

# COMPARISON OF 13-INCH CLASS NOTEBOOKS

For comparison to the Dell™ XPS™ 13 notebook, we identified 13-inch-class notebooks that are currently shipping from the following vendors: Acer®, Apple®, ASUS®, Fujitsu®, HP, Lenovo®, Samsung®, and Toshiba®. Figures 1 through 3 compare the systems using publicly-available data at each vendor’s respective website. We gathered this data at the links provided on 05/05/2016, and report only what each vendor disclosed on their sites. Dell provided us with information about the Dell XPS 13 9350 notebook.

According to vendor-provided data, compared to notebooks we gathered information about in Figures 1 through 3, the Dell XPS 13 9350:

- is the smallest 13-inch notebook<sup>1</sup>
- is 17.5 percent smaller than the MacBook Air® (13-inch)
- has the longest reported battery life (18 hours) of any 13-inch laptop.

Brand	Model	Battery info	Battery life claims
Dell	XPS 13 9350		18 hours
Acer	<a href="#">Aspire S7 (S7-392-5410)</a>	4-cell Lithium Ion (Li-Ion) 6280 mAh	7.5 hours
Acer	<a href="#">Aspire S7 (S7-391-9427)</a>	4-cell Lithium Polymer (Li-Po) 4680 mAh	6 hours
Acer	<a href="#">Aspire S7 (S7-393-7451)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	10 hours
Acer	<a href="#">Aspire S7 (S7-393-7616)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	8.5 hours
Acer	<a href="#">Aspire R 13 (R7-371T-5009)</a> <a href="#">(R7-371T-74UM)</a> <a href="#">(R3-371T-70NY)</a> <a href="#">(R7-371T-78XG)</a> <a href="#">(R7-371T-50ZE)</a> <a href="#">(R7-371T-76UV)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	10 hours

<sup>1</sup> Used in this report, the smallest refers to the total surface area of the notebook.



Brand	Model	Battery info	Battery life claims
Acer	<a href="#">Aspire R 13 (R7-372T-77LE)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	8 hours
Acer	<a href="#">Aspire R 13 (R7-372T-50BG)</a>	4-cell Lithium Ion (Li-Ion) 3315 mAh	<a href="#">SuperBiiz</a> claims up to 9.5 hours
Acer	<a href="#">Aspire R 13 (R7-372T-50PJ)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	9.5 hours
Acer	<a href="#">Aspire R 13 (R7-372T-75LX)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	9.5 hours
Acer	<a href="#">Aspire R 13 (R7-372T-54TM)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	9.5 hours
Acer	<a href="#">Aspire R 13 (R7-372T-758Q)</a>	4-cell Lithium Ion (Li-Ion)	<a href="#">SuperBiiz</a> claims up to 9.5 hours
Acer	<a href="#">Aspire R 13 (R7-371T-78XG)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	7.5 hours
Acer	<a href="#">Aspire R 13 (R7-371T-59Q1)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	8 hours
Acer	<a href="#">Aspire V 13 (V3-372T-5051)</a>	4-cell Lithium Ion (Li-Ion) 3220 mAh	12.5 hours
Apple	<a href="#">MacBook Air (13-inch)</a>	Built-in 54Wh Li-Po battery	12 hours wireless Web time 12 hours iTunes Movie Playback 30 days Standby time
Apple	<a href="#">MacBook Pro (13-inch with Retina Display)</a>	Built-in 74.9Wh Li-Po battery	10 hours wireless Web time 12 hours iTunes Movie Playback 30 days Standby time
ASUS	<a href="#">ZenBook UX303LA</a>	3-cells Polymer Battery	7 hours
ASUS	<a href="#">ZenBook UX303UB</a>	50 Whrs Polymer Battery	7 hours
ASUS	<a href="#">ZenBook UX305UA</a>	56 Whrs Polymer Battery	12 hours
ASUS	<a href="#">ZenBook UX305CA</a>	45 Whrs Polymer Battery	10 hours (MM2014)

Brand	Model	Battery info	Battery life claims
ASUS	<a href="#">Zenbook UX305FA</a>	44 Whrs Polymer Battery	10 hours daily working 8 hours video playing
Fujitsu	<a href="#">LIFEBOOK T935</a>	Li-Ion battery 4-cell, 3150 mAh, 45 Wh	13 hours and 20 minutes
Fujitsu	<a href="#">LIFEBOOK T936</a>	Li-Ion battery 4-cell, 3150 mAh, 45 Wh	10 hours and 10 minutes
Fujitsu	<a href="#">LIFEBOOK E734</a>	Li-Ion battery 6-cell, 63 Wh Li-Ion battery 6-cell, 72 Wh 2nd Battery (optional): Li-Ion battery 6-cell, 28 Wh	13 hrs and 10 min (with 72 Wh battery) 21 hrs (with 72 Wh high capacity main battery + 2nd Battery + SSD Hard Drive)
Fujitsu	<a href="#">LIFEBOOK E736</a>	Li-Ion battery 6-cell, 5,600/5,800 mAh, 63 Wh Li-Ion battery 6-cell, 6,400/6,700 mAh, 72 Wh Li-Ion battery 6-cell, 7,100 mAh, 77 Wh 2nd battery (optional) Li-Ion battery 6-cell, 2,600, mAh, 28 Wh	14 hours (first battery) MM2014 19 hours (first battery + 2nd battery) MM2014
HP	<a href="#">ProBook 430 G3</a>	4-cell, 44 WHr Li-ion	7 hours and 15 minutes
HP	<a href="#">Pavilion x360 - 13t Touch Laptop</a>	3-cell 48WHr Lithium-ion Battery	10 hours and 45 minutes
HP	<a href="#">Pavilion x360 - 13-s120nr</a>	3-cell, 48 Wh prismatic	10 hours
HP	<a href="#">Spectre x360 G2</a>	3-cell, 56 Wh	<a href="#">Computer Universe</a> claims 10 hours
HP	<a href="#">Spectre x360 -13t Laptop</a>	3-cell, 56 Wh Li-ion polymer	12.5 hours
HP	<a href="#">Spectre x360 (- 13-4163nr)</a> <a href="#">(- 13-4165nr)</a> <a href="#">(- 13-4118nr)</a>	3-cell, 56 Wh Li-ion	12.5 hours

Brand	Model	Battery info	Battery life claims
HP	<a href="#">ENVY: (- 13t Laptop) (- 13-d010nr)</a>	3-cell 45Whr Lithium-ion Battery	10 hours (MM2014)
HP	<a href="#">Stream Notebook (- 13-c110nr)</a>	3-cell 37 Wh Li-ion	8 hours
Lenovo	<a href="#">Ideapad 710S</a>	4-cell, 46 Wh, Li-Cylindrical	8 hours of Local Video Playback
Lenovo	<a href="#">ThinkPad 13</a>	42 Wh	11 hours
Lenovo	<a href="#">Yoga 900</a>	4 Cell 66 Watt Hour Li-Polymer	9 hours
Samsung	<a href="#">Notebook 9 (NP900X3L-K06US)</a>	2-cell / Li-Ion 30 Wh	10 hours
Samsung	<a href="#">ATIV Book 9 Plus (NP940X3K-K03US) (NP940X3K-K02US)</a>	4-cell / Li-Po 55 Wh	7.3 hours (MM2012)
Samsung	<a href="#">ATIV Book 9 Spin (NP940X3L-K01US)</a>	2 cell / Li-Po 39 Wh	7.3 hours (MM2014)
Toshiba	<a href="#">Portege Z30 (C1310) (C1320)</a>	4-cell, Li-Ion, 52 Wh	<a href="#">Digital Trends</a> claims 6 hours 48 minutes (Peacekeeper Battery Test)
Toshiba	<a href="#">Portege A30 C1340</a>	4-cell, Li-Ion, 45 Wh	9.9 hours
Toshiba	<a href="#">Portege A30t C1340</a>	4-cell, Li-Ion, 45 Wh	7.8 hours (MM 2014 Productivity)

Figure 1: Battery information. All links and data current as of 05/05/2016

Brand	Model	Thickness		Dimensions		total area (sq. in.)	Weight	
		mm	inches	mm	inches		lbs	kg
Dell	XPS 13 9350	9mm-15mm	0.33-0.6	304 × 200	11.98 × 7.88	94.4	2.6	1.18
Acer	<a href="#">Aspire S7 (S7-392-5410)</a>		0.5		12.7 × 8.8	111.76	2.87	
Acer	<a href="#">Aspire S7 (S7-391-9427)</a>		0.5		12.7 × 8.8	111.76	2.87	
Acer	<a href="#">Aspire S7 (S7-393-7451)</a>		0.5		12.7 × 8.8	111.76	2.87	
Acer	<a href="#">Aspire S7 (S7-393-7616)</a>		0.5		12.7 × 8.8	111.76	2.87	
Acer	<a href="#">Aspire R 13 (R7-371T-5009)</a> <a href="#">(R7-371T-74UM)</a> <a href="#">(R3-371T-70NY)</a> <a href="#">(R7-371T-78XG)</a> <a href="#">(R7-371T-50ZE)</a> <a href="#">(R7-371T-76UV)</a>		0.7		13.5 × 9.1	122.85	3.31	
Acer	<a href="#">Aspire R 13 (R7-372T-77LE)</a>		0.7		13.5 × 9.1	122.85	3.53	
Acer	<a href="#">Aspire R 13 (R7-372T-50BG)</a>		0.7		13.5 × 9.1	122.85	3.53	
Acer	<a href="#">Aspire R 13 (R7-372T-50PJ)</a>		0.7		13.5 × 9.1	122.85	3.53	
Acer	<a href="#">Aspire R 13 (R7-372T-75LX)</a>		0.7		13.5 × 9.1	122.85	3.53	
Acer	<a href="#">Aspire R 13 (R7-372T-54TM)</a>		0.7		13.5 × 9.1	122.85	3.53	
Acer	<a href="#">Aspire R 13 (R7-372T-758Q)</a>		0.7		13.5 × 9.1	122.85	3.53	
Acer	<a href="#">Aspire R 13 (R7-371T-78XG)</a>		0.7		13.5 × 9.1	122.85	3.31	

Brand	Model	Thickness		Dimensions		total area (sq. in.)	Weight	
		mm	inches	mm	inches		lbs	kg
Acer	<a href="#">Aspire R 13 (R7-371T-59Q1)</a>		0.7		13.5 × 9.1	122.85	3.31	
Acer	<a href="#">Aspire V 13 (V3-372T-5051)</a>		0.8		12.9 × 9	116.1	3.53	
Apple	<a href="#">MacBook Air (13-inch)</a>	3mm-17mm	0.11-0.68	325 × 227	12.8 × 8.94	114.432	2.96	1.35
Apple	<a href="#">MacBook Pro (13-inch with Retina Display)</a>	18	0.71	314 × 219	12.35 × 8.62	106.457	3.48	1.58
ASUS	<a href="#">ZenBook UX303LA</a>		0.8		12.7 × 8.8	111.76	3.2	
ASUS	<a href="#">ZenBook UX303UB</a>	19.2	8	323 × 223	12.7 × 8.8	111.76	3.2	
ASUS	<a href="#">ZenBook UX305UA</a>		0.63		12.7 × 8.9	113.3	2.86	
ASUS	<a href="#">ZenBook UX305CA</a>		0.5		12.8 × 8.9	113.92	2.65	
ASUS	<a href="#">Zenbook UX305FA</a>		0.5		12.8 × 8.9	113.92	2.6	
Fujitsu	<a href="#">LIFEBOOK T935</a>		0.76		12.64 × 9.52	120.3328	3.5	
Fujitsu	<a href="#">LIFEBOOK T936</a>		0.76		12.64 × 9.52	120.3328	3.5	
Fujitsu	<a href="#">LIFEBOOK E734</a>		0.78-1.06		12.64 × 8.98	113.5072	3.73	
Fujitsu	<a href="#">LIFEBOOK E736</a>		0.78-1.06		12.63 × 8.97	113.29	3.5	
HP	<a href="#">ProBook 430 G3</a>		0.78-0.83 (Non touch) 0.84-0.88 (Touch)		12.83 × 9.19 (Non touch) 12.83 × 9.2 (Touch)	117.91 (Non touch) 118.04 (Touch)	3.31	
HP	<a href="#">Pavilion x360 - 13t Touch Laptop</a>		0.89		12.89 × 8.8	113.432	3.77	
HP	<a href="#">Pavilion x360 - 13-s120nr</a>		0.89		12.89 × 8.8	113.432	3.77	
HP	<a href="#">Spectre x360 G2</a>		0.6		12.79 × 8.58	109.7382	3.26	

Brand	Model	Thickness		Dimensions		total area (sq. in.)	Weight	
		mm	inches	mm	inches		lbs	kg
HP	<a href="#">Spectre x360 -13t Laptop</a>		0.63		12.79 x 8.6	109.99	3.26	
HP	<a href="#">Spectre x360 (- 13-4163nr)</a> <a href="#">(- 13-4165nr)</a> <a href="#">(- 13-4118nr)</a>		0.63		12.79 x 8.6	109.99	3.17	
HP	<a href="#">ENVY: (- 13t Laptop)</a> <a href="#">(- 13-d010nr)</a>		0.51		12.85 x 8.9	114.37	3	
HP	<a href="#">Stream Notebook (- 13-c110nr)</a>		0.77		13.12 x 9.02	118.34	3.42	
Lenovo	<a href="#">Ideapad 710S</a>		0.55		12.09 x 8.42	101.7978	2.6	
Lenovo	<a href="#">ThinkPad 13</a>		0.78		12.68 x 8.78	111.3304	3.2	
Lenovo	<a href="#">Yoga 900</a>	14.9	0.59	324 x 225	12.75 x 8.86	112.97	2.8	1.3
Samsung	<a href="#">Notebook 9 (NP900X3L-K06US)</a>		0.53		12.35 x 8.6	106.21	1.9	
Samsung	<a href="#">ATIV Book 9 Plus (NP940X3K-K03US)</a> <a href="#">(NP940X3K-K02US)</a>		0.54		12.58 x 8.78	110.45	3.06	
Samsung	<a href="#">ATIV Book 9 Spin (NP940X3L-K01US)</a>		0.59		12.39 x 8.69	107.67	2.87	
Toshiba	<a href="#">Portege Z30 (C1310)</a> <a href="#">(C1320)</a>		0.7		12.4 x 8.9	110.36	2.65	
Toshiba	<a href="#">Portege A30 C1340</a>		0.8		12.4 x 9	111.6	3.1	
Toshiba	<a href="#">Portege A30t C1340</a>		0.8		12.4 x 9	111.6	3.1	

Figure 2: Dimension information. All links and data current as of 05/05/2016.

Brand	Model	Screen	Screen Resolution		Pixels
			Vertical	Horizontal	
Dell	XPS 13 9350	13.3	3,200	1,800	5,760,000
Acer	<a href="#">Aspire S7 (S7-392-5410)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire S7 (S7-391-9427)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire S7 (S7-393-7451)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire S7 (S7-393-7616)</a>	13.3	2,560	1,440	3,686,400
Acer	<a href="#">Aspire R 13 (R7-371T-5009)</a> <a href="#">(R7-371T-74UM)</a> <a href="#">(R3-371T-70NY)</a> <a href="#">(R7-371T-78XG)</a> <a href="#">(R7-371T-50ZE)</a> <a href="#">(R7-371T-76UV)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-372T-77LE)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-372T-50BG)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-372T-50PJ)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-372T-75LX)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-372T-54TM)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-372T-758Q)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire R 13 (R7-371T-78XG)</a>	13.3	2,560	1,440	3,686,400
Acer	<a href="#">Aspire R 13 (R7-371T-59Q1)</a>	13.3	1,920	1,080	2,073,600
Acer	<a href="#">Aspire V 13 (V3-372T-5051)</a>	13.3	1,920	1,080	2,073,600
Apple	<a href="#">MacBook Air (13-inch)</a>	13.3	1,440	900	1,296,000
Apple	<a href="#">MacBook Pro (13-inch with Retina Display)</a>	13.3	2,560	1,600	4,096,000
ASUS	<a href="#">ZenBook UX303LA</a>	13.3	1,920	1,080	2,073,600
ASUS	<a href="#">ZenBook UX303UB</a>	13.3	3,200	1,800	5,760,000
ASUS	<a href="#">ZenBook UX305UA</a>	13.3	3,200	1,800	5,760,000



Brand	Model	Screen	Screen Resolution		Pixels
			Vertical	Horizontal	
ASUS	<a href="#">ZenBook UX305CA</a>	13.3	3,200	1,800	5,760,000
ASUS	<a href="#">Zenbook UX305FA</a>	13.3	3,200	1,800	5,760,000
Fujitsu	<a href="#">LIFEBOOK T935</a>	13.3	2,560	1,440	3,686,400
Fujitsu	<a href="#">LIFEBOOK T936</a>	13.3	2,560	1,440	3,686,400
Fujitsu	<a href="#">LIFEBOOK E734</a>	13.3	1,366	768	1,049,088
Fujitsu	<a href="#">LIFEBOOK E736</a>	13.3	1,920	1,080	2,073,600
HP	<a href="#">ProBook 430 G3</a>	13.3	1,366	768	1,049,088
HP	<a href="#">Pavilion x360 - 13t Touch Laptop</a>	13.3	1,920	1,080	2,073,600
HP	<a href="#">Pavilion x360 - 13-s120nr</a>	13.3	1,366	768	1,049,088
HP	<a href="#">Spectre x360 G2</a>	13.3	2,560	1,440	3,686,400
HP	<a href="#">Spectre x360 -13t Laptop</a>	13.3	2,560	1,440	3,686,400
HP	<a href="#">Spectre x360 (- 13-4163nr) (- 13-4165nr) (- 13-4118nr)</a>	13.3	1,920	1,080	2,073,600
HP	<a href="#">ENVY: (- 13t Laptop) (- 13-d010nr)</a>	13.3	3,200	1,800	5,760,000
HP	<a href="#">Stream Notebook (- 13-c110nr)</a>	13.3	1,366	768	1,049,088
Lenovo	<a href="#">Ideapad 710S</a>	13.3	1,920	1,080	2,073,600
Lenovo	<a href="#">ThinkPad 13</a>	13.3	1,920	1,080	2,073,600
Lenovo	<a href="#">Yoga 900</a>	13.3	3,200	1,899	6,076,800
Samsung	<a href="#">Notebook 9 (NP900X3L-K06US)</a>	13.3	1,920	1,080	2,073,600
Samsung	<a href="#">ATIV Book 9 Plus (NP940X3K-K03US) (NP940X3K-K02US)</a>	13.3	3,200	1,800	5,760,000

Brand	Model	Screen	Screen Resolution		Pixels
			Vertical	Horizontal	
Samsung	<a href="#">ATIV Book 9 Spin (NP940X3L-K01US)</a>	13.3	3,200	1,800	5,760,000
Toshiba	<a href="#">Portege Z30 (C1310)</a> <a href="#">(C1320)</a>	13.3	1,366	768	1,049,088
Toshiba	<a href="#">Portege A30 C1340</a>	13.3	1,920	1,080	2,073,600
Toshiba	<a href="#">Portege A30t C1340</a>	13.3	1,920	1,080	2,073,600

Figure 3: Screen information on the notebooks. All links and data current as of 05/05/2016.

## ABOUT PRINCIPLED TECHNOLOGIES



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