



HP Enterprise - Quantum Resistant (QR) Enablement Process

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Overview

Quantum computing will break today's NIST (National Institute of Standards and Technology) standard asymmetric encryption-based cryptography (e.g., RSA, Elliptic Curve) in minutes, undermining digital signatures and firmware integrity. This creates a "harvest-now, decrypt-later" risk where attackers store encrypted data today and decrypt it once quantum machines mature.

The U.S. Federal Government has committed that starting in **2027**, all devices for National Security Systems must use quantum-resistant digital code signing for firmware and software. This aligns with NSA's CNSA 2.0 guidance and NIST's finalized PQC standards (ML-DSA : NIST FIPS PUB 204 (Section 5.1) ML-KEM : NIST FIPS PUB 203 (Section 7.1)).

HP introduced the **world's first quantum-resistant printers** in our HP LaserJet Enterprise 8000 Series and Managed E700/E800 Series in addition to our HP Color LaserJet Enterprise 5000/6000 and X500/X600 Series, featuring both hardware and firmware layers that enable quantum resistance at the device level.

Quantum-resistant printers complement **HP's Zero Trust Architecture**, enabling secure device identity and firmware integrity checks across fleets. This ensures resilience against lateral movement attacks even in hybrid environments.

System requirements

- **Firmware:** HP FutureSmart 5.9.2.3 or newer.
- **Hardware:** Quantum Resistant-capable A3 formatter (PCA code ending in 13-18) and A4 formatter with an updated revision number listed below.
NOTE: If a supported formatter is not detected, the quantum resistant option will not be visible via the configuration page or security menu within the EWS.
- **Browser Access:** Ensure you can access the printer's Embedded Web Server (EWS) via a supported web browser.
- **Admin Rights:** You must have administrator credentials for the device in order to enable the quantum-resistant feature.

Limitations

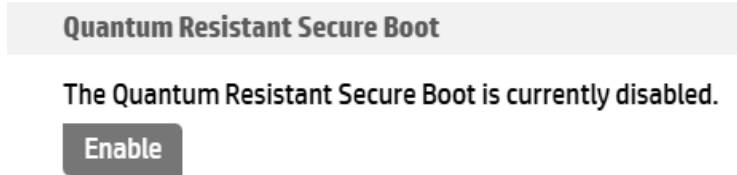
After enabling quantum resistance, downgrading to any **non-Quantum Resistant (QR) firmware version is not allowed**. Only downgrades between different quantum-resistant firmware versions are allowed. This is a deliberate security measure to prevent downgrade attacks and maintain cryptographic integrity.

NOTE: This feature requires manual enablement for the products listed below. Future products will have this feature enabled by default, active in all Enterprise and select business-class Pro devices from HP factories.

Enable the Quantum Resistant (QR) feature

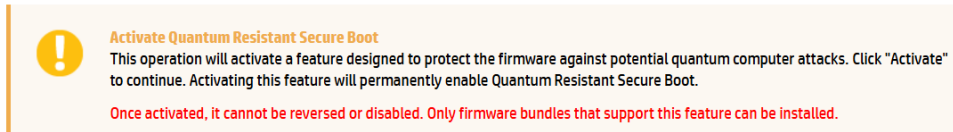
To enable quantum resistant (QR) via the supported device, follow these steps.

1. Open a web browser and enter the printer's IP address.
2. Log in using administrator credentials.
3. Select the **Security** menu.
4. Select **General Security** from the left pane.
 - a. Find the "Quantum Resistant Secure Boot Activation" section.

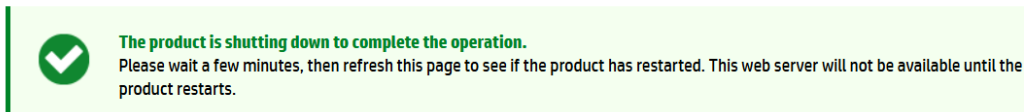


5. Click the **Enable** button.

NOTE: A warning will display stating this action cannot be reversed or disabled.

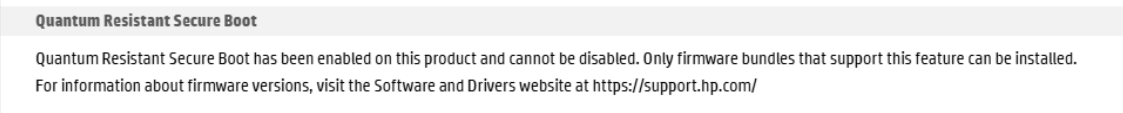
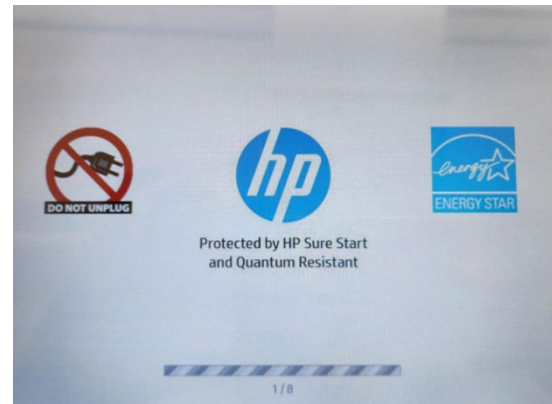


6. Click **"Activate"** to confirm.



7. Verify the status on the Configuration page in the Embedded Web Server (EWS), Security Menu or via the printer's control panel.

Security	
Hard Disk Encryption Status:	
Internal Disk:	Encrypted
Job Data Encryption Status: Encrypted	
Job Data Persistence:	Persistent (not volatile)
File Erase Mode:	Non-Secure Fast Erase (No overwrite)
Control Panel Password:	Disabled
Support Key:	V6GD-RSFG-TW5L
Host USB plug and play:	Enabled
Device USB:	Enabled
HP SureStart:	Present (Quantum Resistant: Configured)
Whitelisting:	Development
Runtime Intrusion Detection	Present



Formatter Part Numbers (A3 PCA Number)

Product Model	Unsupported Formatter	Supported QR Formatter
E/D826xx, 8501 & 8601	3SJ33-60001	3SJ33-60013
E/D877xx & 8801	3SJ33-60002	3SJ33-60014
E/D731xx	3SJ00-60001	3SJ00-60015
E/D786xx	3SJ00-60002	3SJ00-60016
E730xx	3SJ00-60003	3SJ00-60017
E785xx	3SJ00-60004	3SJ00-60018

Formatter Part Numbers (A4 Revision Number)

Product Model	Unsupported Formatter	Supported QR Formatter
5700, X/D 55745xx	D6423.02 & E6430.00	F6510.00
5800, X/D 579xx, X580xx	C6315.01	D6507.00
6700 & X654xx	C6334.00	D6507.00
6800 & X/D 677xx	C6315.01	D6507.00

Supported Printers

A3 Products Model Numbers and Product Numbers

- **HP LaserJet Managed MFP E730xx**
 - 5QJ87A, 3SJ03A, 3SJ04A
- **HP Color LaserJet Managed MFP E785xx**
 - 5QJ83A, 5QJ81A, 5QK15A
- **HP Color LaserJet Managed MFP E786xx**
 - 5QJ90A, 5QJ94A, 5QK18A, 3SJ11A, 3SJ12A, 3SJ13A, 3SJ32A, 3SJ33A, 3SJ34A, A91S5A, A91S4A
- **HP Color LaserJet Managed MFP E877xx**
 - 5QK03A, 5QK08A, 5QK20A, 3SJ19A, 3SJ20A, 3SJ21A, 3SJ22A, 3SJ35A, 3SJ36A, 3SJ37A, 3SJ38A, A91S6A, A91S7A

- **HP Color LaserJet Ent Flow MFP and MFP 8801x**
 - 9S183A, 9S184A, AQ1E2A, BD5G8A
- **HP LaserJet Managed MFP E826xx**
 - AG8Z1A, A91S3A, A91S2A, 5QK09A, 5QK13A, 5QK21A, 3SJ07A, 3SJ08A, 3SJ09A, 3SJ28A, 3SJ29A, 3SJ30A
- **HP Color LaserJet Ent Flow MFP and MFP 8501x & 8601x**
 - 9S187A, AJ7J3A, AQ1E4A, BD5H0A, 9S185A, 9S186A, AQ1E3A, BD5G9A
- **HP LaserJet Managed MFP E731xx**
 - 5QJ98A, A91S1A, A91S0A, 5QK02A, 5QK19A, 3SJ00A, 3SJ01A, 3SJ02A, 6BS57A, 6BS58A, 6BS59A

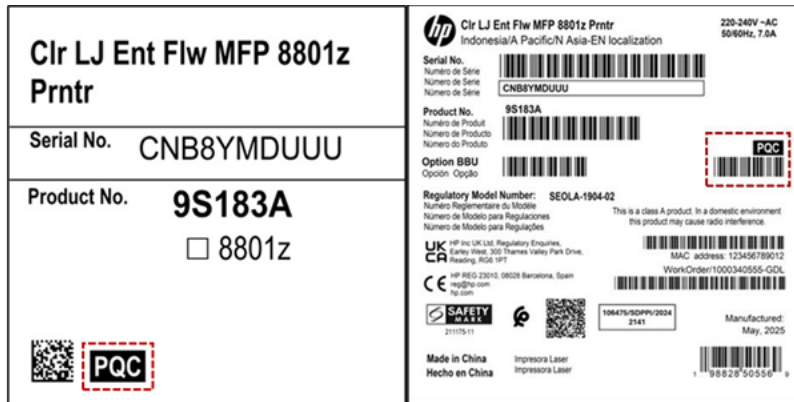
A4 Products Model Numbers and Product Numbers

- **HP Color LaserJet Enterprise 5700 & HP Color LaserJet Enterprise X55745xx**
 - 6QN28A, 6QP97A, A8ZQ5A, 9Z0H9A
- **HP Color LaserJet Enterprise MFP 6800 & HP Color LaserJet Enterprise MFP X677xx**
 - 6QN35A, 6QN36A, 6QN37A, 6QN38A, 76H10A, 76H11A, 6QQ01A, 6QQ02A, 6QQ03A, 76H08A, 76H09A, 49K86A, 49K88A, 49K87A, 49K90A, 49K91A, 49K92A, A8ZQ7A
- **HP Color LaserJet Enterprise MFP 5800 & HP Color LaserJet Enterprise MFP X579/580xx**
 - 6QN29A, 6QN30A, 58R10, 6QP98A, 6QP99A, 76H07A, A8ZQ6A, 7E357A, 7H5W6A, 7H5W7A
- **HP Color LaserJet Enterprise 6700 & HP Color LaserJet Enterprise X654xx**
 - 6QN33A, 58M42A, 6QQ00A, 49L02A, 49L04A

More Information

The activation process modifies the OTP (One-Time Programmable) memory and hardware fuses, making rollback technically infeasible.

Labels outside of product packaging will be marked with a “**PQC**” (**Post Quantum Cryptography**) label as shown below:



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