

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - LETTER
HP LaserJet Pro MFP M28dw

Printing device and settings		
Test Start Date and Time	12/11/2019 14:22	
Tester	Susan	
Machine name/model	HP LaserJet Pro MFP M28dw	
Colour or B&W	B&W	
PW Version	002.1948A	
Temperature and Humidity	79 degF / 26 degC 68.0 %rH	
Voltage	220V	
Test End Date and Time	12/24/2019 10:23	

Mode and Setting	Value	
	Item	Value
Mode and Setting	Driver Version	48.4.4578
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	default
	Duplex B&W Settings	default
	Setting N set count	Application
Paper Path	Collating function	Activated (application)
	Paper Sending Direction	Default
	Paper Size Setting	Default
	Paper Feeding Tray	Tray 2
	Paper Exit	Standard Exit Tray
Paper	Output Orientation	Default (face down)
	Duplexing Unit (Yes/No)	Yes
	Paper Manufacturer	HP / Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
Paper	Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: Letter			
Office Category Test for B&W Device		FSOT (seconds)	ESAT (ipm)
B&W	Simplex	10.71	40.44
	Duplex	14.35	36.14

Notes:
1) All printing device and driver settings were default mode.
2) For the B/W results, the print driver was set to "print in B/W".
3) For more information see <http://www.hp.com/go/printerclaims>.
4) Port monitor not configured to follow device if the IP address changes.

Detailed Report: LETTER						
	Office Category Test	FSOT (secs)	EFTP (ipm)		ESAT (ipm)	
		1 set only (1 set)	1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)	1 set + 30sec
Color Mode	Simplex - Adobe Reader		(1 set)			
	Simplex - Word		(1 set)			
	Simplex - Excel		(1 set)			
	Simplex - Average					
	Duplex - Adobe Reader	N/A	N/A	N/A		N/A
	Duplex - Word	N/A	N/A	N/A		N/A
	Duplex - Excel	N/A	N/A	N/A		N/A
	Duplex - Average	N/A	N/A	N/A		N/A
B&W mode (optional for color device)	Simplex - Adobe Reader	10.27	23.38 (1 set)	36.55 (7 sets)	39.70 (42 sets)	40.43
	Simplex - Word	11.07	21.68 (1 set)	35.90 (7 sets)		40.42
	Simplex - Excel	10.79	22.25 (1 set)	36.16 (7 sets)		40.47
	Simplex - Average	10.71	22.43	36.20	39.7	40.44
	Duplex - Adobe Reader	13.93	17.22 (1 set)	30.86 (7 sets)		36.06
	Duplex - Word	14.63	16.40 (1 set)	30.52 (7 sets)		36.20
	Duplex - Excel	14.48	16.58 (1 set)	30.62 (7 sets)		36.16
	Duplex - Average	14.35	16.73	30.66		36.14

Notes:
1) All printing device and driver settings were default mode.
2) For the B/W results, the print driver was set to "print in B/W".
3) For more information see <http://www.hp.com/go/printerclaims>.
4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters	
Item	Value
Computer	HP Z240 SFF Workstation
Processor	Intel Core i7 -6770, 3.4 GHz
System Chip Set	Intel SKL/KBL Mobile/Desktop
System Board	system devices, default system BIOS
System Memory	8 GB
Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
Video Subsystem	Microsoft Basic Display Adaptor
Optical Drive	HP HLDS DVD-RW GUD1N
IO Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
	TCP/IP 10/100
Operating System	Win 10 Enterprise 64 Bit (10240)
Printing Applications	Microsoft Office Word 2016 Acrobat Reader DC Microsoft Office Excel 2016
Print Driver	Not Specified
Test files and location	Office category files, hard drive

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - A4
HP LaserJet Pro MFP M28dw

Printing device and settings		
Test Start Date and Time	12/11/2019 14:22	
Tester	Susan	
Machine name/model	HP LaserJet Pro MFP M28dw	
Colour or B&W	B&W	
PW Version	002.1948A	
Temperature and Humidity	79 degF / 26 degC 68.0 %rH	
Voltage	220V	
Test End Date and Time	12/24/2019 10:23	

Mode and Setting	Item	Value
	Driver Version	48.4.4578
Mode and Setting	Media/Quality Setting	Default / Default
	Simplex B&W Settings	default
	Duplex B&W Settings	default
	Setting N set count	Application
Paper Path	Collating function	Activated (application)
	Paper Sending Direction	Default
	Paper Size Setting	Default
	Paper Feeding Tray	Tray 2
Paper	Paper Exit	Standard Exit Tray
	Output Orientation	Default (face down)
	Duplexing Unit (Yes/No)	Yes
	Paper Manufacturer	HP / Xerox
Paper	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: A4			
Office Category Test for B&W Device		FSOT (seconds)	ESAT (ipm)
B&W	Simplex	11.10	38.37
	Duplex	14.83	34.56

Notes:

1) All printing device and driver settings were default mode.

2) For the B/W results, the print driver was set to "print in B/W".

3) For more information see <http://www.hp.com/go/printerclaims>.

4) Port monitor not configured to follow device if the IP address changes.

Detailed Report: A4						
	Office Category Test	FSOT (secs)	EFTP (ipm)		ESAT (ipm)	
		1 set only (1 set)	1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)	1 set + 30sec
Colour Mode	Simplex - Adobe Reader		(1 set)			
	Simplex - Word		(1 set)			
	Simplex - Excel		(1 set)			
	Simplex - Average					
	Duplex - Adobe Reader	N/A	N/A	N/A		N/A
	Duplex - Word	N/A	N/A	N/A		N/A
	Duplex - Excel	N/A	N/A	N/A		N/A
	Duplex - Average	N/A	N/A	N/A		N/A
B&W mode (optional for color device)	Simplex - Adobe Reader	10.56	22.72 (1 set)	34.27 (6 sets)	37.69 (40 sets)	38.39
	Simplex - Word	11.63	20.64 (1 set)	33.46 (6 sets)		38.36
	Simplex - Excel	11.09	21.64 (1 set)	33.93 (6 sets)		38.38
	Simplex - Average	11.1	21.66	33.88	37.7	38.37
	Duplex - Adobe Reader	14.51	16.52 (1 set)	29.58 (7 sets)		34.54
	Duplex - Word	15.16	15.82 (1 set)	29.26 (7 sets)		34.64
	Duplex - Excel	14.80	16.20 (1 set)	29.40 (7 sets)		34.50
	Duplex - Average	14.8	16.18	29.41		34.56

Notes:

1) All printing device and driver settings were default mode.

2) For the B/W results, the print driver was set to "print in B/W".

3) For more information see <http://www.hp.com/go/printerclaims>.

4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters	
Item	Value
Computer	HP Z240 SFF Workstation
Processor	Intel Core i7 -6770, 3.4 GHz
System Chip Set	Intel SKL/KBL Mobile/Desktop
System Board	system devices, default system BIOS
System Memory	8 GB
Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
Video Subsystem	Microsoft Basic Display Adaptor
Optical Drive	HP HLDS DVD/BD GUD1N
IO Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCP/IP	
TCP/IP	
Operating System	Win 10 Enterprise 64 Bit (10240)
Printing Applications	Microsoft Office Word 2016
	Acrobat Reader DC
Print Driver	Microsoft Office Excel 2016
	Not Specified
Test files and location	Office category files, hard drive

ISO/IEC 24734 Printing Productivity Report: Office Category

Feature Performance Full Report - Office Feature Performance Test
HP LaserJet Pro MFP M28dw

Printing device and settings		
	Test Start Date and Time	12/11/2019 14:22
	Tester	Susan
	Machine name/model	HP LaserJet Pro MFP M28dw
	Colour or B&W	B&W
	PW Version	002.1948A
	Temperature and Humidity	79 degF / 26 degC 68.0 %rH
	Voltage	220V
	Test End Date and Time	12/24/2019 10:23

Mode and Setting	Item	Value
	Driver Version	48.4.4578
Mode and Setting	Media/Quality Setting	Default / Default
	Simplex B&W Settings	default
	Duplex B&W Settings	default
	Setting N set count	Application
	Collating function	Activated (application)
Paper Path	Paper Sending Direction	Default
	Paper Size Setting	Default
	Paper Feeding Tray	Tray 2
	Paper Exit	Standard Exit Tray
	Output Orientation	Default (face down)
Paper	Duplexing Unit (Yes/No)	Yes
	Paper Manufacturer	HP / Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

ISO Print Productivity Report: Feature Performance Test Summary

Printing Modes (Feature Adobe Reader - Office test file)		Feature Performance Ratio	
		FSOT (base) FSOT (feature)	ESAT (feature) ESAT (base)
A5, Landscape Feed, Simplex, Colour	Simplex		
A5, Portrait Feed, Simplex, Colour	Simplex		
Legal, Simplex, Colour	Simplex		
Legal, Duplex, Colour	Duplex		
A4, 1200 dpi, Simplex, Colour	Simplex		
Letter, 1200 dpi, Simplex, Colour	Simplex		
A4, HP High Speed, Simplex, Colour	Simplex		
Letter, HP High Speed, Simplex, Colour	Simplex		
A4, General Office, Simplex, Colour	Simplex		
Letter, General Office, Simplex, Colour	Simplex		
A5, Landscape Feed, Simplex, B/W	Simplex	146%	166%
A5, Portrait Feed, Simplex, B/W	Simplex	54%	40%
Legal, Simplex, B/W	Simplex		
Legal, Duplex, B/W	Duplex		
A4, 1200 dpi, Simplex, B/W	Simplex		
Letter, 1200 dpi, Simplex, B/W	Simplex		
A4, HP High Speed, Simplex, B/W	Simplex	101%	105%
Letter, HP High Speed, Simplex, B/W	Simplex	101%	105%
A4, General Office, Simplex, B/W	Simplex		
Letter, General Office, Simplex, B/W	Simplex		

Notes:
1) All printing device and driver settings were default mode.
2) Test conducted with 8-paper Office Feature Performance file.
3) For more information see <http://www.hp.com/go/printerclaims>.
4) Port monitor not configured to follow device if the IP address changes.

Feature Performance Full Report - Feature Printing Mode: 'Office' Feature Performance Test

Printing Modes Feature Adobe Reader - Office test file (8-page)	Base Printing Mode		Feature Performance			
	FSOT Base	ESAT Base	1 set FSOT (sec)	1 set + 30 sec ESAT (ipm)	FSOT (base) FSOT (feature)	ESAT (feature) ESAT (base)
A5, Landscape Feed, Simplex, Colour						
A5, Portrait Feed, Simplex, Colour						
Legal, Simplex, Colour						
Legal, Duplex, Colour						
A4, 1200 dpi, Simplex, Colour						
Letter, 1200 dpi, Simplex, Colour						
A4, HP High Speed, Simplex, Colour						
Letter, HP High Speed, Simplex, Colour						
A4, General Office, Simplex, Colour						
Letter, General Office, Simplex, Colour						
A5, Landscape Feed, Simplex, B/W	17.25	38.33	11.88	63.8	146%	166%
A5, Portrait Feed, Simplex, B/W	17.25	38.33	31.96	15.5	54%	40%
Legal, Simplex, B/W	16.62	40.44				
Legal, Duplex, B/W	16.62	40.44				
A4, 1200 dpi, Simplex, B/W	17.25	38.33				
Letter, 1200 dpi, Simplex, B/W	16.62	40.44				
A4, HP High Speed, Simplex, B/W	17.25	38.33	17.1	40.3	101%	105%
Letter, HP High Speed, Simplex, B/W	16.62	40.44	16.5	42.5	101%	105%
A4, General Office, Simplex, B/W	17.25	38.33				
Letter, General Office, Simplex, B/W	16.62	40.44				

Notes:
1) All printing device and driver settings were default mode.
2) Test conducted with 8-paper Office Feature Performance file.
3) For more information see <http://www.hp.com/go/printerclaims>.
4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters		
	Item	Value
Test System	Computer	HP Z240 SFF Workstation
	Processor	Intel Core i7 -6770, 3.4 GHz
	System Chip Set	Intel SKL/KBL Mobile/Desktop
	System Board	system devices, default system BIOS
	System Memory	8 GB
	Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
	Video Subsystem	Microsoft Basic Display Adaptor
	Optical Drive	HP HLDS DVDRW GUD1N
	I/O Subsystem	Builtin
	USB Subsystem	USB 2.0/3.0
I/O	TCPI/P	TCPI/P 10/1000
Software	Operating System	Win 10 Enterprise 64 Bit (10240)
	Printing Applications	Microsoft Office Word 2016 Acrobat Reader DC Microsoft Office Excel 2016
	Print Driver	Not Specified
	Test files and location	Office category files, hard drive

ISO/IEC 17629 First Print Out Time Report: Office Category

Full Detailed Test Report - LETTER

HP LaserJet Pro MFP M428dw

Printing device and settings		
Test Start Date and Time	2/12/2019 12:37	
Tester	Tom	
Machine name/model	HP LaserJet Pro MFP M428dw	
Colour or B&W	B&W	
FW Version	1903A	
Configuration (options)	Default	
Controller	11400	
Printing device page count	Not Specified	
Printing supplies page count	Not Specified	
Temperature and Humidity	74 degF / 23 degC 36.9 %rH	
Voltage	220V	
Test End Date and Time	2/12/2019 15:02	

Item		Value
Mode and Setting	PDL and driver version	48.1.4421
	Print Quality mode	default
	B&W settings	default
	Paper feed orientation	Short Edge
Paper	Paper type setting	default
	Paper feeding	Standard cassette
	Paper exit	Standard exit tray
Paper Path	Output orientation	default (face up or face down)

ISO First Page Out Time Summary Report: Office Category

Summary Report: Letter		
		FPOT from Ready (seconds)
B&W	Simplex	5.88
	Duplex	

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.

ISO First Page Out Time Report: Office Category

Detailed Report: LETTER		Word (seconds)	Excel (seconds)	Adobe Reader (seconds)	Average (seconds)	Delay Time
Color Mode	FPOT from Ready - Simplex					
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			N/A		
	Recovery Time					
	FPOT from Off - Simplex					
	Warm-up Time					
B&W Mode	FPOT from Ready - Simplex	6.33	5.71	5.59	5.88	48 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			7.92		61 Minutes
	Recovery Time			2.3		
	FPOT from Off - Simplex			46.30		
	Warm-up Time			40.71		

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.
- 6) Details for FPOT from Sleep are shown below.

HP Data Table

Detailed Report: LETTER		FPOT Avg (secs)	FPOT (secs) Iteration 1	FPOT (secs) Iteration 2	FPOT (secs) Iteration 3	Application	Delay Time
Color Mode	FPOT from Sleep	N/A	N/A	N/A	N/A	Adobe Reader	
	FPOT from Sleep (15 minutes) HP/Non ISO Test	N/A	N/A	N/A	N/A	Adobe Reader	
	FPOT from Sleep	7.92	7.94	7.89	N/A	Adobe Reader	61 Minutes
B&W Mode	FPOT from Sleep (15 minutes) HP/Non ISO Test	6.29	6.27	6.30	N/A	Adobe Reader	16 Minutes

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) DLP includes detailed iterations as data measurements may vary run to run.

Test System Parameters		
	Item	Value
Test System	Computer	HP Z240 SFF Workstation
	Processor	Intel Core i7 -6770, 3.4 GHz
	System Chip Set	Intel SKL/KBL Mobile/Desktop
	System Board	system devices, default system BIOS
	System Memory	8 GB
	Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
	Video Subsystem	Microsoft Basic Display Adaptor
	Optical Drive	HP HLDS DVD/DRW GUD1N
	I/O Subsystem	Builtin
Printing Device Connection	USB Subsystem	USB 2.0/3.0
	TCP/IP	10/1000
Software	Operating System	Win 10 Enterprise 64 Bit (10240)
	Printing Applications	Microsoft Word 2016
		Microsoft Excel 2016
		Adobe Reader DC

ISO/IEC 17629 First Print Out Time Report: Office Category

Full Detailed Test Report - A4

HP LaserJet Pro MFP M428dw

Printing device and settings		
	Test Start Date and Time	2/12/2019 12:37
	Tester	Tom
	Machine name/model	HP LaserJet Pro MFP M428dw
	Colour or B&W	B&W
	FW Version	1903A
	Configuration (options)	Default
	Controller	11400
	Printing device page count	Not Specified
	Printing supplies page count	Not Specified
	Temperature and Humidity	74 degF / 23 degC 36.9 %rH
	Voltage	220V
	Test End Date and Time	2/12/2019 15:02

Item		Value
Mode and Setting	PDL and driver version	48.1.4421
	Print Quality mode	default
	B&W settings	default
	Paper feed orientation	Short Edge
Paper	Paper type setting	default
	Paper feeding	Standard cassette
	Paper exit	Standard exit tray
Paper Path	Output orientation	default (face up or face down)

ISO First Page Out Time Summary Report: Office Category

Summary Report: A4

FPOT from Ready (seconds)		
B&W	Simplex	6.03
	Duplex	

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver w as set to "print in B/W".
- 3) For more information see <http://w w .hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts w ere collected after completion of the tests.

ISO First Page Out Time Report: Office Category

Detailed Report: A4

		Word (seconds)	Excel (seconds)	Adobe Reader (seconds)	Average (seconds)	Delay Time
Color Mode	FPOT from Ready - Simplex					
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			N/A		
	Recovery Time					
	FPOT from Off - Simplex					
	Warm-up Time					
B&W Mode	FPOT from Ready - Simplex	6.64	5.80	5.65	6.03	48 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			7.99		61 Minutes
	Recovery Time			2.3		
	FPOT from Off - Simplex			46.29		
	Warm-up Time			40.64		

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver w as set to "print in B/W".
- 3) For more information see <http://w w .hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts w ere collected after completion of the tests.
- 6) Details for FPOT from Sleep are shown below.

HP Data Table

Detailed Report: A4

		FPOT Avg (secs)	FPOT (secs) Iteration 1	FPOT (secs) Iteration 2	FPOT (secs) Iteration 3	Application	Delay Time
Color Mode	FPOT from Sleep	N/A	N/A	N/A	N/A	Adobe Reader	
	FPOT from Sleep (15 minutes) HP/Non ISO Test	N/A	N/A	N/A	N/A	Adobe Reader	
	FPOT from Sleep	7.99	7.98	8.00	N/A	Adobe Reader	61 Minutes
B&W Mode	FPOT from Sleep (15 minutes) HP/Non ISO Test	6.37	6.35	6.38	N/A	Adobe Reader	16 Minutes

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver w as set to "print in B/W".
- 3 DLP includes detailed iterations as data measurements may vary run to run.

Test System Parameters		
Item		Value
Test System	Computer	HP Z240 SFF Workstation
	Processor	Intel Core i7 -6770, 3.4 GHz
	System Chip Set	Intel SKL/KBL Mobile/Desktop
	System Board	system devices, default system BIOS
	System Memory	8 GB
	Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
	Video Subsystem	Microsoft Basic Display Adaptor
	Optical Drive	HP HLDS DVDRW GUD1N
	I/O Subsystem	Builtin
Printing Device Connection	TCP/IP	10/1000
	Operating System	Win 10 Enterprise 64 Bit (10240)
Software	Printing Applications	Microsoft Word 2016
		Microsoft Excel 2016
		Adobe Reader DC

ISO/IEC 29183 Copy Productivity Report

Full Detailed Test Report - LETTER

HP LaserJet Pro MFP M428dw

Machine Setup Information

	Test Start Date and Time	1/24/2019 9:58
	Tester	Tom
	Machine name/model	HP LaserJet Pro MFP M428dw
	Colour or B&W	B&W
	FW Version	1903A
	Configuration (options)	Not Specified
	Temperature and Humidity	74 degF / 23 degC 36.9 %rH
	Test End Date and Time:	4/3/2019 14:56

	Pre-set Item	Pre-set Value
Mode	Output Resolution	Default
	Output Quality	Default
	Copying Mode	Colour for Colour and B&W for B&W
	Auto Density Adjustment	Default
	Collating function	Set in Control Panel
Paper	Paper Sending Direction	Default
	Paper Type Setting	Default
Paper Path	Paper Feeding	Tray 2
	Paper Exit	Default
	Face Up Exit	Default (face down)
Temporary Stop	Fixing Capability	Default
	Image Quality Stability	Default
	Capacity of Paper	Default
	Others	None

Paper	Paper Manufacturer	HP / Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: Letter

	sFCOT	sESAT (ipm)
B&W	5.72	40.42

Notes

First Copy Out and Copy Speed measured using ISO/IEC 29183, excludes first set of test documents. For more information see <http://www.hp.com/go/printerclaims>. Exact speed varies depending on the system configuration and document.
Only Target A was used, all test documents have the same Saturated throughput. Reference ISO/IEC29183:2010 Clause 5, Sections 5.3.1 and 5.3.2

Detailed Report: LETTER

	Target	sFCOT (secs)	sEFTP (ipm)			sESAT (ipm)
			1copy	1copy+30sec	1copy+4minutes	
B&W	A	5.72	10.49	35.78 22 sets	39.69 163 sets	40.42
	B					
	C					
	D					
	Average	5.72	10.49	35.78	39.69	40.42

Notes

First Copy Out and Copy Speed measured using ISO/IEC 29183, excludes first set of test documents. For more information see <http://www.hp.com/go/printerclaims>. Exact speed varies depending on the system configuration and document.
Only Target A was used, all test documents have the same Saturated throughput. Reference ISO/IEC29183:2010 Clause 5, Sections 5.3.1 and 5.3.2

ISO/IEC 29183 Copy Productivity Report

Full Detailed Test Report - A4

HP LaserJet Pro MFP M428dw

Machine Setup Information

	Test Start Date and Time	1/24/2019 9:58
	Tester	Tom
	Machine name/model	HP LaserJet Pro MFP M428dw
	Colour or B&W	B&W
	FW Version	1903A
	Configuration (options)	Not Specified
	Temperature and Humidity	74 degF / 23 degC 36.9 %rH
	Test End Date and Time:	4/3/2019 14:56

	Pre-set Item	Pre-set Value
Mode	Output Resolution	Default
	Output Quality	Default
	Copying Mode	Colour for Colour and B&W for B&W
	Auto Density Adjustment	Default
	Collating function	Set in Control Panel
Paper	Paper Sending Direction	Default
	Paper Type Setting	Default
Paper Path	Paper Feeding	Tray 2
	Paper Exit	Default
	Face Up Exit	Default (face down)
Temporary Stop	Fixing Capability	Default
	Image Quality Stability	Default
	Capacity of Paper	Default
	Others	None

Paper	Paper Manufacturer	HP / Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: A4

	sFCOT	sESAT (ipm)
B&W	5.85	38.36

Notes

First Copy Out and Copy Speed measured using ISO/IEC 29183, excludes first set of test documents. For more information see <http://www.hp.com/go/printerclaims>. Exact speed varies depending on the system configuration and document.
Only Target A was used, all test documents have the same Saturated throughput. Reference ISO/IEC29183:2010 Clause 5, Sections 5.3.1 and 5.3.2

Detailed Report: A4

	Target	sFCOT (secs)	sEFTP (ipm)			sESAT (ipm)
			1copy	1copy+30sec	1copy+4minutes	
B&W	A	5.85	10.26	33.98 21 sets	37.69 155 sets	38.36
	B					
	C					
	D					
	Average	5.85	10.26	33.98	37.69	38.36

Notes

First Copy Out and Copy Speed measured using ISO/IEC 29183, excludes first set of test documents. For more information see <http://www.hp.com/go/printerclaims>. Exact speed varies depending on the system configuration and document.
Only Target A was used, all test documents have the same Saturated throughput. Reference ISO/IEC29183:2010 Clause 5, Sections 5.3.1 and 5.3.2

Full Detailed Test Report - LETTER

ISO/IEC 24735 Copy Productivity Report						
Detailed Report: LETTER						
	Copying Mode	FSOT (secs)	EFTP (ipm)			ESAT (ipm)
		1 set only	1 set only	1 set + 30sec	1 set + 4min	1 set + 30sec
Color Mode	1:1					
			(1 set)			
	1:2					
			(1 set)			
	2:2					
			(1 set)			
B&W mode	1:1	13.30	18.04	34.33	39.14	40.44
				7 sets	42 sets	
	1:2	20.93	11.44	26.22		36.12
				6 sets		
	2:2					

Notes

Reports located: <http://www.hp.com/go/printerclaims>

Full Detailed Test Report - A4

ISO/IEC 24735 Copy Productivity Report						
Detailed Report: A4						
	Copying Mode	FSOT (secs)	EFTP (ipm)			ESAT (ipm)
		1 set only	1 set only	1 set + 30sec	1 set + 4min	1 set + 30sec
Colour Mode	1:1					
		(1 set)				
	1:2					
		(1 set)				
	2:2					
		(1 set)				
B&W mode	1:1	13.53	17.74	32.18	36.12	38.40
				6 sets	40 sets	
	1:2	21.60	11.10	25.40		34.68
				6 sets		
2:2						
Notes						
Reports located: http://www.hp.com/go/printerclaims						

ISO/IEC 17991 Scanning Productivity Report

Full Detailed Test Report - LETTER

Machine Setup Information		
	Test Start Date and Time	1/24/2019 14:23
	Tester	Tom
	Machine name/model	HP LaserJet Pro MFP M428dw
	Colour or B&W	B&W
	Configuration (options)	Default
	Temperature and Humidity	74 degF / 23 degC 36.9 %rH
	Voltage	220V
	Test End Date and Time	1/30/2019 15:40

	Preset Item	Preset Value
Mode and Setting	Scanning resolution	default (200 dpi)
	Colour or grey scale/B&W	default (colour)
	Duplex / simplex	default (simplex)
	Original page size	default (A4)
	Paper feed orientation	default (long edge)
	Scan destination	default (shared network)
	Storing File Type	default (PDF-multi)
	Auto scan quality adjustment	default (factory preset default setting)
ADF Paper-path	Paper feed direction	default (long edge)
	Output orientation	default
	Scanning unit	default (duplex ADF)

ISO/IEC 17991 - Scan Summary Report: ADF Productivity Measurement

Summary Report: Letter

	Scanning Mode			Measurement result
	File format version	Resolution	Scanning side	scESAT 30secA (ipm)
Colour	PDF 1.6	300	single sided	21.52
			double sided	0.00
B&W	PDF 1.6	300	single sided	31.41
			double sided	0.00

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
2) For the B/W results, the device scan setting is set to "Scan in B/W".

ISO/IEC 17991 - Scan Summary Report: Network Folder Productivity Measurement

Summary Report: Letter

	Scanning Mode			Measurement result		
	File format version	Resolution	Scanning side	scEFTP 30secF (ipm)	File size 30secF (Mbyte)	Number of Sets (30secF)
Colour	PDF 1.6	300	single sided	19.56	8.90	4.00
			double sided	0.00		
B&W	PDF 1.6	300	single sided	28.90	11.21	6.00
			double sided	0.00		

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
2) For the B/W results, the device scan setting is set to "Scan in B/W".

ISO/IEC 17991 - Scan Full Report: ADF Productivity Measurement

Summary Report: Letter

	Scanning Mode			Measurement result		
	File format version	Resolution	Scanning side	scEFTP 1setA (ipm)	scEFTP 30secA (ipm)	scESAT 30secA (ipm)
Colour	PDF 1.6	300	single sided	16.77	20.14	21.52
			double sided	0.00	0	0
B&W	PDF 1.6	300	single sided	23.05	29.75	31.41
			double sided	0.00	0	0

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
2) For the B/W results, the device scan setting is set to "Scan in B/W".

ISO/IEC 17991 - Scan Full Report: Network Folder Productivity Measurement

Summary Report: Letter

	Scanning Mode			Measurement result			
	File format version	Resolution	Scanning side	scEFTP 1setF (ipm)	scEFTP 30secF (ipm)	File size 30secF (Mbyte)	Number of Sets (30secF)
Colour	PDF 1.6	300	single sided	13.74	19.56	8.90	4
			double sided	0.00	0.00		
B&W	PDF 1.6	300	single sided	20.33	28.90	11.21	6
			double sided	0.00	0.00		

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
2) For the B/W results, the device scan setting is set to "Scan in B/W".

Test System Parameters		
	Item	Value
System	Computer name	HP Compaq Elite 8300 Small Form Factor
	Processor	Intel Core i7 -3770, 3.4 GHz
	System Chip Set	Intel C216 Chipset Family SMBus Host Controller
	System Board	System devices, default system BIOS
	System Memory	4 GB
	Hard Drive Subsystem	Standard disk drive (Seagate)
	Video Subsystem	AMD Radeon HD 6350
	Optical Drive	HP DVD A DH16aCSHR ATA
	I/O Subsystem	Builitin
	USB Subsystem	USB 2.0/3.0
Scanning Device Connection	Operating System	Windows 7 Business/Ultimate, 64 bit, Build 7601, SP 1
	Location of network folder	PC
	Internet Protocol	IPv4
	Transfer Protocol	SMB
	Hub	Trendnet Router and Gbit Switch
	Network Speed	TCP 10/1000 Mbit Ethernet
	Connction Cable	Cat6 Straight cable
	Wireless router	No use
	Others	No use

ISO/IEC 17991 Scanning Productivity Report

Full Detailed Test Report - A4

Machine Setup Information		
	Test Start Date and Time	1/24/2019 14:23
	Tester	Tom
	Machine name/model	HP LaserJet Pro MFP M428dw
	Colour or B&W	B&W
	Configuration (options)	Default
	Temperature and Humidity	74 degF / 23 degC 36.9 %rH
	Voltage	220V
	Test End Date and Time	1/30/2019 15:40

Preset Item		Preset Value
Mode and Setting	Scanning resolution	default (200 dpi)
	Colour or grey scale/B&W	default (colour)
	Duplex / simplex	default (simplex)
	Original page size	default (A4)
	Paper feed orientation	default (long edge)
	Scan destination	default (shared network)
	Storing File Type	default (PDF-multi)
	Auto scan quality adjustment	default (factory preset default setting)
ADF Paper-path	Paper feed direction	default (long edge)
	Output orientation	default
	Scanning unit	default (duplex ADF)

ISO/IEC 17991 - Scan Summary Report: ADF Productivity Measurement

Summary Report: A4

	Scanning Mode			Measurement result
	File format version	Resolution	Scanning side	scESAT 30secA (ipm)
Colour	PDF 1.6	300	single sided	20.62
			double sided	0.00
B&W	PDF 1.6	300	single sided	30.22
			double sided	0.00

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
- 2) For the B/W results, the device scan setting is set to "Scan in B/W".

ISO/IEC 17991 - Scan Summary Report: Network Folder Productivity Measurement

Summary Report: A4

	Scanning Mode			Measurement result		
	File format version	Resolution	Scanning side	scEFTP 30secF (ipm)	File size 30secF (Mbyte)	Number of Sets (30secF)
Colour	PDF 1.6	300	single sided	18.91	7.67	4.00
			double sided	0.00		
B&W	PDF 1.6	300	single sided	27.34	8.88	5.00
			double sided	0.00		

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
- 2) For the B/W results, the device scan setting is set to "Scan in B/W".

ISO/IEC 17991 - Scan Full Report: ADF Productivity Measurement

Summary Report: A4

	Scanning Mode			Measurement result		
	File format version	Resolution	Scanning side	scEFTP 1setA (ipm)	scEFTP 30secA (ipm)	scESAT 30secA (ipm)
Colour	PDF 1.6	300	single sided	15.93	19.45	20.62
			double sided	0.00	0	0
B&W	PDF 1.6	300	single sided	22.43	28.26	30.22
			double sided	0.00	0	0

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
- 2) For the B/W results, the device scan setting is set to "Scan in B/W".

ISO/IEC 17991 - Scan Full Report: Network Folder Productivity Measurement

Summary Report: A4

	Scanning Mode			Measurement result			
	File format version	Resolution	Scanning side	scEFTP 1setF (ipm)	scEFTP 30secF (ipm)	File size 30secF (Mbyte)	Number of Sets (30secF)
Colour	PDF 1.6	300	single sided	14.59	18.91	7.67	4
			double sided	0.00	0.00		
B&W	PDF 1.6	300	single sided	19.84	27.34	8.88	5
			double sided	0.00	0.00		

Notes

- 1) For more information see <http://www.hp.com/go/printerclaims>.
- 2) For the B/W results, the device scan setting is set to "Scan in B/W".

Test System Parameters		
	Item	Value
System	Computer name	HP Compaq Elite 8300 Small Form Factor
	Processor	Intel Core i7 -3770, 3.4 GHz
	System Chip Set	Intel C216 Chipset Family SMBus Host Controller
	System Board	System devices, default system BIOS
	System Memory	4 GB
	Hard Drive Subsystem	Standard disk drive (Seagate)
	Video Subsystem	AMD Radeon HD 6350
	Optical Drive	HP DVD A DH16aCSHR ATA
	I/O Subsystem	Builtin
	USB Subsystem	USB 2.0/3.0
Scanning Device Connection	Operating System	Windows 7 Business/Ultimate, 64 bit, Build 7601, SP 1
	Location of network folder	PC
	Internet Protocol	IPv4
	Transfer Protocol	SMB
	Hub	Trendnet Router and Gbit Switch
	Network Speed	TCP 10/1000 Mbit Ethernet
	Connction Cable	Cat6 Straight cable
	Wireless router	No use
	Others	No use