

Mobile Workstations Compared

Lenovo ThinkPad P15 Gen 1
15.6-in. mobile workstation (2.4GHz Intel Core i9-10885H 8-core CPU, NVIDIA Quadro RTX 5000, 32GB RAM, 1TB NVMe PCIe SSD)

HP Zbook Studio G7
15.6-in. mobile workstation (2.7GHz Intel Core i7-10850H 6-core CPU, NVIDIA Quadro RTX 3000, 32GB RAM, 1TB NVMe PCIe SSD)

Lenovo ThinkPad P1 Gen 3
15.6-in. mobile workstation (2.7GHz Intel Core i7-10850H 6-core CPU, NVIDIA Quadro T2000, 32GB RAM, 1TB NVMe PCIe SSD)

MSI WS66 10TMT
15.6-in. mobile workstation (2.4GHz Intel Core i9-10980HK 8-core CPU, NVIDIA Quadro RTX 5000, 64GB RAM, 1TB NVMe PCIe SSD)

Eurocom Nightsky ARX 15
15.6-in. mobile workstation (3.5GHz AMD Ryzen 9 3950X 16-core CPU, NVIDIA GeForce RTX 2070, 64GB RAM, 2x 4TB NVMe PCIe SSD)

Dell Precision 5750
17.3-in. mobile workstation (2.40GHz Intel Xeon W-10885M 8-core CPU, NVIDIA Quadro RTX 3000 w/Max-Q Design, 32GB RAM, 1TB NVMe PCIe SSD)

Price as tested	\$4,750	\$3,737	\$2,795	\$3,999	\$8,512	\$5,219
Date tested	3/11/21	12/22/20	11/2/20	10/1/20	9/2/20	8/28/20
Operating System	Windows 10 Pro 64	Windows 10 Pro 64	Windows 10 Pro 64	Windows 10 Pro 64	Windows 10 Pro 64	Windows 10 Pro 64
SPECviewperf 13.0 (higher is better)						
3dsmax-06	184.60	136.98	84.10	174.60	183.08	132.73
catia-05	302.43	187.62	140.38	256.00	109.70	173.75
creo-02	281.58	162.14	113.82	233.21	178.81	159.58
energy-02	42.73	26.80	17.60	40.50	19.94	29.78
maya-05	285.55	159.19	115.32	228.70	249.96	153.66
medical-02	114.71	68.57	50.96	103.67	53.19	73.08
showcase-02	100.73	63.54	44.65	95.62	101.02	74.54
snx-03	637.86	188.18	147.97	291.91	15.25	189.01
sw-04	185.32	132.38	105.23	156.49	87.13	110.18
SPECapc SolidWorks 2015 (higher is better)						
Graphics Composite	5.83	4.64	2.82	5.43	n/a	3.82
Shaded Graphics Sub-Composite	3.84	2.65	1.43	3.36	n/a	1.94
Shaded w/Edges Graphics Sub-Composite	4.67	3.61	2.04	4.25	n/a	2.88
Shaded using RealView Sub-Composite	4.40	3.34	1.92	3.92	n/a	2.62
Shaded w/Edges using RealView Sub-Composite	5.10	4.05	2.54	4.69	n/a	3.47
Shaded using RealView and Shadows Sub-Composite	5.03	3.83	2.21	4.49	n/a	3.04
Shaded with Edges using RealView and Shadows Graphics Sub-Composite	5.34	4.26	2.70	4.94	n/a	3.67
Shaded using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	14.87	12.92	7.35	15.06	n/a	9.86
Shaded with Edges using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	14.50	12.67	7.82	14.68	n/a	10.68
Wireframe Graphics Sub-Composite	4.16	3.74	3.08	4.08	n/a	3.85
CPU Composite	3.62	3.73	3.45	7.13	n/a	3.55
SPEC Workstation v3 (higher is better)						
Media and Entertainment	2.51	1.64	1.72	2.33	3.43	2.20
Product Development	2.52	1.76	1.80	2.38	1.56	2.29
Life Sciences	2.41	1.63	1.52	2.35	2.91	2.15
Financial Services	1.92	1.26	1.31	1.76	4.72	2.13
Energy	1.62	1.14	1.02	1.50	2.33	1.43
General Operations	1.88	1.53	1.96	2.07	2.15	1.92
GPU Compute	3.55	3.00	1.85	3.61	3.77	3.09
Time						
AutoCAD Render Test (in seconds, lower is better)	32.00	45.70	43.70	28.70	27.10	35.60
Battery Life (in hours:minutes, higher is better)	4:42	8:53	7:04	9:50	0:55	10:30

Numbers in blue indicate best recorded results. Numbers in red indicate worst recorded results.