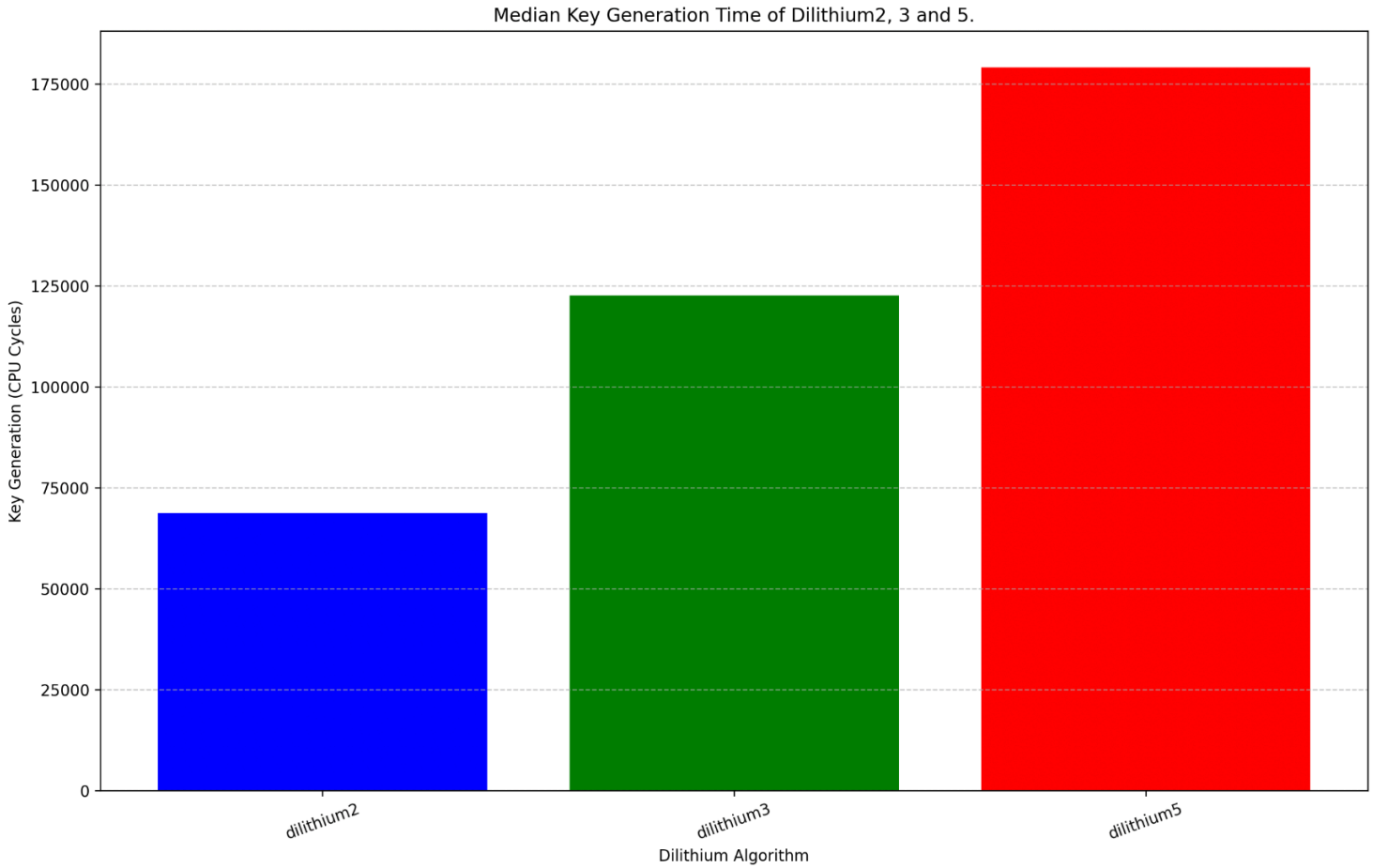
Digital Signature Post-Quantum Algorithms Performance

Dilithium

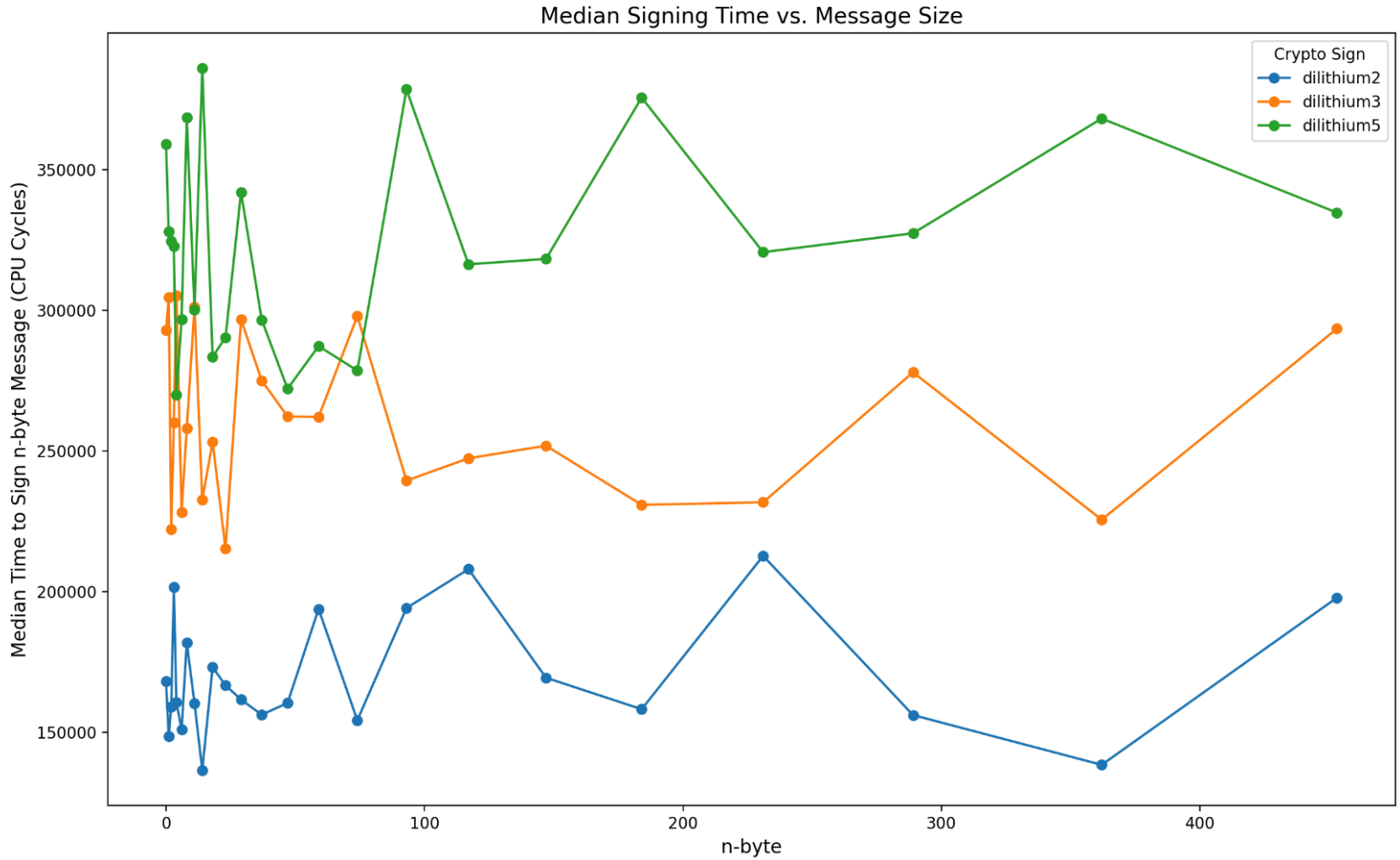
Dilithium Key Generation

Median Time (cycles) to generate a key pair: a secret key and a corresponding public key.



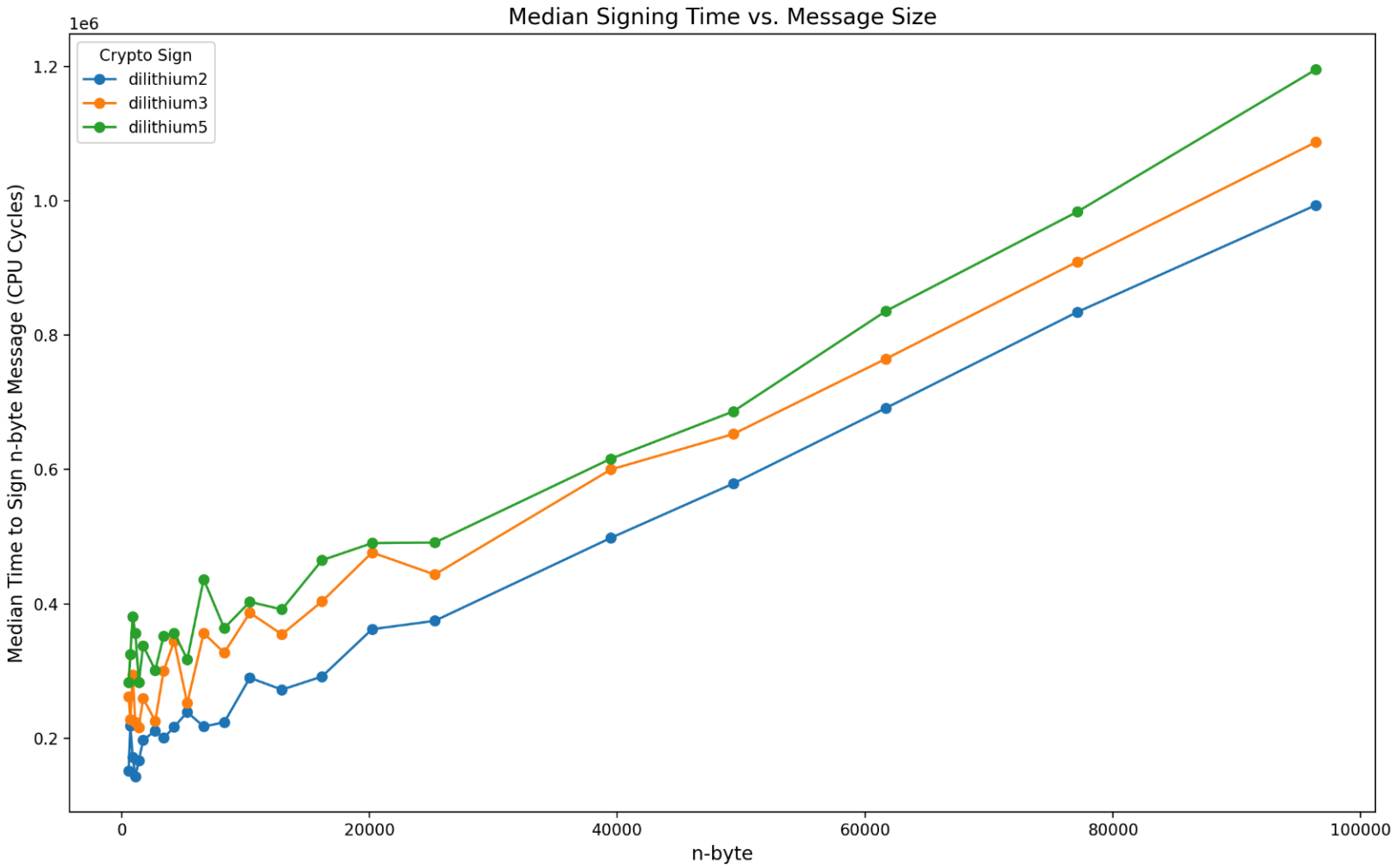
Dilithium Signing Time - 0-byte ≤ Messages ≤ 453-bytes

Time (Cycles) to sign a 0-byte ≤ message ≤ 453-bytes



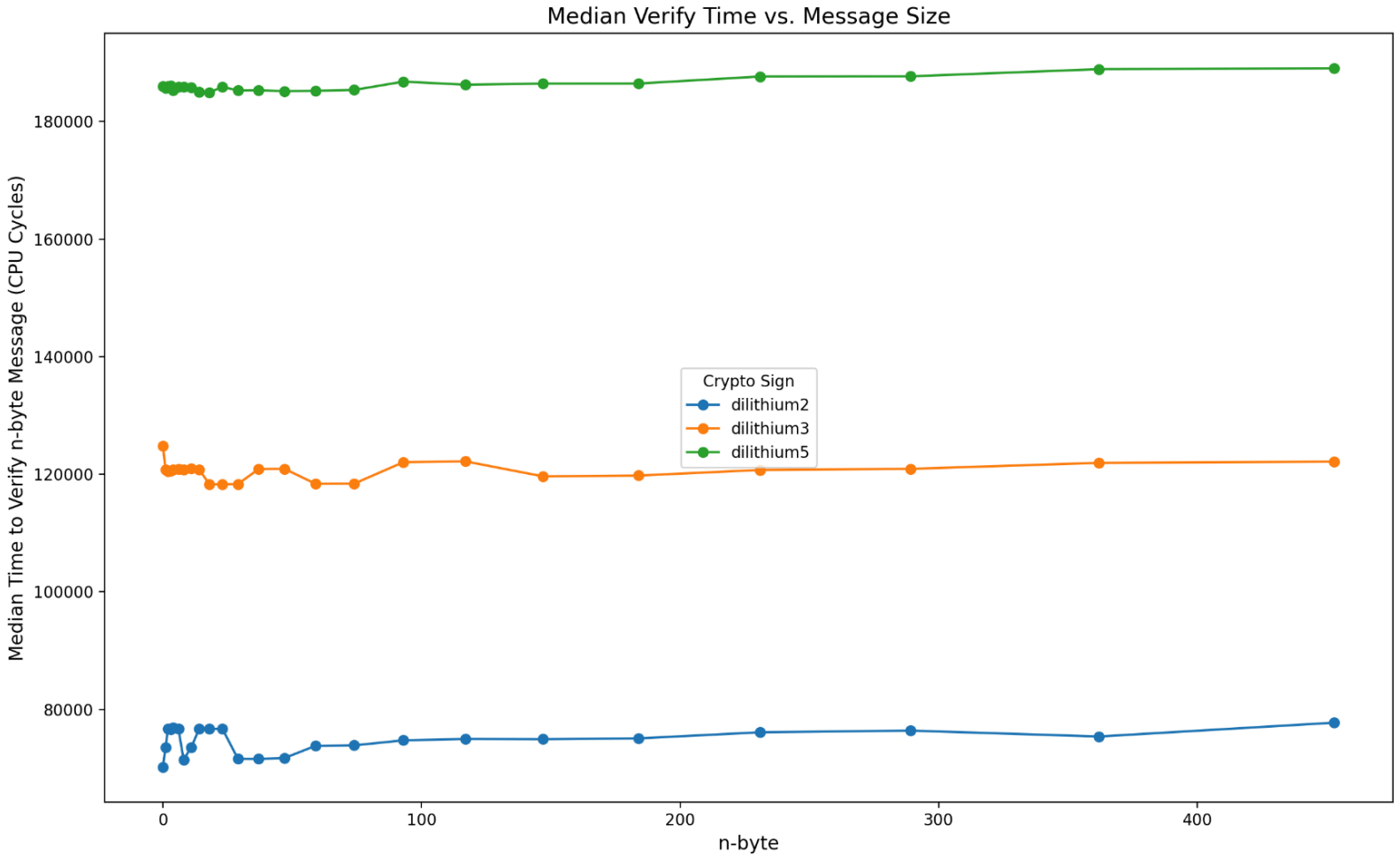
Dilithium Signing Time - 567-byte ≤ Messages ≤ 96397-byte

Time (Cycles) to sign a 567-byte ≤ message ≤ 96397-byte



Dilithium Verifying Time - 0-byte ≤ Messages ≤ 453-bytes

Time (Cycles) to open a 0-byte ≤ message ≤ 453-bytes



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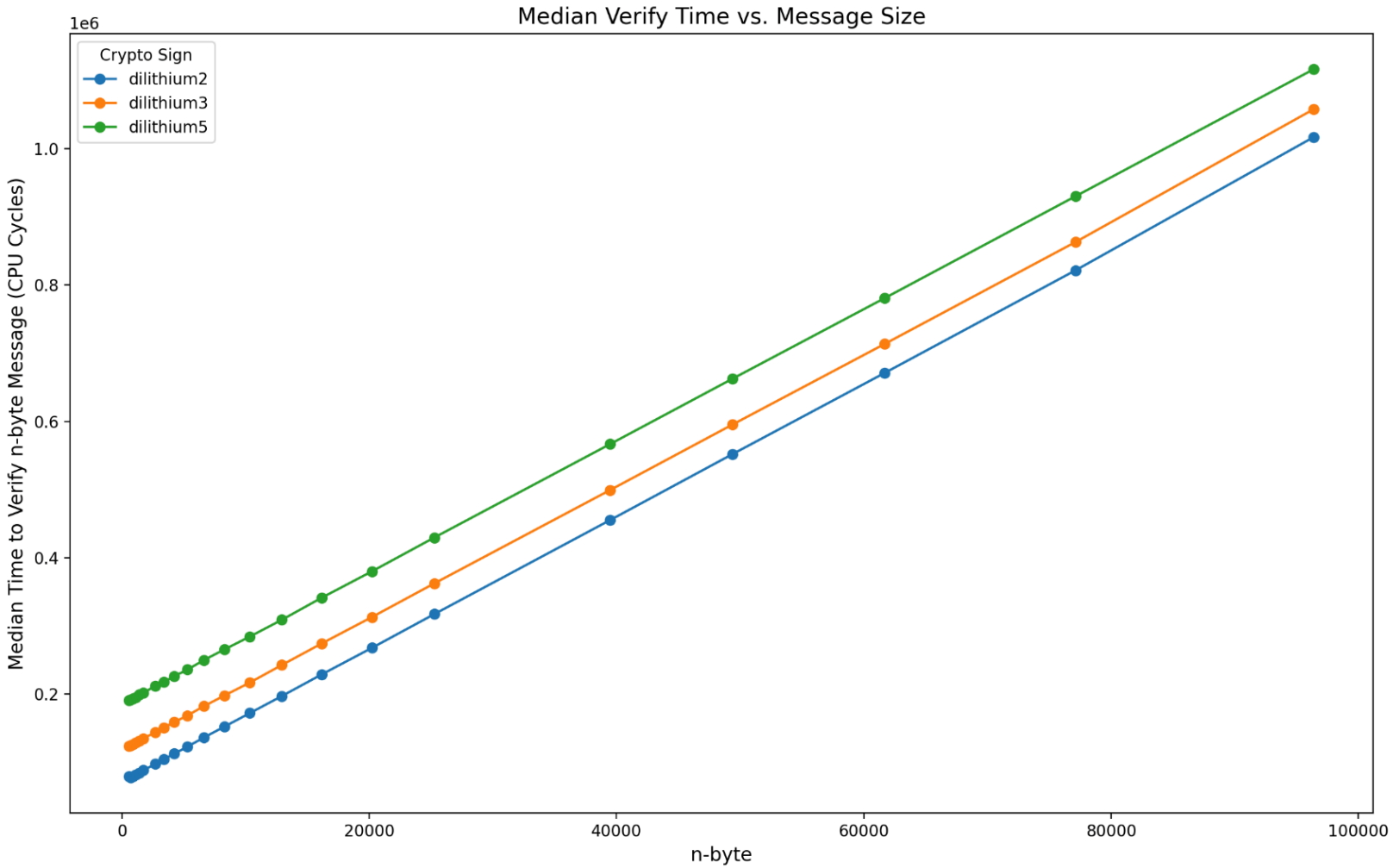
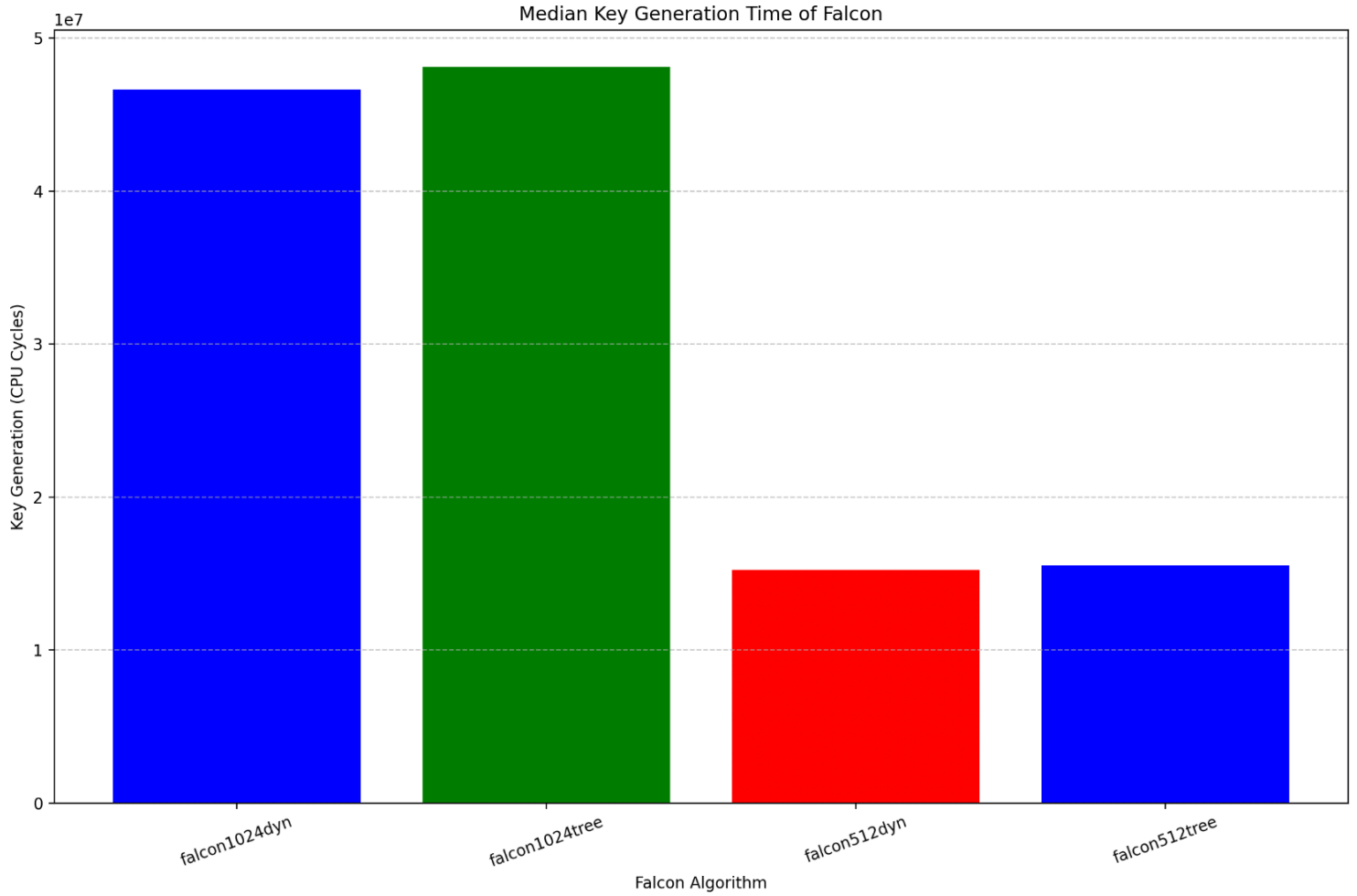


Falcon (Tree/Dyn)

Falcon Key Generation

Median Time (cycles) to generate a key pair: a secret key and a corresponding public key.



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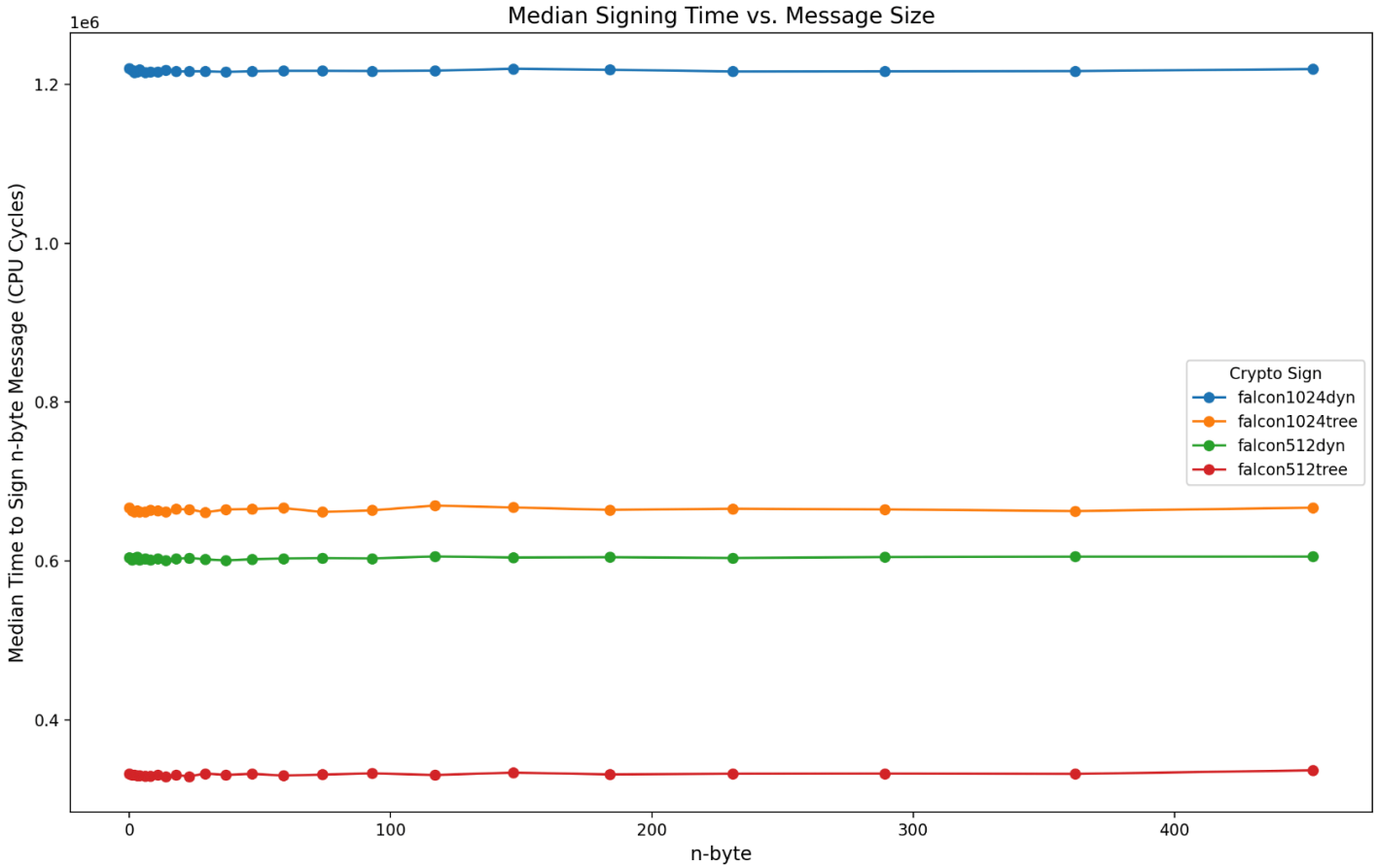
Time (Cycles) to sign a 0-byte ≤ message ≤ 453-bytes



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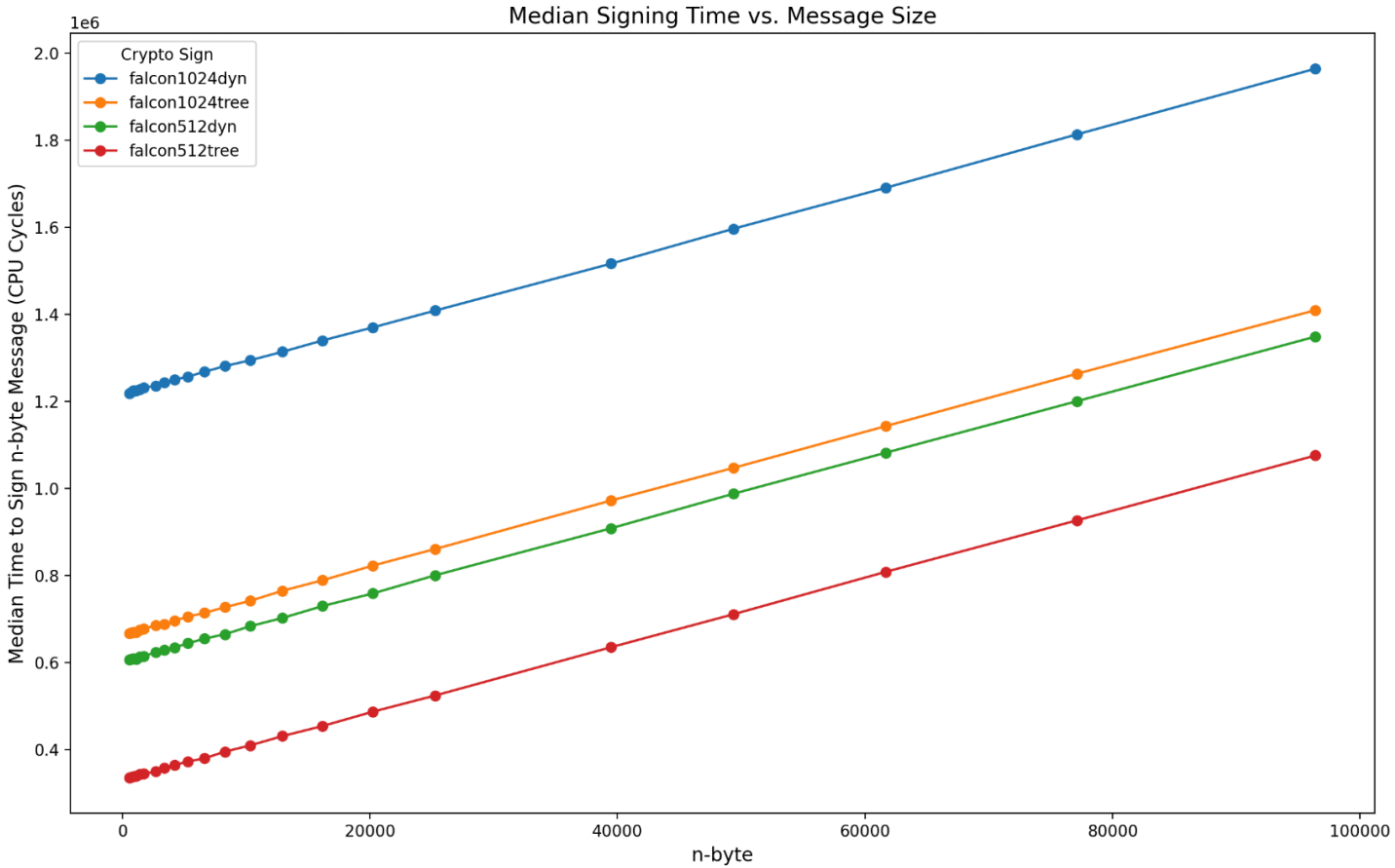
Time (Cycles) to sign a 567-byte ≤ message ≤ 96397-byte



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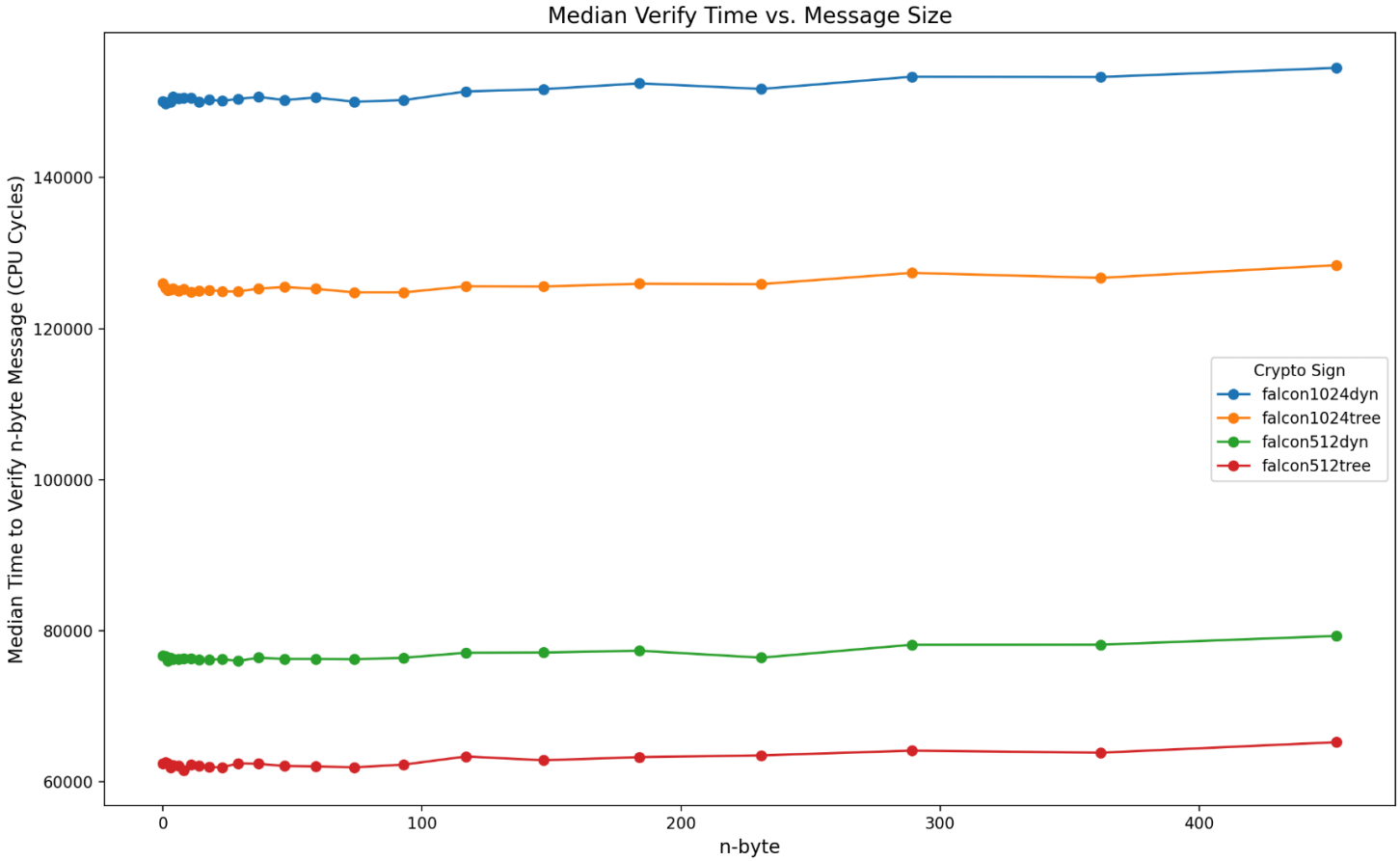

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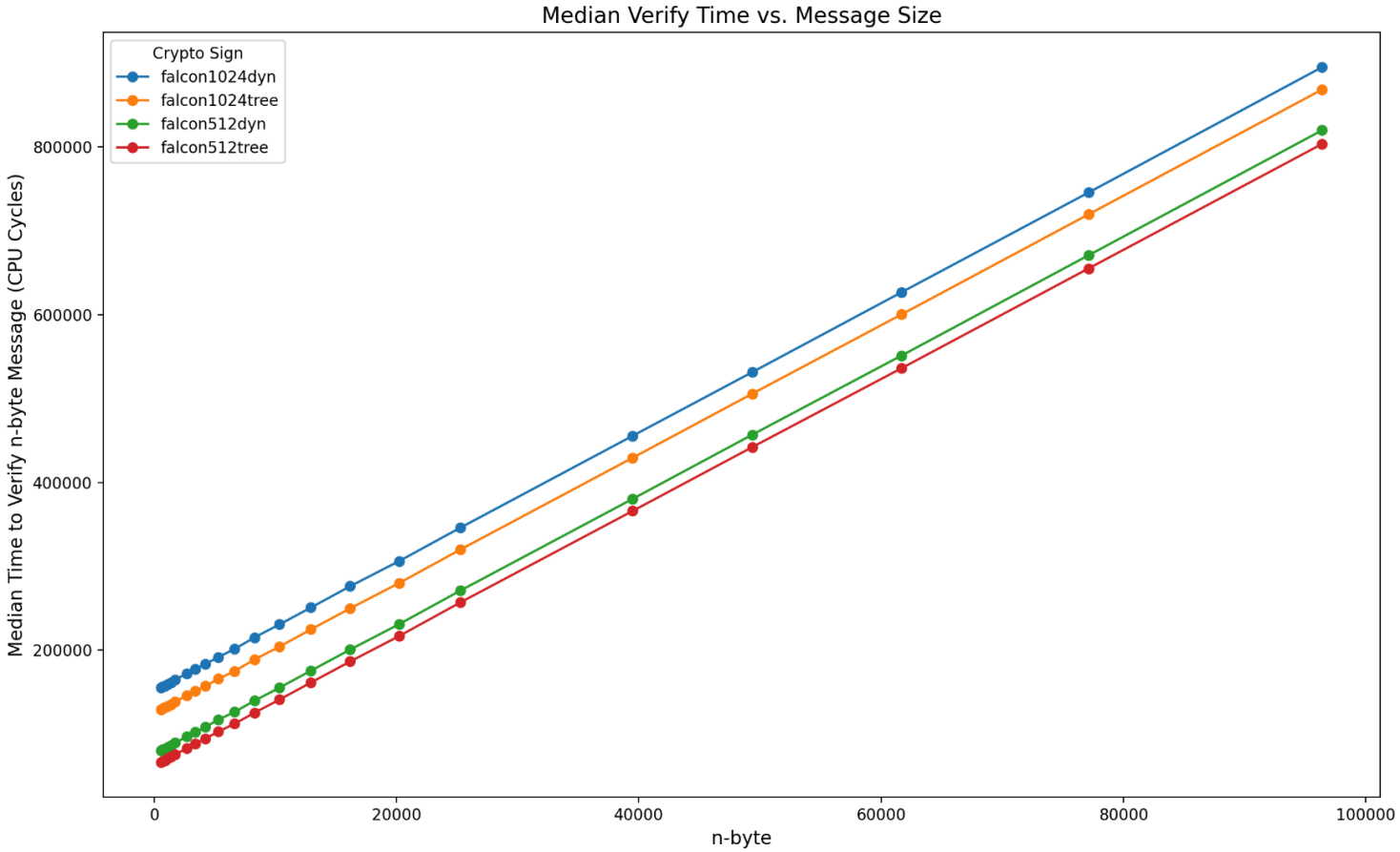
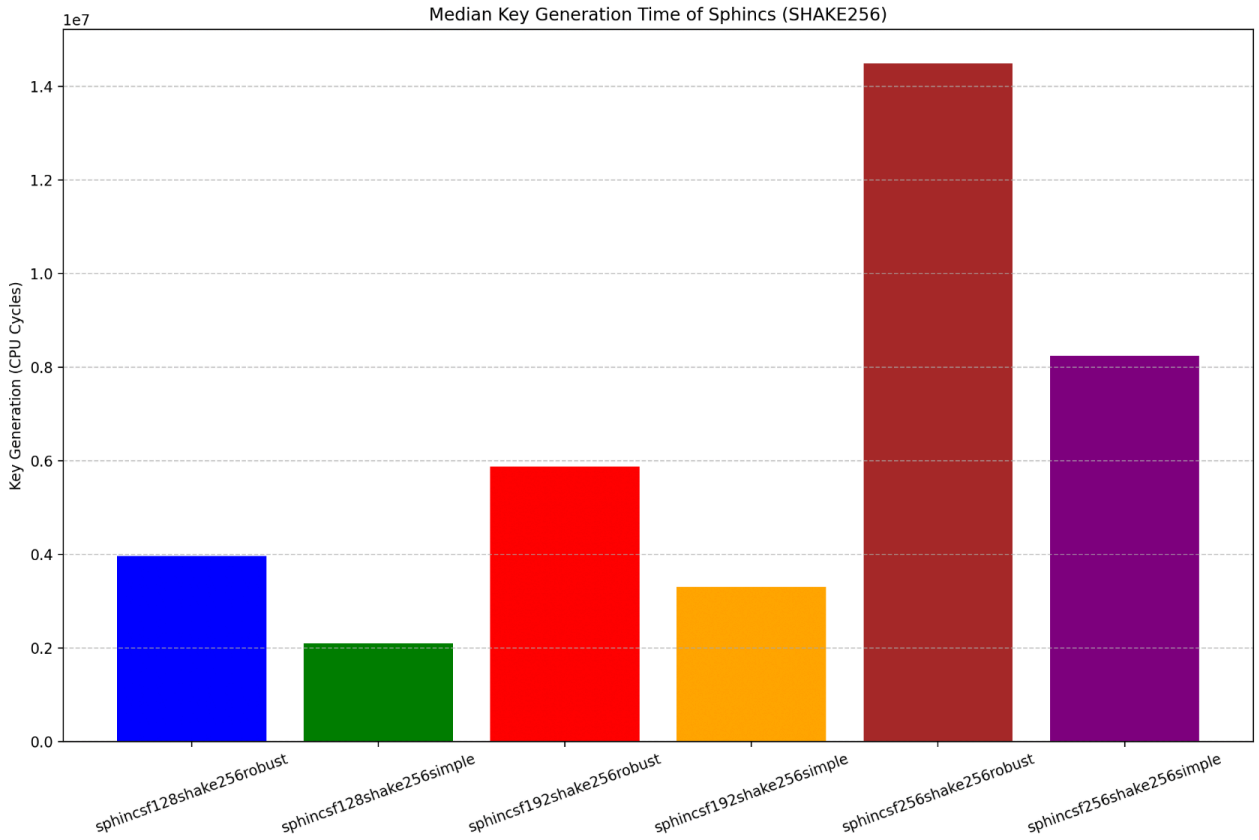


Sphincs-F (Shake256)

Sphincs-F (Shake256) Key Generation

Median Time (cycles) to generate a key pair: a secret key and a corresponding public key.



Sphincs-F (Shake256) Signing Time - 0-byte ≤ Messages ≤ 453-bytes

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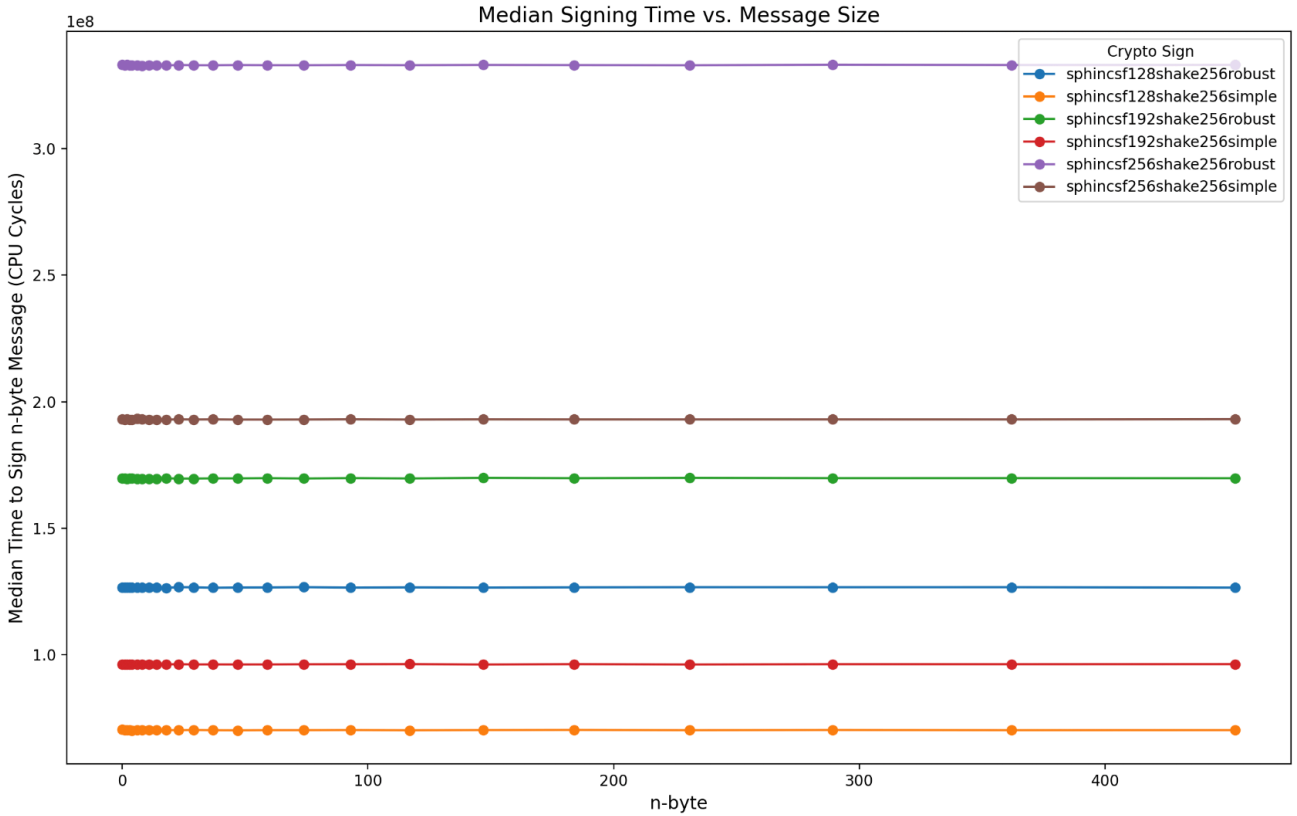

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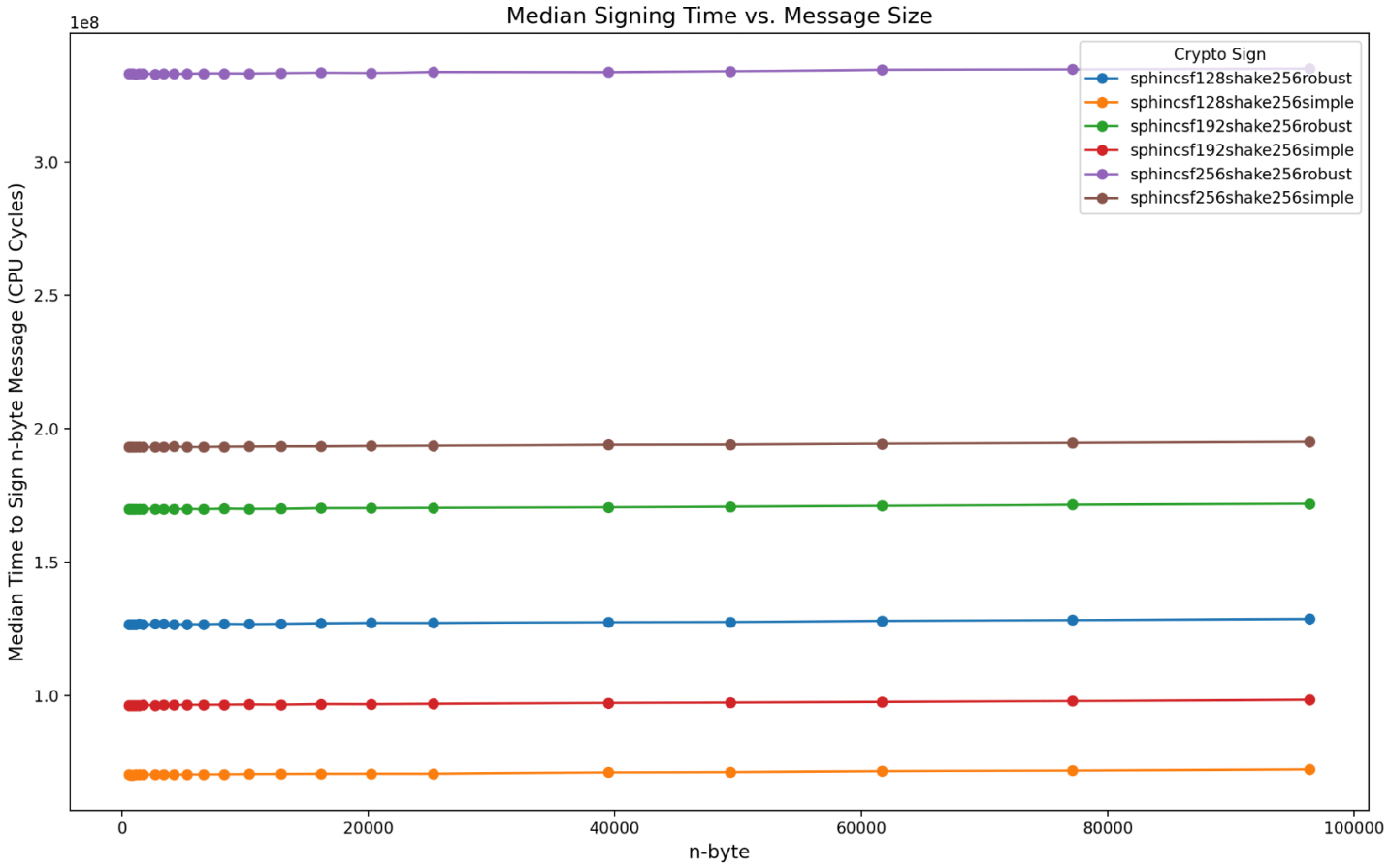

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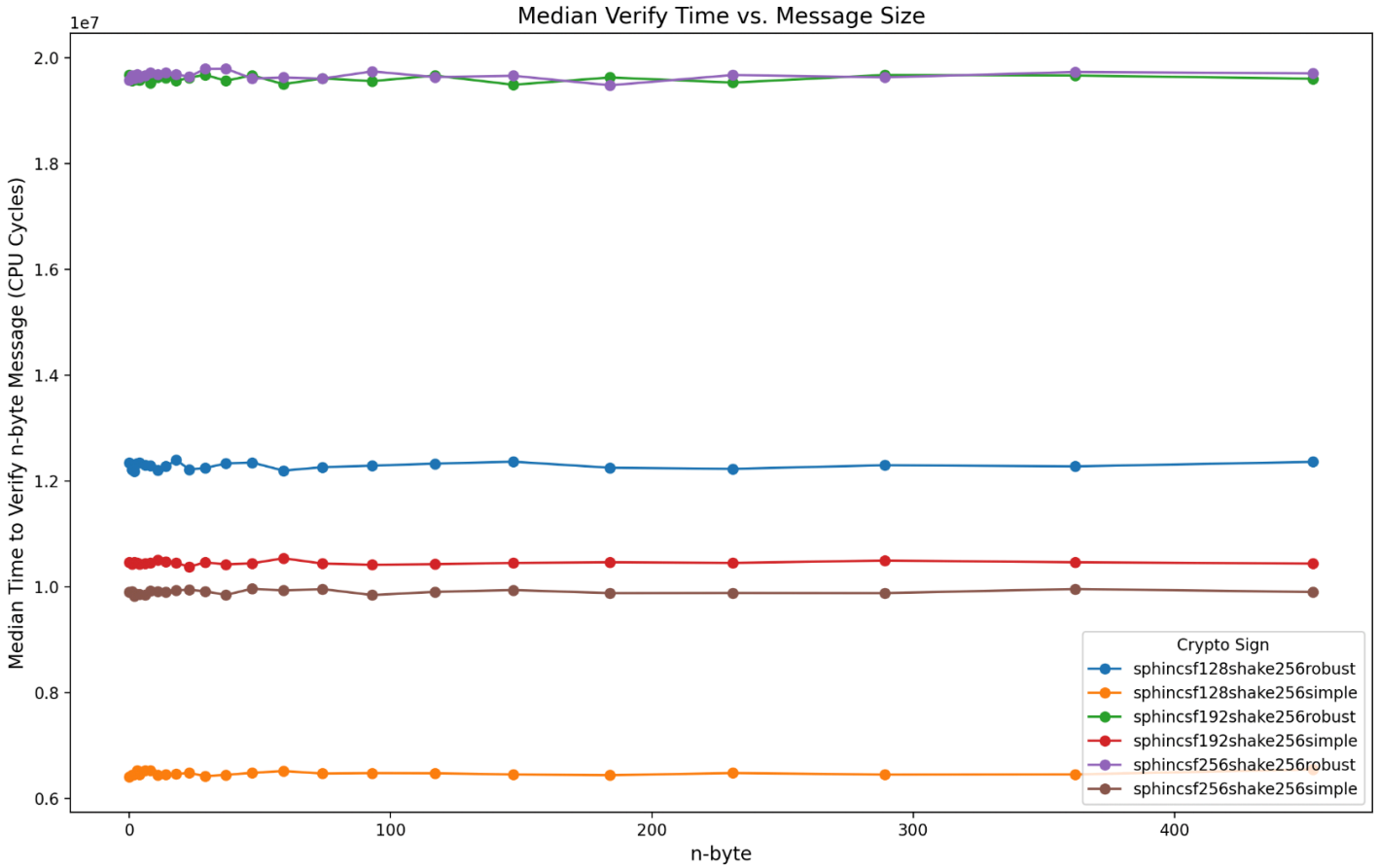

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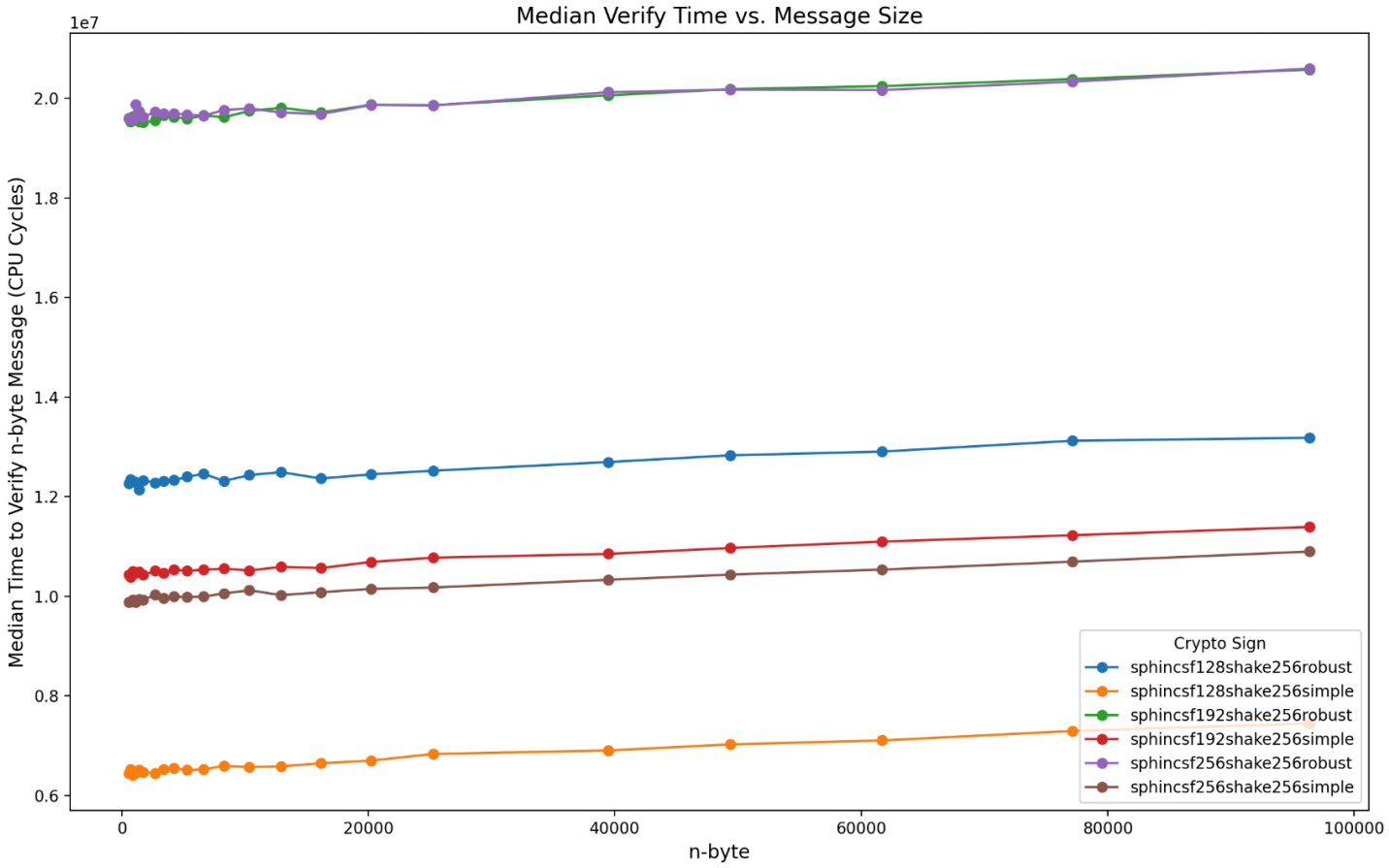
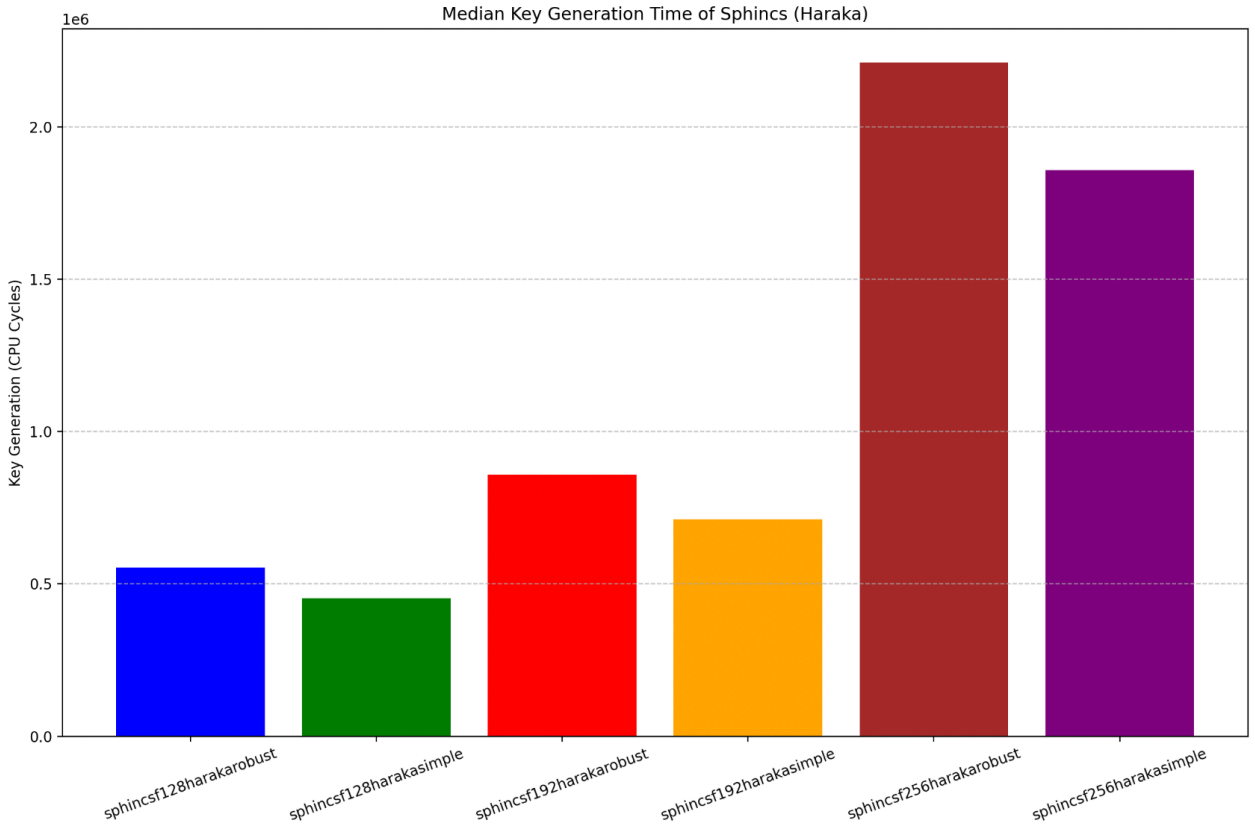


Sphincs-F (Haraka)

Sphincs-F (Haraka) Key Generation

Median Time (cycles) to generate a key pair: a secret key and a corresponding public key.



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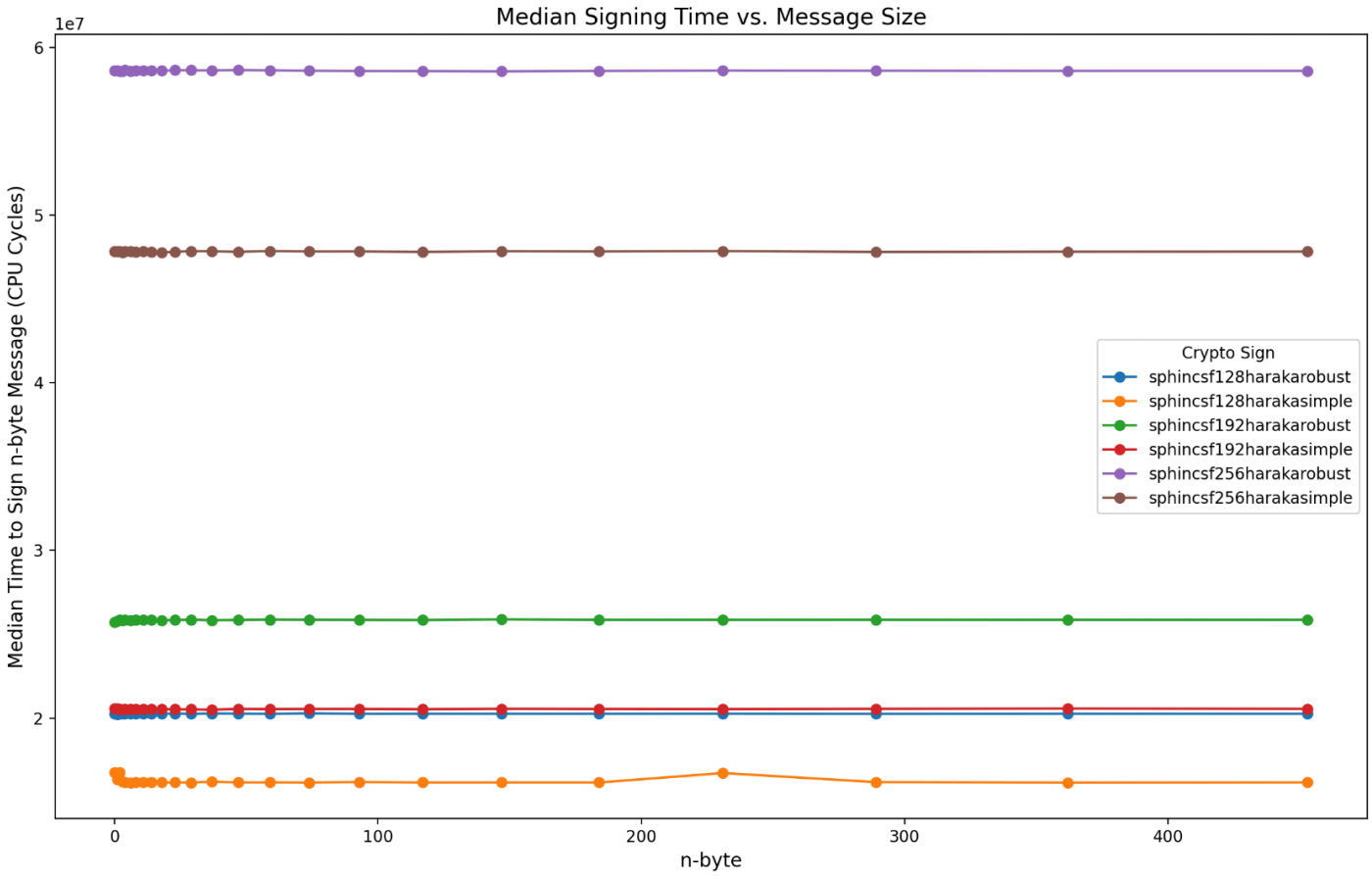

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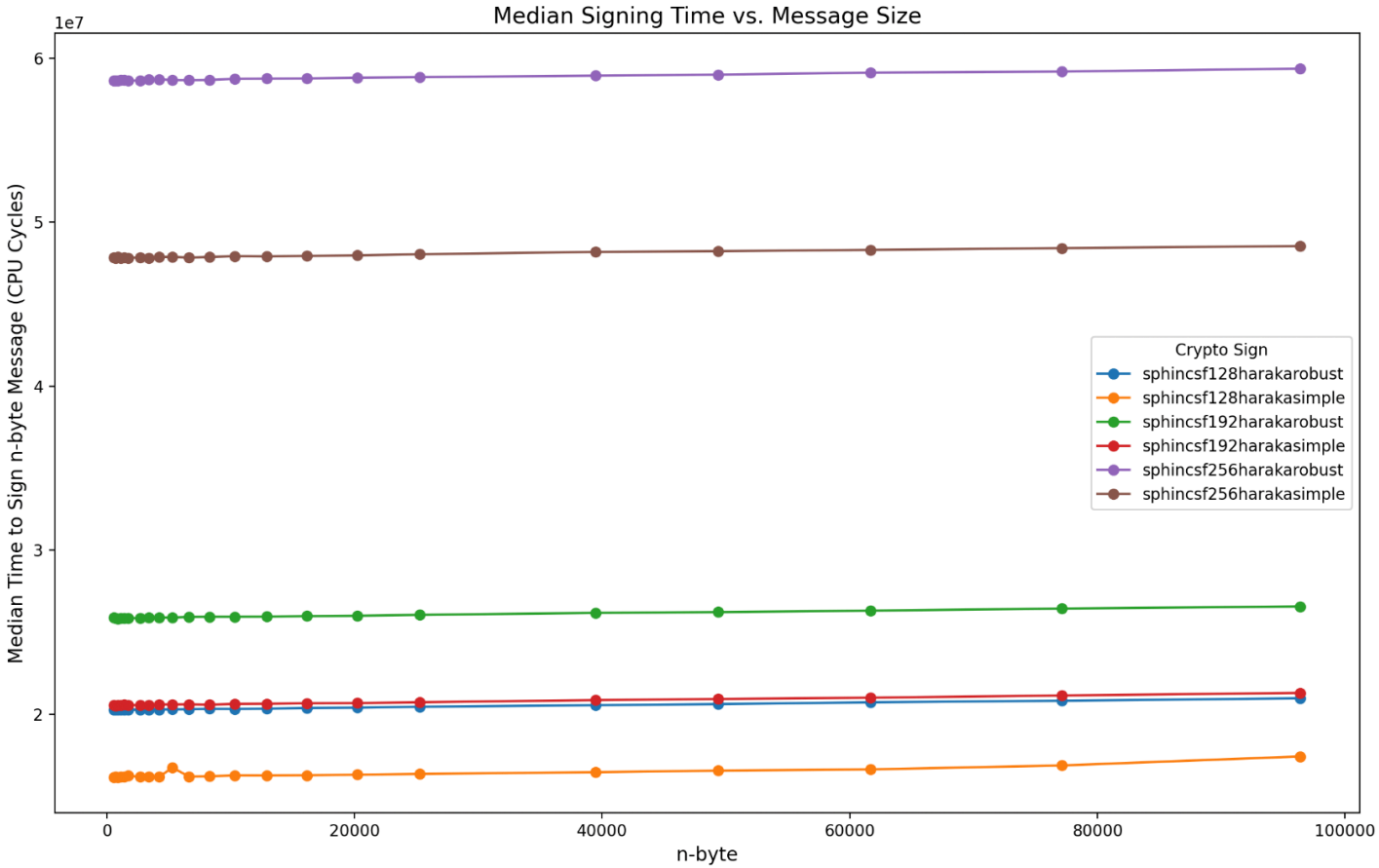

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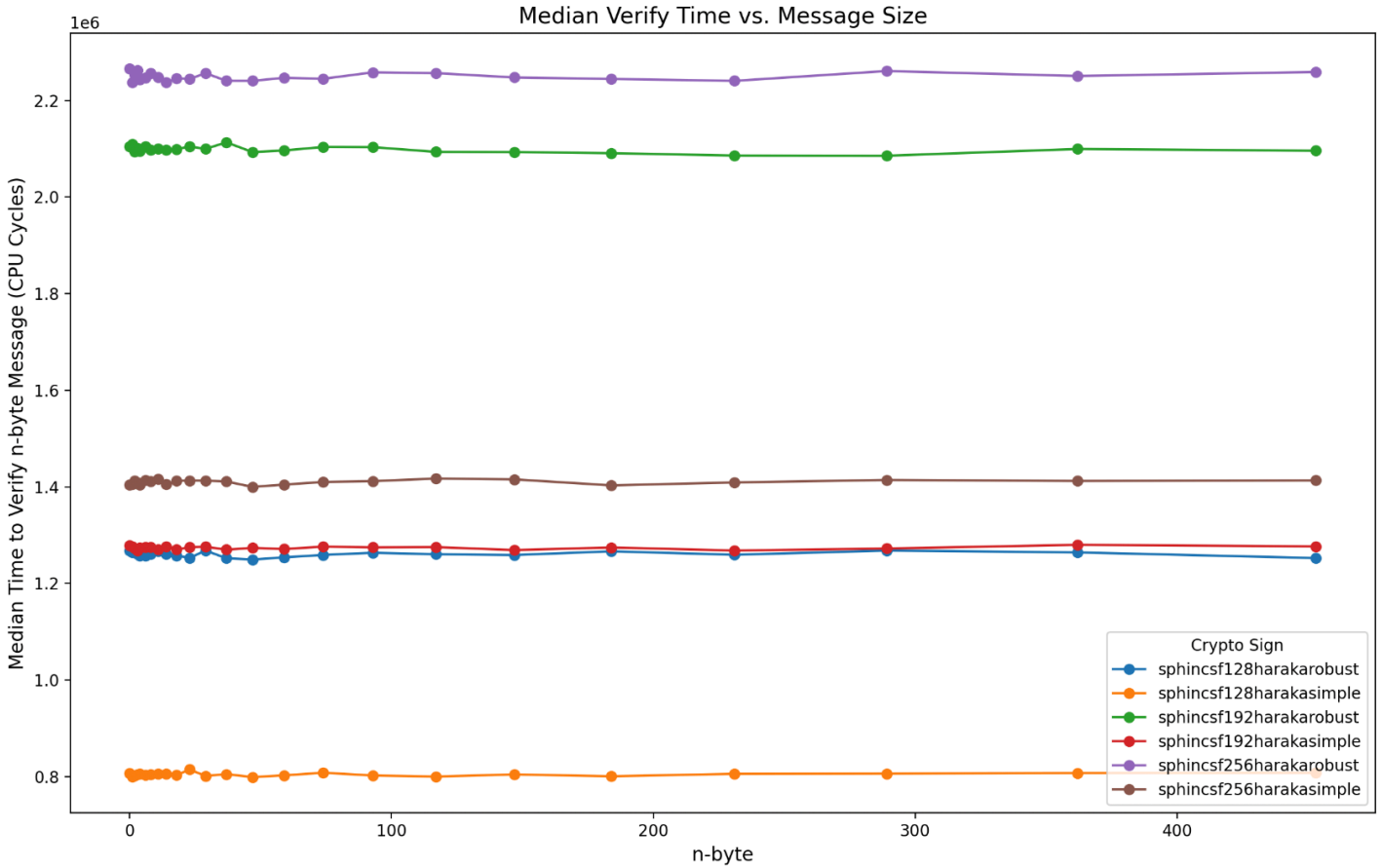

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