

MPC8569E Instruction RAM Microcode Package Release 8569Rev2_IRAM_1.7.0

General

This release note documents differences between the *QUICC Engine Block Reference Manual with Protocol Interworking*, QEIWRM Rev. 4.0, and the features implemented for this device in the provided microcode Instruction RAM (IRAM) packages. The release note documents any exceptions to the features specified in this release of the specification. The notes also describe any additions to the specification and any missing functionality in comparison to the specification.

The user should closely follow the instructions specified in the QE_Ucode_Loader file provided in the package with regard to the header files containing the code. These instructions assure proper operation and activation of the right features in the code.

Refer to the *QUICC Engine Microcode Errata* document for a description of all known issues with this and other microcode packages.

Availability

The package is currently available for the following devices.

Table 1. Package Availability by Device

Device	Loader file name (.h)
MPC8569 rev 2.0	iram_mpc8569_r2.0.h

Package content

Figure 1. Features Supported in the Package

Release Name	8569Rev2_IRAM_1.7.0
Release Date	Feb 01 2011
Ethernet Termination	
Ethernet Hierarchical Scheduler	
ATM Termination	
ML/MC PPP Termination	
PPPMux	
ESS7 Termination	
POS Termination	
IMA	
A2E IW	
P2E IW	
E2E IW	
P2P IW	
HC/Hdec IW	
HC/Hdec IW IP only	
IP Reassembly FULL	
IP Fragmentation	
Virtual Port IW	
Longest Prefix Match	
QMC	
MSP	
IP Security	
Burst Tolerance	
Virtual Port Thread Pool	
Destination Port Queue Select	
IW to 2 MCCs	
PQRL	
PPP Enhanced Statistics	
IEEE1588 Tx Acceleration	
IEEE1588 IW	
AAL0 AVCF	
WRED 64 Profiles	
Logical Port Group Rate Limiter	

The tables below designate the content of this package. The baseline is the *QUICC Engine Block Reference Manual with Protocol Interworking*, QEIWRM Rev. 4.0. The tables list additional features and features which are not supported. For a specification of the added features (which are not described in the *QUICC Engine Block Reference Manual with Protocol Interworking*, QEIWRM Rev. 4.0), please contact Freescale support. Contact information can be found at www.freescale.com.

NOTE

To achieve correct package behavior, the CAS bit in the SDMR register should be set as described in 3.1.8.2 Serial DMA Mode Register (SDMR).

Table 2. New Features (that are not described in QEIWRM Rev. 4.0)

Feature	Comments
WRED 64 Profiles	Added support in 64 WRED profiles instead of only 32
Logical Port Group Rate Limiter	Added support in Logical Port Group Rate Limiter for Enet Tx

Table 3. Removed Features (described in QEIWRM Rev. 4.0, but not supported)

Feature	Comments	QEIWRM Rev. 4.0
IP Reassembly 2 Fragments	This feature is not supported and will be replaced in future releases with IP Reassembly FULL.	
Hash LookUp Set Description	The hash lookup set description is changed (see in Table 3).	
ATM MSP	ATM MSP	

Revision History

Table 4. Revision History for Release 8569Rev2_IRAM_1.7.0

Release Date: Feb 01, 2011 Revision Register Number: 0xD2010700	
New Features	<ul style="list-style-type: none"> • WRED 64 Profiles • Logical Port Group Rate Limiter
Removed Features	N/A
Bug Fixes	<ul style="list-style-type: none"> • In Ethernet termination mode, if VFIFO block size is bigger than 128 bytes “VLAN insertion” and “IP address alignment” features can’t be enabled. (Errata ID ETH7) • WRED does not work in CPU swap queue with external CSQD. (Errata ID VP5)

Table 5. Revision History for Release 8569Rev2_IRAM_1.6.1

Release Date: Dec 15, 2010 Revision Register Number: 0xD2010601	
New Features	N/A
Removed Features	N/A
Bug Fixes	IPRFULL can get in a stuck condition because the first fragment was not received.. (Errata ID IWF9)

Table 6. Revision History for Release 8569Rev2_IRAM_1.6.0

Release Date: Nov 11, 2010 Revision Register Number: 0xD2010600	
New Features	AES-XCBC-MAC-96 authentication + AES/3DES encryption
Removed Features	N/A
Bug Fixes	The SAPT DMA SM is not performed properly by the IPSec Host Command. (Errata ID IPSec2)
	Wrong Rx RMON counters due to Busy in Burst Tolerance mode. (Errata ID ETHBT2)
	Possible memory corruption when using external CSQD and CSQD[FIE] is set. (Errata ID VP4)

Table 7. Revision History for Release 8569Rev2_IRAM_1.5.0

Release Date: Sept 15, 2010 Revision Register Number: 0xD2010500	
New Features	IEEE1588 Tx Acceleration
	IEEE1588 Interworking Acceleration
	PPP2PPP Interworking
	AAL0 AVCON for ATM-to-ATM data forwarding mode
Removed Features	N/A

Release Date: Sept 15, 2010 Revision Register Number: 0xD2010500	
Bug Fixes	En-queue synchronization problem in case of Header Decompress mode. (Errata ID PPPIW2)
	Virtual Port distributor assigns two threads to handle the same frame. (Errata ID VP3)
	After enqueue busy, RxBD data pointer is not returned to its original value. (Errata ID IWF7)

Table 8. Revision History for Release 8569Rev2_IRAM_1.4.0

Release Date: August 20, 2010 Revision Register Number: 0xD2010400	
New Features	Ethernet Transmitter RMON per Q statistics
Removed Features	N/A
Bug Fixes	N/A

Table 9. Revision History for Release 8569Rev2_IRAM_1.3.0

Release Date: June 30, 2010 Revision Register Number: 0xD2010300	
New Features	IWAD After Last PCD in IP Reassembly Full Flow.
Removed Features	N/A
Bug Fixes	N/A

Table 10. Revision History for Release 8569Rev2_IRAM_1.2.0

Release Date: Apr 8, 2010 Revision Register Number: 0xD2010200	
New Features	PPP Class Extended Statistics.
Removed Features	N/A
Bug Fixes	ExtractSPI in GenerateLookupKey_Eth cause chained PCD not to work correctly. (Errata ID IWF8)
	PWFQ does not work with low priority. (Errata ID PPP2)

Table 11. Revision History for Release 8569Rev2_IRAM_1.1.2

Release Date: Mar. 24, 2010 Revision Register Number: 0xD2010102	
New Features	N/A

Release Date: Mar. 24, 2010 Revision Register Number: 0xD2010102	
Removed Features	N/A
Bug Fixes	<p>After enqueue busy, RxBD data pointer is not returned to its original value. The issue appears only in the BT and IPSec use-case In high traffic when the Encrypted frames exceed the wire bandwidth (1G).</p> <p>In case of enqueue busy after the IPSec encryption flow (+ HM), the RxBD data pointer is not returned to its original value. In this case [BT + IPSec(HM) + enqueue busy] there is no code that cares for the shifted RxBD data pointer. In the Eth2VP use case, this job is done by the Rx2Rx routine. The problem is solved by adding this feature to the "drop frames" routine. (Errata ID IWF7)</p>

Table 12. Revision History for Release 8569Rev2_IRAM_1.1.1

Release Date: Jan. 31, 2010 Revision Register Number: 0xD2010000	
New Features	IP Reassembly FULL reassemble IP fragments into IP Packets. The fragments may be received in order or out of order.
	32 IMA Links Support. This features enable to allocate 32 IMA links per IMA root.
Removed Features	N/A
Bug Fixes	N/A

Table 13. Revision History for Release 8569Rev2_IRAM_1.1.0

Release Date: Jan. 31, 2010 Revision Register Number: 0xD2010000	
New Features	IP Reassembly FULL reassemble IP fragments into IP Packets. The fragments may be received in order or out of order.
	32 IMA Links Support. This features enable to allocate 32 IMA links per IMA root.
Removed Features	N/A
Bug Fixes	N/A
Known Issues	IP Reassembly FULL does not work under heavy load when number of fragments is above 6 fragments per frame.



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