

Letter of Volatility				
Model Number: HP PageWide 352dw HP PageWide Pro MFP 452dw	Part Number: JUU56 D3Q16	Manufacturer: Street Address: HP, Inc. 1115 SE 165 <sup>th</sup> Ave, Suite 210 Vancouver, WA 98683		
Volatile Memory				
Does the item contain volatile memory (i.e., memory whose contents are lost when power is removed)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
If the answer is "Yes", please provide the following information for each type (use additional sheets if required)				
Type (SRAM, DRAM, etc.):  DDR3 DRAM	Size:  256MB	User Modifiable:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function:  Contains decompressed system firmware and print data during printing.	Process to Sanitize:  Power Off printer
Non-Volatile Memory				
Does the item contain non-volatile memory (i.e., memory whose contents are retained when power is removed)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Type (eMMC, Flash, EEPROM, etc):  NAND Flash	Size:  256MB	User Modifiable:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function:  System Firmware including firmware updates, system control data, user preferences, and stored print jobs.  <b>This function can be disabled and settings locked using admin password.</b>	Process to Sanitize:  User preferences cleared by performing various resets via "Support" menu. Access from Home menu by pressing "back, back, back, back".  Stored print jobs cleared through printer embedded Web server functions.  See the Administrator's Guide for more details.
Type (eMMC, Flash, EEPROM, etc):  EEPROM (2 separate devices)	Size:  32KB and 32KB	User Modifiable:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function:  Contains system control data, user preferences, and variables.	Process to Sanitize:  Cleared by performing various resets via "Support" menu. Access from Home menu by pressing "back, back, back, back".  See the Administrator's Guide for more details.
Type (eMMC, Flash, EEPROM, etc):  EEPROM	Size:  64KB	User Modifiable:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function:  Contains backup of critical system control data and critical user preferences.	Process to Sanitize:  N/A, no user data stored.
Type (eMMC, Flash, EEPROM, etc):  Secure EEPROM	Size:  17KB	User Modifiable:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function:  Contains secure internal printer data.	Process to Sanitize:  N/A, no user info stored here.
Media				
Does the item contain media storage capability (i.e., removable or non-removable disk drives, tape drives, memory cards, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Type (Disk, Tape, Memory Card, etc):	Size:	User Modifiable:	Function:	Process to Sanitize:

USB thumb drive (user supplied) Removable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	User supplied	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Optionally supplied by the user. Stored print jobs can be stored onto an external thumb drive. Stored jobs are encrypted using keys unique to the individual printer.  <b>This function can be disabled and settings locked using admin password.</b>	Stored print jobs cleared through printer embedded Web server functions.
Additional Information:  By default, the printer sends job storage to internal NAND Flash memory, and not to the removable thumb drive. Using the embedded Web server, the printer administrator can configure the printer to store print jobs onto a thumb drive inserted into the rear USB port instead. The thumb drive must be supplied by the user / administrator. By default, job storage in both the internal NAND memory and the external thumb drive is encrypted using AES 256 encryption. If the administrator disables storing jobs onto an external thumb drive while a configured thumb drive is inserted, it will be automatically sanitized.				
<b>USB</b>				
Does the item accept USB input and if so, for what purpose (i.e., Print Jobs, device firmware updates, scan upload)? <input checked="" type="checkbox"/> Yes If yes, describe below <input type="checkbox"/> No				
Additional information:  The rear type B USB port can accept print jobs, printer configuration, and return printer status. The front, type A USB post can be used for providing files and photos to be printed.  <b>The function of the USB ports can be disabled and settings locked using admin password.</b>				
Can any data other than scan upload be sent to the USB device?  <input checked="" type="checkbox"/> Yes If yes, describe below <input type="checkbox"/> No				
Additional Information:  A thumb-drive can be added to the rear USB A port and the printer configured to use it to store stored print jobs. The files are encrypted using AES 256 encryption and keys unique to the individual printer.  This function can be disabled and settings locked using admin password. <b>The function of the USB ports can be disabled and settings locked using admin password.</b>				
<b>RF/RFID</b>				
Does the item use RF or RFID for receive or transmit any data including remote diagnostics (e.g., Cellular Phone, WIFI, or Bluetooth)? <input checked="" type="checkbox"/> Yes If yes, describe below <input type="checkbox"/> No				
Purpose:  WIFI connectivity for printing activity such as receiving print jobs, scan jobs, printer status and configuration.				
Frequency:  2.4GHz ISM band (2400MHz – 2500MHz)			Bandwidth:  36 Mbps avg., 54 Mbps peak	
Modulation:  DSSS (Direct Sequence Spread Spectrum), DBPSK, DQPSK, CCK, OFDM			Effective Radiated Power (ERP):  20.5 dbm, max ERP 22.5 dbm	

Additional Information:			
Complies with 802.11n. Used for printing, scan, status and configuration.			
<b>Other Transmission Capabilities</b>			
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g., anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)?			
<input checked="" type="checkbox"/> Yes If yes, describe below <input type="checkbox"/> No			
Purpose:			
Near-Field Authentication with networking authentication subsystems.			
Frequency:		Bandwidth:	
13.56 MHz		848 kbps max.	
Modulation:		Effective Radiated Power (ERP):	
ISO/IEC 14443B		0 dbm (passive writer only)	
Additional Information:			
ISO/IEC 14443B and NFC Tag Type 4B.			
<b>Other Capabilities</b>			
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever?			
<input type="checkbox"/> Yes If yes, describe below <input checked="" type="checkbox"/> No			
Purpose:			
Specifications:			
Additional Information:			
<b>Vendor Engineer/SME Representative Information</b>			
Name:	Title:	Email:	Business Unit:
Sing Wah Chew	Technical Marketing Engineer	technical.marketing@hp.com	IPG
Name:	Title:	Email:	Business Unit:
David Gembala	Lead Electrical Engineer	technical.marketing@hp.com	IPG
Name:	Title:	Email:	Business Unit:
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