

Product Type	Integrated Communication Processor
Freescale Part #	T4240, T4160, T4080
Package	42.5 x 42.5mm 1932 FC PBGA
Crypto Hardware	SEC 5.0

### Algorithms

### Max Key Size (bits)

DES (ECB, CBC, OFB, CFB)	56
3DES (ECB, CBC, OFB, CFB)	168 (3-keys)
AES (ECB, CBC, CTR, CCM, CMAC, GCM, OFB, CFB, XCBC-MAC)	256
ARC-4	128
MD-5 + HMAC	(up to 512 bit keys)
SHA-1 + HMAC	(up to 512 bit keys)
SHA-224 + HMAC	(up to 512 bit keys)
SHA-256 + HMAC	(up to 512 bit keys)
SHA-384 + HMAC	(up to 512 bit keys)
SHA-512 + HMAC	(up to 512 bit keys)
Kasumi (A5/3, GEA-3, f8, f9)	128
Snow 3G	128
ZUC (EEA-1 & EIA-2)	128
RSA Digital Signature	4096-bit operands
RSA Digital Verify	4096-bit operands
ECC Digital Signature	1023-bit field or modulus size
ECC Digital Verify	1023-bit field or modulus size
FIPS compliant deterministic RNG	On chip 32-bit

Target Applications :  
Control and datapath processing for Routers, Networking Appliances, Wireless Infrastructure, Single Board Computers

Export Control Info:  
Harmonized Tariff (US): 8542.31.0000  
ENC Status: Restricted. US EAR part 740.17(b)(2)  
ECCN: 5A002 A.1  
CCAT: G146329

Overview:  
The T4240 and T4160 are members of the QorIQ family of integrated communications processor from Freescale Semiconductor. The T4240 incorporates (12) 64b e6500 Power Architecture CPU cores, (3) DDR3/3L Memory Controllers, (4) 10G ethernet and (8) 1G Ethernet controllers, along with multiple PCIe and sRIO peripheral bus controllers. The T4160 supports (8) e6500 Power Architecture CPU cores and reduced IO: (2) DDR3/3L Memory Controllers, (2) 10G Ethernet and fewer PCIe controllers. In addition to these CPUs and interfaces, the T4240 and T4160 integrate a 20Gbps Decompress/Compress Engine (DCE 1.0), a 10Gbps Pattern Matching Engine (PME 2.0), and a

40Gbps Crypto Acceleration Engine (SEC 5.0). The algorithms and key lengths supported by the SEC 5.0 are listed in the table above.

In addition to crypto algorithm processing, the SEC 5.0 supports security protocol processing off-load capability, with specific support for protocol header and trailer processing for IPsec, SSL, DTLS, SRTP, MACSec, 802.16e, and 802.11e. The SEC 5.0 is expected to achieve 1800+ key exchanges per second.

The T4240 & T4160 also provide support for secure boot and platform assurance.

NOTE 1: This authorization does not authorize the export of products designed to use the encryption functionality of these chips. Such products may require a classification and/or license from the Bureau of Industry and Security (BIS) prior to export. OEMs incorporating these chips in their products should call the BIS Encryption Export Support Line at 202-482-0707 with specific questions.

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