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AMI-C EPoC CMS Message Identification and Analysis V1.00

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Abstract

This specification is based on the AMI-C 2002 1.0.2 specification released on August 4, 2005 to identify a set of CMS Messages compatible for AMI-C EPoC. This document captures the analysis of the operations as defined in the AMI-C document "Power Management EPoC SW Architecture_v0.8.doc". All the new and modified CMS Messages are identified and their mapping to the AMIC-C types is captured.

Keywords

IEEE 1394, Serial Bus, AMI-C, Automotive, EPoC, CMS Message, Power Management



AMI-C 2002 1.0.2

AMI-C EPoC CMS Message Identification and Analysis

V1.00

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Foreword

Introduction

This document captures the New and Modified CMS Messages for the spec '2002v1'01.pdf'. This is done for making the CMS Messages compatible for AM-IC EPoC.

AMI-C has identified a set of New/Modified CMS Messages to be included in this release. Each of these operations is analyzed based on the following document "Power Management EPoC SW Architecture_v0.8.doc"

1 Scope

This document captures the analysis of the operations as defined in the document "Power Management EPoC SW Architecture_v0.8.doc". All the new and modified CMS Messages are identified and their mapping to the AMIC-C types is captured.

2 References

2.1 Normative references

- (1) AMI-C 2002 AMI-C Common Message Set v1.02
- (2) Power Management EPoC SW Architecture_v0.8.doc

3 CMS Message Identification/Modification

Section 3.1 summarizes the new/modified messages to be introduced as part of the modification. Section 3.2 deals with the new messages and Section 3.3 describes the modified messages and the changes that need to be introduced. The changes in the operations are given in 'Pink' color fonts for easy identification.

3.1 Messages to be defined/modified

Effected sections in 2002v1'01.pdf	Status	Effected Messages
6.20- P-Mode State	New	All
6.21- Local Power Mode Message	New	All

Effected sections in 2002v1'01.pdf	Status	Effected Messages
6.22- P-Mode Messages	New	All
6.23- System Power Mode	New	All
6.3- Power State	Modified	AmicMnAttError
6.4-Node Information Announcement	Modified	AmicMnCmdNodeInfoAnnoucne
6.18- Simple Data Transfer	Modified	AmicMnWarSimpleDataTransfer

Table 1 – Messages to be defined/modified

3.2 New Messages

3.2.1 P-Mode State

Effected Section Of 2002v1'01.pdf	6.20
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.3 P-Mode Slave and LPM

This message is to control the local devices

Supported Messages

Class = Management Class

Object = P Mode State

Name	Operator	Type	Class	Object	Parameter
AmicMnSetPModeState	Set	'010'B	'02'H	'03'H	Set
AmicMnCnfPModeState	Cnf	'011'B	'02'H	'03'H	Confirm

Parameter Definition

Set Parameter(s)			
Type	Name	Value/Type	Description
	pmodeState	AmicMnAttPModeState	P-Mode State

Confirm Parameter(s)			
Type	Name	Value/Type	Description
	errorStatus	AmicMnAttErrorPModeState	Error Status

AmicMnAttPModeState			
Type	Name	Value/Type	Description
ENUMERATED	resumeLocalDevice	1	Resume Local PHY + Link
	deactivatePMLine	2	Deactivate PM Line

AmicMnAttError

Type	Name	Value/Type	Description
ENUMERATED	noError	0	Request successful without error
	unspecifiedError	1	Error that is not possible to identify
	notSupported	2	Incoming Request not supported
	Busy/Cannot accept	3	Cannot Accept Request

3.2.2 Local Power Mode Message

Effected Section Of 2002v1'01.pdf	6.21
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.7 LPM and Local Application (Camera Application)

This message is to control the local applications attached a node

Supported Messages

Class = Management Class

Object = LPM Message

Name	Operator	Type	Class	Object	Parameter
AmicMnInqLpmMsg	Inq	'000'B	'02'H	'04'H	Inquiry
AmicMnRspLpmMsg	Rpt	'001'B	'02'H	'04'H	Report
AmicMnSetLpmMsg	Set	'010'B	'02'H	'04'H	Set

Parameter Definition

Inquiry Parameter(s)			
Type	Name	Value/Type	Description
	powerState	AmicMnAttLpmMsgPstate	Local Application Power State Enquiry

Report Parameter(s)			
Type	Name	Value/Type	Description
	powerStatus	AmicMnAttLpmMsgPstatus	Local Application Power State

Set Parameter(s)			
Type	Name	Value/Type	Description
	lpmMsg	AmicMnAttLpmMsg	Set Power Mode

AmicMnAttLpmMsgPstate			
Type	Name	Value/Type	Description

ENUMERATED	powerStateEnquiry	1	Enquiring the Power state of an Application
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AmicMnAttLpmMsgPstatus			
Type	Name	Value/Type	Description
ENUMERATED	canSuspend	1	Application has resumed and can go into suspended state if requested to do so
	cannotSuspend	2	Application has resumed but cannot go into suspended state if requested to do so
	Suspended	3	Application is in suspended state

AmicMnAttLpmMsg			
Type	Name	Value/Type	Description
ENUMERATED	Resume	1	Resume the Application
	Suspend	2	Suspend the Application

3.2.3 P-Mode Messages

Effected Section Of 2002v1'01.pdf	6.22
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.1 P-Mode Master and PMode Slave

This message is for PMode Master and Slave Applications to communicate with each other.

Supported Messages

Class = Management Class

Object = P Mode Messages

Name	Operator	Type	Class	Object	Parameter
AmicMnCnfPModeMessage	Wrn	'101'B	'02'H	'17'H	Warning

Parameter Definition

Warning Parameter(s)			
Type	Name	Value/Type	Description
	pmodeState	AmicMnAttPModeMessage	P-Mode State

AmicMnAttPModeMessage

Type	Name	Value/Type	Description
ENUMERATED	deactivatePMLine	1	Deactivate PM Line

3.2.4 System Power Mode

Effected Section Of 2002v1'01.pdf	6.23
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.5 SPM and LPM

Name	Operator	Type	Class	Object	Parameter
AmicMnInqDevicePMode	Inq	'000'B	'02'H	'01'H	Inquire
AmicMnRptDevicePMode	Rpt	'001'B	'02'H	'01'H	Report
AmicMnSetDevicePMode	Set	'010'B	'02'H	'01'H	Set
AmicMnCnfDevicePMode	Cnf	'011'B	'02'H	'01'H	Confirm

Parameter Definition

Inquire Parameter(s)			
Type	Name	Value/Type	Description
	spmMsgInq	AmicMnAttSpmMsgInq	SPM message Inquire attribute

Report Parameter(s)			
Type	Name	Value/Type	Description
	spmMsgRpt	AmicMnAttSpmMsgRpt	SPM message report attribute

Set Parameter(s)			
Type	Name	Value/Type	Description
	spmMsgSet	AmicMnAttSpmMsgSet	SPM message set attribute

Confirm Parameter(s)			
Type	Name	Value/Type	Description
	errorStatus	AmicMnAttError	Error Status

AmicMnAttSpmMsgInq			
Type	Name	Value/Type	Description
ENUMERATED	Power State	1	Power State

AmicMnAttSpmMsgRpt			
Type	Name	Value/Type	Description

ENUMERATED	Resumed	1	Resumed
	Suspended	2	Suspended

AmicMnAttSpmMsgSet			
Type	Name	Value/Type	Description
ENUMERATED	Wakeup	1	Wake up Request
	shutdownRequest	2	Shutdown Request
	shutdownExecuteNormal	3	Shutdown Execution – Normal/Cooperative
	shutdownExecuteForced	4	Shutdown Execution – Forced

AmicMnAttError			
Type	Name	Value/Type	Description
ENUMERATED	noError	0	Request successful without error - Wake up Successful / Accept Shutdown Request
	unspecifiedError	1	Error that is not possible to identify
	notSupported	2	Incoming Request not supported
	Busy/Cannot accept	3	Cannot Accept Request. Reject Shutdown Request

3.3 Modified Messages

Only The areas in '2002v1'01.pdf' document which needed the modifications are highlighted here.

3.3.1 Power State

Effected Section Of 2002v1'01.pdf	6.3
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.2 P-Mode Master and SPM

Confirm Parameter(s)			
Type	Name	Value/Type	Description
	errorStatus	AmicMnAttError	Error Status

AmicMnAttError			
Type	Name	Value/Type	Description
ENUMERATED	noError	0	Request successful without error
	unspecifiedError	1	Error that is not possible to identify
	notSupported	2	Incoming Request not supported
	Busy/Cannot accept	3	Cannot Accept Request

3.3.2 Node Information Announcement

Effected Section Of 2002v1'01.pdf	6.4
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.6.1 CCM Registration

Name	Operator	Type	Class	Object	Parameter
AmicMnCmdNodeInfoAnnoucne	Cmd	'100'B	'02'H	'05'H	Command

Command Parameter(s)			
Type	Name	Value/Type	Description
SEQUENCE	registration	BOOLEAN	TRUE is registration, FALSE is unregistration
	functionType	AmicCmAttFunctionType	Function type
	instanceNum	INTEGER(1...14)	Instance number assigned.
	numOfServices	INTEGER(1...255)	Number of services available in a certain module.
	Services	SEQUENCE OF AmicMnAttSpecificService	Specific service information.
	userSpecifyData	OCTET	User Specified data type and length
	userData	OCTET (SIZE(32))	STRING User data

Also in “AmicCmAttFunctionType” add ‘P-Mode Master Application’, ‘Pmode Slave Application’, ‘SPM’, ‘LPM’, ‘IIDC Camera Application’, ‘RM’.

3.3.3 Simple Data Transfer

Effected Section Of 2002v1'01.pdf	6.18
Reference in Power Management EPoC SW Architecture_v0.8.doc	4.6.3 CCM Notifications

Name	Operator	Type	Class	Object	Parameter
AmicMnInqSimpleDataTransfer	Inq	'000'B	'02'H	'15'H	N/A
AmicMnRptSimpleDataTransfer	Rpt	'001'B	'02'H	'15'H	Report
AmicMnSetSimpleDataTransfer	Set	'010'B	'02'H	'15'H	Set
AmicMnCnfSimpleDataTransfer	Cnf	'011'B	'02'H	'15'H	Confirm
AmicMnWarSimpleDataTransfer	Wrn	'101'B	'02'H	'15'H	Warning

Warning Parameter(s)			
Type	Name	Value/Type	Description
	ccmNotify	AmicMnAttCcmNotify	CCM Notification

AmicMnAttCcmNotify			
Type	Name	Value/Type	Description
ENUMERATED	complitalizeCmplted	1	Component Initialization Completed

Annex A Requirement and recommendation language

A.1 Requirements

The following verbal forms are indicative of requirements that are to be followed in order to achieve conformance to this specification. No deviation is permitted from a requirement.

Verbal Form	Equivalent Expressions
Shall, Must, Will	Is to Is required to It is required that Has to Only ... is permitted It is necessary
Shall Not, Will Not	Is not allowed [permitted] [acceptable] [permissible]

A.2 Recommendations

The following verbal forms are indicative of recommendations or courses of action that are preferred, but are not necessarily required.

Verbal Form	Equivalent Expressions
Should	It is recommended that Ought to
Should Not	It is not recommended that
May	Is permitted Is allowed Is permissible
May Not	Need not It is not required that No ... is required
Can	Be able to There is a possibility of It is possible to
Cannot	Be unable to There is no possibility of It is not possible to