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| Product Type | Integrated Communication Processor |
| Freescale Part # | P3041 |
| Package | 1295 FC PBGA |
| Crypto Hardware | SEC 4.2 |

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 |
| 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 processing for Routers, Storage Arrays, Industrial 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: G144401

Overview:

The P3041 is a member of the QorIQ family of integrated communications processor from Freescale Semiconductor. The P3041 incorporates 4 32b e500mc Power Architecture CPU cores, 1 DDR3/3L Memory Controller, 1 10G Ethernet and 5 1G Ethernet controllers, along with multiple PCIe and sRIO peripheral bus controllers. In addition to these CPUs and interfaces, the P3041 integrates a 5Gbps Pattern Matching Engine (regex), and a 5Gbps Crypto Acceleration Engine (SEC 4.2). The algorithms and key lengths supported by the SEC 4.2 are listed in the table above.



In addition to crypto algorithm processing, the SEC 4.2 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 4.2 is expected to achieve 5000+ public key exchanges per second.

The P3041 also provides 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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UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF INDUSTRY AND SECURITY
WASHINGTON, D.C. 20230

CASE NUMBER: Z411835

FREESCALE SEMICONDUCTOR, INC.
ATTN: Herika Baker
6501 WILLIAM CANNON DRIVE WEST
AUSTIN, TX 78660

June 13, 2012
G144401

BIS ISSUES THIS COMMODITY CLASSIFICATION DETERMINATION BASED UPON THE ASSUMPTION THAT THE APPLICANT HAS ALREADY DETERMINED THAT THE ABOVE-LISTED ITEM(S) ARE "SUBJECT TO THE EAR". AS DEFINED AND DESCRIBED IN SECTIONS 734.2 THROUGH 734.4 OF THE EAR, THE TERM "SUBJECT TO THE EAR" MEANS, AMONG OTHER THINGS, THAT THE ITEM(S) ARE NOT EXCLUSIVELY CONTROLLED FOR EXPORT OR REEXPORT BY ANOTHER AGENCY OF THE U.S. GOVERNMENT. SEE 15 C.F.R. 734.3(B)(1). THIS COMMODITY CLASSIFICATION DETERMINATION IS NOT A DETERMINATION BY BIS AS TO WHETHER THE ABOVE-LISTED ITEMS ARE "SUBJECT TO THE EAR". THUS, THIS DOCUMENT IS NOT AND MAY NOT BE RELIED UPON AS A U.S. GOVERNMENT DETERMINATION THAT THE ABOVE-LISTED ITEMS ARE NOT, FOR EXAMPLE, SUBJECT TO THE EXPORT CONTROL JURISDICTION OF THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR) (22 C.F.R. PARTS 120-130), WHICH ARE ADMINISTERED BY THE U.S. DEPARTMENT OF STATE.

THE FOLLOWING INFORMATION IS IN RESPONSE TO YOUR INQUIRY OF May 22, 2012 REQUESTING LICENSE INFORMATION FOR:

| COMMODITY | ECCN | LVS | IVL REQUIRED FOR COUNTRY GROUP | LVS DOLLAR LIMIT |
|---|----------|-----|--------------------------------|------------------|
| P3041 QorIQ P3 family of communication processor P3041 | 5A002a.1 | | | \$ |

COMMENTS FROM LICENSING OFFICER(S):

ITEM #1:

THIS ENCRYPTION ITEM IS AUTHORIZED FOR LICENSE EXCEPTION ENC UNDER SECTIONS 740.17 (A) AND (B) (2) OF THE EXPORT ADMINISTRATION REGULATIONS. FOR ITEMS AUTHORIZED UNDER 740.17(B) (2), THE EAR MAY REQUIRE SUBMISSION OF A SEMI-ANNUAL REPORT IN ACCORDANCE TO 740.17(E).

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WASHINGTON, D.C. 20230

DESTINATIONS REQUIRING A LICENSE

SEE THE COMMERCE COUNTRY CHART (SUPPLEMENT NO. 1 TO PART 738 OF THE EAR) TO DETERMINE WHICH COUNTRIES REQUIRE A LICENSE. USE THE COUNTRY CHART COLUMN INFORMATION GIVEN ON THIS FORM IN CONJUNCTION WITH THE COUNTRY CHART TO DETERMINE THE LICENSING REQUIREMENTS FOR YOUR PARTICULAR ITEMS. FOR ITEMS CLASSIFIED EAR99, SEE PART 746 OF THE EAR TO DETERMINE THE LICENSING REQUIREMENTS.

APPLICATIONS FOR EXPORT MUST BE SUBMITTED ON FORM BIS-748P MULTIPURPOSE APPLICATION. THESE FORMS MAY BE OBTAINED BY CALLING (202) 482-3332 OR REQUESTING DIRECTLY ON THE BIS INTERNET WEB SITE. ASSISTANCE IN FILLING OUT THE FORM, OR ANY ASPECT OF EXPORTING, IS PROVIDED BY THE EXPORT COUNSELING DIVISION IN WASHINGTON, D.C. AT (202) 482-4811 OR THE WESTERN REGIONAL OFFICE IN NEWPORT BEACH, CALIFORNIA AT (714) 660-0144.

LICENSE EXCEPTIONS

BE AWARE THAT THE LICENSING REQUIREMENTS FOR SOME DESTINATIONS MAY BE OVERCOME BY ANY LICENSE EXCEPTION FOR WHICH YOUR ITEMS QUALIFY. SEE PART 740 OF EAR FOR INFORMATION ON LICENSE EXCEPTIONS. THE LICENSE AVAILABLE COLUMN ON THIS FORM LISTS ONLY THOSE LICENSE EXCEPTIONS OF THE SET GBS, CIV, CTP, TSR WHICH ARE APPLICABLE TO YOUR ITEMS. OTHER LICENSE EXCEPTIONS MAY APPLY, DEPENDING UPON THE CIRCUMSTANCES OF YOUR INTENDED TRANSACTION.

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THE ECCN NUMBERING SYSTEM IS FOUND IN THE COMMERCE CONTROL LIST (CCL) PART 774 OF THE EAR. THE CCL IS A COMPREHENSIVE LIST THAT IDENTIFIES ALL ITEMS CONTROLLED AND LICENSED BY COMMERCE. WITHIN THE CCL, ENTRIES ARE IDENTIFIED BY AN ECCN. EACH ENTRY SPECIFIES THE LICENSE REQUIREMENTS FOR THE ITEM AND THE REASON(S) FOR CONTROL. PLEASE CONSULT PARTS 738 AND 774 OF THE EAR FOR SPECIFIC INFORMATION ON ECCNS.

SHIPPERS EXPORT DECLARATION (SED)

WHEN AN EXPORT IS MADE, IT IS NECESSARY FOR THE EXPORTER TO SHOW ON THE SHIPPERS EXPORT DECLARATION (FORM 7525-V) IN BLOCK 27 EITHER THE LICENSE NUMBER, THE APPLICABLE LICENSE EXCEPTION SYMBOL OR THE SYMBOL NLR. FORM 7525-V IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE OF WASHINGTON, D.C. 20402, AND FROM EXPORT ADMINISTRATION DISTRICT OFFICES (U.S. DEPT. OF COMMERCE).

CATHERINE PRATT

FOR INFORMATION CONCERNING
THIS CLASSIFICATION CONTACT
ANITA ZINZUVADIA
PHONE #: 202-482-3772



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BUREAU OF INDUSTRY AND SECURITY
WASHINGTON, D.C. 20230**

DIVISION DIRECTOR

BIS/EA/STC/IT