VALIDATION
"WORLD'S THINNEST 13.3" QUAD-CORE CONVERTIBLE PC"
Tuesday, July 25, 2017

SCOPE

Wirth Consulting is an independent source that specializes in the research and testing of office/consumer products and solutions. HP will commission Wirth Consulting to validate claims that the HP Spectre x360 is the World's Thinnest 13.3" Quad-Core Convertible PC" as of September 15, 2017.

HP Disclaimer: "Based on vendors shipping > 1 million units worldwide annually. Convertible PCs with a 360-degree hinge, Windows or OSX, measured at z-height as of 9/15/17."

SIGNIFICANCE AND USE

This study commissioned by HP is an attempt to clarify the concepts of "thin" convertible PCs and quad-core processors to consumers and validate vendor claims of "thinnest" 13.3" quad-core convertible PC.

Third-party research and reporting by Wirth Consulting will provide the most compelling supporting arguments whether it be positive, negative, or a mixture of both.

SELECTION CRITERIA

1. Currently available convertible* laptop PCs with 13.3" screen, 360-dgree hinge and quad-core processor.**
2. All operating systems and price ranges.
3. PC vendors shipping more than 1M units worldwide in 2016 and a worldwide sales and distribution network that utilizes its branded name.

DEFINITIONS

1. *Convertible PC
   a. A portable PC that provides the function and computing power of a traditional laptop PC as well as that of a tablet computer by incorporating a touch screen interface that folds back over a mechanical keyboard.
2. **Quad-Core Processor
   a. A chip with four independent units (cores) that read and execute central processing unit (CPU) instructions such as add, move data, and branch.

METHODOLOGY

1. Select samples per above.
2. Research publicly-available information and specifications.
3. Determine the z-height of each convertible PC at its thickest point.
4. Determine if each convertible PC ships with a quad-core processor.
5. Summarize the research results and produce a research report with an included validation statement.

RESEARCH RESULTS AND VALIDATION STATEMENT

Wirth Consulting validates that as of July 25, 2017 the HP Spectre x360 is the "World's Thinnest 13.3" Quad-Core Convertible PC" per an evaluation of selected samples as defined by the selection criteria.

QUALIFIED SAMPLE SELECTION OF QUAD-CORE CONVERTIBLE PCs

Brand	Model Name	Screen Size	z-Height (mm)	Processor	Number of Cores
Acer	Aspire R 11	11.6"	20.32	Intel® Pentium® N3710	4
Acer	Chromebook Spin 11 (R751T)	11.6"	20.5	Intel® Celeron® N3450	4
Acer	TravelMate Spin B1	11.6"	23.4	Intel® Celeron® N3450	4
Asus	Chromebook Flip C100PA	10.1"	15.6	Rockchip Quad-Core RK3288C	4
Asus	Transformer Book Flip TP200SA	11.6"	18.5	Intel® Pentium® N3700	4
Dell	Inspiron 11 3168	11.6"	20.9	Intel® Pentium® N3710	4
Dell	Latitude 3189 Education	11.6"	20.75	Intel® Pentium® N4200	4
HP	Pavilion x360	11.6"	19.3	Intel® Pentium® N3710	4
HP	ProBook 11 x360 G1 EE	11.6"	19.8	Intel® Pentium® N4200	4
HP	**Spectre x360 - 13-ac075nr**	**13.3"**	**14.0**	**Intel® Core™ i7-7500U**	**4**
Lenovo	ThinkPad Yoga 11e Chromebook (4th Gen)	11.6"	23.4	Intel® Celeron® N3450	4
Lenovo	Yoga 11e (3rd Gen)	11.6"	22.3	Intel® Celeron® N3150	4
Lenovo	Yoga 11e Chromebook	11.6"	22.3	Intel® Celeron® N3150	4
Lenovo	Yoga 3	14"	18.3	Intel® Core™ i7	4
Lenovo	Yoga 520	14"	19.9	Intel® Core™ i7	4
Lenovo	Yoga Book (Windows)	10.1"	9.6	Intel® Atom™ x5-Z8550	4
Lenovo	Yoga Book (Android)	10.1"	9.6	Intel® Atom™ x5-Z8550	4
Samsung	Chromebook Plus	12.3"	12.9	Hexa-Core OP1	6

TESTING AND EVALUATION VALIDATION

Wirth Consulting submits this document as a validation of Hewlett-Packard's claims that the HP Spectre laptop x360 PC is the "World's Thinnest 13.3" Quad-Core Convertible PC" as defined by the selection criteria.

July 25, 2017

Date Submitted

Theodore (Terry) Wirth, President
Wirth Consulting LLC

ACCREDITATIONS - THIRD PARTY VALIDATOR

Wirth Consulting LLC
Oxford, New Jersey, USA
+1 (862) 223-9491
wirthconsulting.org

Terry Wirth - Co-Founder and President

Has over 30 years of experience in the evaluation and testing of printers, MFPs, All-in-Ones and other business-imaging equipment and has been responsible for managing testing programs at Buyers Laboratory Inc. (BLI), Industry Analysts, Inc., and BERTL. As former chairman and member since 1989 of the American Society for the Testing of Materials (ASTM) F05 Committee on Business Imaging Production, he has written numerous published ASTM test methods. ASTM is one of the world's largest voluntary standards organizations and is a trusted source for technical standards, as well as for products and services.

Responsible for product development, IT systems and support, the design and maintenance of the Wirth Consulting Web site and all daily business and financial matters. Developed a system of test reports and competitive evaluations of digital-imaging devices and solutions and the methodology for the daily distribution and dissemination of critical information.

Terry@wirthconsulting.org
+1 (862) 223-9491

Kathleen Wirth – Co-Founder and Executive Editor

Has been covering the digital-imaging industry for nearly 20 years, and has been a regular contributor to many industry publications. As an analyst and writer, she has covered product launches, written guides for using MFPs, printers and their software, and has tracked industry news. She has also tested and reviewed many MFPs and printers. Her hands-on experience garnered from years of testing printers and MFPs provides her with a unique perspective when covering new products and technology. Kathleen holds an MA degree from New York University.

Responsible for research and editorial matters and the maintenance of and daily creation of content on the Wirth Consulting Web site.

Kathy@wirthconsulting.org
+1 (973) 964-3579

ABOUT WIRTH CONSULTING

Wirth Consulting was founded in order to provide independent comprehensive evaluations of digital-imaging equipment and is the premier source for the most comprehensive printer, All-in-One, and MFP news and analysis, competitive evaluations and testing. Our unmatched insight has been earned by evaluating and testing these products and their software and solutions since their inception.

FOLLOW US

facebook
twitter
tumblr.