5	~7 ^{60%}		19095	4197	
<input type="checkbox"/>	445	AMD Radeon R9 M370X	GCN 1.0	640	800		4500	128	GDDR5	~10.8 ^{80%}	188948	15454.5 ⁿ²	3637.!	
<input type="checkbox"/>	451	AMD Radeon RX Vega 9	Vega	576		1300				8.6	131922	19255	4380	
<input type="checkbox"/>	453	AMD FirePro W5130M	GCN	512		925	4000	128	GDDR5	~5.2 ^{60%}		14380.5 ⁿ²	3106	
<input type="checkbox"/>	461*	Intel UHD Graphics Xe G4 48EUs	Gen. 11 Ice Lake	48	350	1450				7.3	113347 ⁿ⁵	15992 ⁿ¹³	3573 ⁿ	
<input type="checkbox"/>	463*	Intel UHD Graphics Xe 32EUs (Tiger Lake-H)	Gen. 12	32	350	1450				7.1	112966 ⁿ²	15716 ⁿ³	3168 ⁿ	
<input type="checkbox"/>	464	Intel UHD Graphics 770	Alder Lake	32	300	1550				7.5	119185 ⁿ⁵	16443 ⁿ⁵	3428 ⁿ	
<input type="checkbox"/>	466*	Intel UHD Graphics Xe 750 32EUs (Rocket Lake)	Gen. 12	32	350	1450				4.7	50628	11315 ⁿ⁴	2811 ⁿ	
<input type="checkbox"/>	470	NVIDIA GeForce MX230	Pascal	256	1519	1531	7000	64	GDDR5	9.1	183041 ⁿ³	15796.5 ⁿ⁶	3363.!	
<input type="checkbox"/>	471*	Apple M2 8-Core GPU		8		1398			LPDDR5-6400					
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMar P GPU	
<input type="checkbox"/>	472*	Apple M1 8-Core GPU		8	1278				LPDDR4X-4266	~38.3 ^{20%}	280200			
<input type="checkbox"/>	473*	AMD Radeon RX Vega 8 (Ryzen 4000/5000)	Vega	512		2100				15	299071 ⁿ¹⁵	27008 ⁿ⁴⁷	5873 ⁿ	
<input type="checkbox"/>	481*	Apple M1 7-Core GPU		7	1278				LPDDR4X-4266					
<input type="checkbox"/>	482	AMD Radeon RX Vega 7	Vega	448		1800				11.5	194758 ⁿ¹⁵	24726 ⁿ⁴³	5248.!	
<input type="checkbox"/>	489	AMD Radeon R7 M465	GCN	384	825	960	4000	128	GDDR5	~4.8 ^{40%}		12250		
<input type="checkbox"/>	498	Intel Iris Pro Graphics 6200	Gen. 8 Broadwell	48	300	1150		eDRAM + 64/128		~5 ^{60%}		15387.5 ⁿ²	2766	
<input type="checkbox"/>	499	NVIDIA GeForce MX130	Maxwell	384	1122	1242		64	DDR3, GDDR5	8.3	170596 ⁿ³	13610 ⁿ¹³	2875 ⁿ	
<input type="checkbox"/>	500	NVIDIA GeForce 940MX	Maxwell	384	1122	1242	4000	64	DDR3, GDDR5	7.2	147706 ⁿ¹⁵	11513 ⁿ³⁷	2556 ⁿ	
<input type="checkbox"/>	501	NVIDIA Quadro M520	Maxwell	384	756	1019		64	GDDR5	8.1	166193	13394	2658	
<input type="checkbox"/>	504	AMD Radeon RX Vega 8 (Ryzen 2000/3000)	Vega	512		1200				7.2	113247 ⁿ¹⁵	15770 ⁿ³⁷	3557 ⁿ	
<input type="checkbox"/>	505	NVIDIA GeForce 940M	Maxwell	384	1072	1176	2000	64	DDR3	~6.9 ^{80%}	123311 ⁿ⁴	8818.5 ⁿ²⁴	2405.!	
<input type="checkbox"/>	506	Intel Iris Plus Graphics G4 (Ice Lake 48 EU)	Gen. 11 Ice Lake	48	300	1100			DDR4	6	82913.5 ⁿ²	14910 ⁿ²	3225 ⁿ	
<input type="checkbox"/>	507	NVIDIA GeForce 930MX	Maxwell	384	952	1020	2000	64	GDDR5, DDR3	6.3	135057	9053 ⁿ⁶	2201.!	
<input type="checkbox"/>	511	NVIDIA Quadro M600M	Maxwell	384	837	876	5012	128	GDDR5	~5.2 ^{80%}		18491	2911	
<input type="checkbox"/>	512	AMD FirePro W4190M	GCN	384	825	900	4000	128	GDDR5	~4.3 ^{60%}		12317 ⁿ³	2351 ⁿ	
<input type="checkbox"/>	514	AMD Radeon R9 M375	GCN	640	1015		2200	128	DDR3	~4 ^{60%}		8466	3314	
<input type="checkbox"/>	521	Intel Iris Plus Graphics 655	Gen. 9.5 Kaby Lake	48	300	1200			DDR3/DDR4	7.3	137266 ⁿ⁴	14343 ⁿ⁹	2894 ⁿ	
<input type="checkbox"/>	522	AMD Radeon R7 M445	GCN	320	920		2000	64	GDDR5	6.1	126481	9617	2208	
<input type="checkbox"/>	537	NVIDIA Quadro M500M	Maxwell	384	1029	1124	4004	64	DDR3	~7 ^{80%}	126522	8348 ⁿ⁴	2364.!	
<input type="checkbox"/>	555	Intel Iris Plus Graphics 650	Gen. 9.5 Kaby Lake	48	300	1100		64/128	DDR4	7.6	161538	13153	2762	
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMar P GPU	
<input type="checkbox"/>	556	NVIDIA GeForce 930M	Maxwell	384	928	941	1800	64	DDR3	~3.3 ^{60%}		8309 ⁿ⁶	2153 ⁿ	
<input type="checkbox"/>	557	Intel Iris Graphics 550	Gen. 9 Skylake	48	300	1100		eDRAM + 64/128	eDRAM	7.1	144742 ⁿ⁴	12986 ⁿ⁷	2533.!	
<input type="checkbox"/>	558	AMD Radeon 530	GCN	384	1024		2250	64	DDR3, GDDR5	5.5	107458 ⁿ⁴	9210 ⁿ⁵	2327 ⁿ	
<input type="checkbox"/>	559	AMD Radeon 625	GCN 1.0	384		1024	2250	64	DDR3, GDDR5					
<input type="checkbox"/>	560*	AMD Radeon RX Vega 6 (Ryzen 4000/5000)	Vega	384	400	1500				10.2	182608 ⁿ⁵	21856.5 ⁿ¹	4210 ⁿ	
<input type="checkbox"/>	561	Intel Iris Plus Graphics 645	Gen. 9.5 Coffee Lake	48	300	1150			DDR3, DDR4	~3.3 ^{60%}			2985	
<input type="checkbox"/>	564*	NVIDIA GeForce MX110	Maxwell	256	965	993	1800	64	DDR3, GDDR5	6.2	124036 ⁿ²	11266 ⁿ³	2121 ⁿ	
<input type="checkbox"/>	565	Intel Iris Plus Graphics 640	Gen. 9.5 Kaby Lake	48	300	1050		64/128	DDR3/DDR4	6.7	145481 ⁿ³	11248 ⁿ⁴	2379 ⁿ	
<input type="checkbox"/>	566	NVIDIA GeForce 920MX	Maxwell	256	965	993	1800	64	DDR3, GDDR5	5.4	110110 ⁿ²	9113.5 ⁿ²	1835 ⁿ	
<input type="checkbox"/>	567	Intel Iris Graphics 540	Gen. 9 Skylake	48	300	1050		eDRAM + 64/128	eDRAM	~7.2 ^{80%}	126078 ⁿ⁴	11327 ⁿ⁶	2211.!	
<input type="checkbox"/>	574*	Intel UHD Graphics 24EUs (Alder Lake-N)	Gen. 12	24	450	750				3.5	55685 ⁿ¹¹	8303.5 ⁿ¹⁴	1488.!	
<input type="checkbox"/>	603*	AMD Radeon R7 (Bristol Ridge)	GCN 1.2	512		900		64/128		3.2	52245.5 ⁿ⁴	5311 ⁿ⁵	1852 ⁿ	
<input type="checkbox"/>	608*	AMD Radeon R7 M460	GCN	384	984		2000	64		~5.7 ^{80%}	105142	6081	2139 ⁿ	
<input type="checkbox"/>	611	AMD Radeon R7 M360	GCN 2.0	384	1125		2000	64	DDR3	4.2	82837 ⁿ²	5746 ⁿ⁵	2029 ⁿ	
<input type="checkbox"/>	613	NVIDIA GeForce 920M	Kepler	384	954		1800	64	DDR3	4.4	90619 ⁿ³	7242 ⁿ¹⁰	1718.!	

<input type="checkbox"/> 616	AMD Radeon R8 M445DX	GCN	704	720 / 1020	933 / 1000	128 + 64	DDR3, DDR4	5.3	71829 ⁿ²	12377 ⁿ³	3775 ⁿ		
<input type="checkbox"/> 617	AMD Radeon 620	GCN 1.0	384		1024	2250	64	DDR3, GDDR5	~3.3 ^{20%}				
<input type="checkbox"/> 618	AMD Radeon R7 M440	GCN 1.0	320	1021	2000	64	DDR3	4.4	87170.5 ⁿ²	6040 ⁿ²	2245 ⁿ		
<input type="checkbox"/> 625	AMD Radeon R7 M340	GCN	320	1021	2000	64	DDR3	~4.5 ^{80%}	69098	6153 ⁿ⁴	2148 ⁿ		
<input type="checkbox"/> 626	AMD Radeon 520	GCN 1.0	320	1030	2250	64	DDR3, GDDR5	4.4	77543	8412.5 ⁿ²	2016.5 ⁿ		
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark Fire Strike GPU
<input type="checkbox"/> 627	AMD Radeon 610	GCN 1.0	320		1030	2250	64	GDDR5					
<input type="checkbox"/> 629*	AMD Radeon 610M	RDNA 2	128	400	2200				8	164666 ⁿ²	13897.5 ⁿ⁴	2863 ⁿ	
<input type="checkbox"/> 631*	AMD Radeon RX Vega 6 (Ryzen 2000/3000)	Vega	384		1100				6.5	94451	16787 ⁿ³	2991 ⁿ	
<input type="checkbox"/> 632*	AMD Radeon RX Vega 5	Vega	320		1400				7.9	128628	18282	3535	
<input type="checkbox"/> 633	Intel UHD Graphics G1 (Ice Lake 32 EU)	Gen. 11 Ice Lake	32	300	1100			DDR4	5.3	94938 ⁿ⁷	11096.5 ⁿ¹	2127 ⁿ	
<input type="checkbox"/> 634	Intel UHD Graphics 630	Gen. 9.5	24	300	1150		64/128		5.2	106362 ⁿ⁶	9798 ⁿ⁹	1789.5 ⁿ	
<input type="checkbox"/> 635	Intel UHD Graphics P630	Gen. 9.5	24	300	1200		64/128						
<input type="checkbox"/> 636*	Intel UHD Graphics Xe 16EUs (Tiger Lake-H)	Gen. 12	16	350	1450				3.8	64701 ⁿ³	7982 ⁿ³	1654 ⁿ	
<input type="checkbox"/> 637	Intel HD Graphics 630	Gen. 9.5 Kaby Lake	24	300	1150		64/128		5	101178 ⁿ³	9715 ⁿ⁵	1729 ⁿ	
<input type="checkbox"/> 638	Intel HD Graphics P630	Gen. 9.5 Kaby Lake	24				64/128						
<input type="checkbox"/> 640	Intel HD Graphics 530	Gen. 9 Skylake	24	350	1150		64/128		3.9	80241.5 ⁿ²	7500 ⁿ⁹	1362 ⁿ	
<input type="checkbox"/> 643	AMD Radeon R5 (Bristol Ridge)	GCN 1.2/2.0	384		800		64/128		~4.2 ^{80%}	58018 ⁿ²	8255.5 ⁿ²	1720 ⁿ	
<input type="checkbox"/> 644	Intel UHD Graphics 620	Gen. 9.5	24	300	1150			DDR3/DDR4	4.6	88745.5 ⁿ¹	9324 ⁿ²²⁵	1744 ⁿ	
<input type="checkbox"/> 645	Intel HD Graphics 620	Gen. 9.5 Kaby Lake	24	300	1050		64/128	DDR3/DDR4	4	79066.5 ⁿ⁴	7725 ⁿ¹¹⁷	1508.5 ⁿ	
<input type="checkbox"/> 647*	Qualcomm Adreno 690								~5.4 ^{80%}		16707.5 ⁿ²	2912 ⁿ	
<input type="checkbox"/> 648*	Qualcomm Adreno 685								~2.6 ^{20%}			1927	
<input type="checkbox"/> 649*	Qualcomm Adreno 680								~2.7 ^{20%}			1935.5 ⁿ	
<input type="checkbox"/> 715	AMD Radeon R5 M330	GCN 1.0	320	1030	2000	64	DDR3		~2.2 ^{60%}		4897 ⁿ⁷	1689 ⁿ	
<input type="checkbox"/> 716	AMD Radeon R5 M430	GCN	320	955	1746	64	DDR3		~2.3 ^{60%}		5493 ⁿ²	1689 ⁿ	
<input type="checkbox"/> 718*	AMD Radeon RX Vega 3	Vega	192	600	1200				4.3	80755 ⁿ¹²	8536 ⁿ¹⁶	1723.5 ⁿ	
Pos	Model	Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark Fire Strike GPU
<input type="checkbox"/> 720	NVIDIA GeForce 910M	Kepler	384	641	2000	64	DDR3		~3.3 ^{80%}	42738	6636	1413	
<input type="checkbox"/> 722	Intel HD Graphics 520	Gen. 9 Skylake	24	300	1050		64/128	DDR3/DDR4	3.6	73656 ⁿ²¹	6700.5 ⁿ¹¹⁻¹⁴	1293.5 ⁿ	
<input type="checkbox"/> 723	Intel Iris Graphics 6100	Gen. 8 Broadwell	48	300	1100		64/128		4.4	89341	7798 ⁿ⁴	1694.5 ⁿ	

Archived (old): NVIDIA GeForce GTX 880M SLI (N15E-GX-A2), NVIDIA GeForce GTX 780M SLI (N14E-GTX), AMD Radeon RX 490M (Polaris), NVIDIA GeForce GTX 780M SLI (N14E-GTX)

4. Low-End Graphics Cards

Non demanding games should be playable with these graphics cards.

<input type="checkbox"/> 728*	AMD Radeon R5 M320	GCN 2.0	320	855	2000	64	DDR3		~3.7 ^{60%}	45756	4969	1652	
<input type="checkbox"/> 730*	AMD Radeon R5 M315	GCN	320	970	1800	64	DDR3		~2.2 ^{40%}		5040		
<input type="checkbox"/> 731*	AMD Radeon R5 M420	GCN	320	780	2000	64	DDR3						
<input type="checkbox"/> 732*	AMD Radeon RX Vega 2	Vega	128		1100								
<input type="checkbox"/> 733	AMD Radeon R5 (Stoney Ridge)	GCN 1.2/2.0	192		800	64			2.8	51382 ⁿ³	4755 ⁿ³	1264 ⁿ	
<input type="checkbox"/> 739	Intel HD Graphics 6000	Gen. 8 Broadwell	48	300	1000		64/128		~2.3 ^{80%}		7660 ⁿ⁴	1395.5 ⁿ	
<input type="checkbox"/> 765*	Qualcomm Adreno 630								~5.3 ^{60%}	81385.5 ⁿ²	6347		
<input type="checkbox"/> 774*	Intel UHD Graphics (Jasper Lake 32 EU)	Gen. 11	32	350	900				3.8	72158 ⁿ⁴	6977 ⁿ⁵	1589 ⁿ	
<input type="checkbox"/> 775	Intel UHD Graphics (Elkhart Lake 32 EU)		32	400	850								
<input type="checkbox"/> 779	Intel UHD Graphics 617	Gen. 9 Amber Lake	24	300	1150		64/128	DDR3L/LPDDR3	3.9	77156	7231	1540.5 ⁿ	
<input type="checkbox"/> 780	Intel UHD Graphics 615	Gen. 9 Amber Lake	24	300	1000		64/128	DDR3L/LPDDR3	3.1	57024 ⁿ⁷	6583 ⁿ¹⁰	1221 ⁿ	
<input type="checkbox"/> 781*	Intel UHD Graphics (Jasper Lake 24 EU)	Gen. 11	24	350	800				~2.4 ^{80%}		8388	1458	
<input type="checkbox"/> 782	Intel HD Graphics 615	Gen. 9 Kaby Lake	24	300	1050		64/128	DDR3L/LPDDR3	3.5	70743 ⁿ¹¹	6387 ⁿ¹³	1242.5 ⁿ	
<input type="checkbox"/> 824	Intel HD Graphics 515	Gen. 9 Skylake	24	300	1000		64/128	DDR3L/LPDDR3	~3.3 ^{80%}	56787 ⁿ⁶	5467 ⁿ²⁶	1014 ⁿ	

<input type="checkbox"/>	825	Intel UHD Graphics 610	Gen. 9 Kaby Lake	12	300	950	64/128	DDR3/DDR4	2.4	42712.5 ⁿ²	5276.5 ⁿ²	922.5		
<input type="checkbox"/>	826	Intel HD Graphics 610	Gen. 9 Kaby Lake	12	300	950	64/128	DDR3/DDR4	2.3	41956.5 ⁿ⁴	5281 ⁿ⁴	880 ⁿ⁵		
<input type="checkbox"/>	829	Intel HD Graphics 510	Gen. 9 Skylake	12	300	950	64/128	DDR3/DDR4	~2.8 ^{80%}	43274	5664	847		
Pos	Model		Architecture	Pixel Shaders	Vertex Shaders	Core speed	Boost / Turbo	Memory Speed	Memory Bus	Memory Type	Perf. Rating	3DMark Ice Storm GPU	3DMark Cloud Gate GPU	3DMark P GPU
<input type="checkbox"/>	858	Intel UHD Graphics (Elkhart Lake 16 EU)		16	250	850					~2 ^{80%}	30044	3762	650
<input type="checkbox"/>	859	Intel UHD Graphics (Jasper Lake 16 EU)	Gen. 11	24	350	800					2.3	43609.5 ⁿ⁴	4910.5 ⁿ⁸	854 ⁿ⁸
<input type="checkbox"/>	860	Intel UHD Graphics 605	Gen. 9 Apollo Lake	18	300	750		64/128	DDR4 / LPDDR4	2	45008 ⁿ⁹	3359.5 ⁿ¹⁰	648 ⁿ¹²	
<input type="checkbox"/>	861	Intel HD Graphics 505	Gen. 9 Apollo Lake	18	300	750		64/128			1.6	32480.5 ⁿ⁶	3413.5 ⁿ⁸	620 ⁿ¹⁶
<input type="checkbox"/>	875	AMD Radeon R4 (Stoney Ridge)	GCN 1.2/2.0	192		600		64			2.2	42677 ⁿ³	3416 ⁿ³	972.5
<input type="checkbox"/>	881	AMD Radeon R2 (Stoney Ridge)	GCN 1.2/2.0	128		600		64			~2.2 ^{80%}	38046.5 ⁿ²	3321.5 ⁿ²	730.5
<input type="checkbox"/>	917	Intel UHD Graphics 600	Gen. 9 Gemini Lake	12	300	700		64/128	DDR4 / LPDDR4	1.6	30149 ⁿ⁹	3435.5 ⁿ²⁰	578 ⁿ²⁷	
<input type="checkbox"/>	918	Intel HD Graphics 500	Gen. 9 Apollo Lake	12	300	700		64/128			~1.6 ^{80%}	24609 ⁿ⁸	3007 ⁿ⁸	482 ⁿ¹¹
<input type="checkbox"/>	938	Intel HD Graphics 405 (Braswell)	Gen. 8	16	320	700		64/128			~1.4 ^{80%}	23763 ⁿ²	2113 ⁿ⁴	473 ⁿ⁷
<input type="checkbox"/>	939	Intel HD Graphics (Braswell)	Gen. 8	16	320	700		64/128			~0.7 ^{60%}		2193 ⁿ¹⁵	395 ⁿ¹⁷
<input type="checkbox"/>	940	Intel HD Graphics 400 (Braswell)	Gen. 8	12	320	640		64/128			~1.2 ^{80%}	20277 ⁿ⁶	1841 ⁿ⁷	349 ⁿ¹¹

Archived (old): AMD Radeon R5 M230 (Jet / Sun), ATI Mobility Radeon HD 5750 (Madison-XT), AMD Radeon HD 6720G2, AMD Radeon HD 8450G + Radeon HD 8450G

5. Office-Class Graphics Cards

Only some 3D games with very low demands are playable with these cards.

<input type="checkbox"/>	994	Intel HD Graphics (Cherry Trail)	Gen. 8	16	200	600	64/128				~1.1 ^{80%}	19303 ⁿ⁷	1783.5 ⁿ⁸	298 ⁿ²²
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Archived (old): ATI Mobility Radeon HD 4570 (M92-XT), NVIDIA Quadro FX 570M (G64GLM), ATI Mobility Radeon HD 5450 (Park Pro), NVIDIA GeForce 8600M G

^(c) * Smaller values are better. / ⁿ¹²³ Number of benchmarks for this median value /

Cms

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Klaus Hinum, 2023-12-12 (Update: 2024-11-18)

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