Product Type	Integrated Communication Processor and Digital Signal Processor
Freescale Part #	B4860, B4420
Package	1020 pin 33x33mm FC-PBGA
Crypto Hardware	SEC 5.3

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   :
Multi-standard wireless base stations

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 B4860 and B4420 are members of the QorIQ Qonverge family of combined integrated communications processor plus digital signal processor aimed at the pico-cell wireless market from Freescale Semiconductor.

The B4860 and B4420 combine four 64-bit, dual-threaded e6500 cores built on Power Architecture® technology, six StarCore SC3900FP Fixed/Floating-Point DSP cores and MAPLE-B baseband acceleration processing engines with a rich set of integrated IO. IO includes (2) DDR3/3L Memory Controllers, (2) 10G Ethernet controllers + (4) 1G Ethernet controllers, and multiple PCIe, sRIO, and CPRI RF interfaces.

The B4860 and B4420 also provide support for secure boot and platform assurance.

The B4860 and B4420 also integrate a 2Gbps Crypto Acceleration Engine (SEC 5.3). The algorithms and key lengths supported by the SEC 4.4 are listed in the table above.

In addition to crypto algorithm processing, the SEC 5.3 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 5.3 is expected to achieve 5000+ public key exchanges per second.

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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