MOST

Media **O**riented **S**ystems **T**ransport

**Multimedia and Control
Networking Technology**

MOST FBlock ExtendedNetworkControl
Rev 3.1.0
12/2016

Legal Notice

COPYRIGHT

© Copyright 1999 - 2016 MOST Cooperation. All rights reserved.

LICENSE DISCLAIMER

Nothing on any MOST Cooperation Web Site, or in any MOST Cooperation document, shall be construed as conferring any license under any of the MOST Cooperation or its members or any third party's intellectual property rights, whether by estoppel, implication, or otherwise.

CONTENT AND LIABILITY DISCLAIMER

MOST Cooperation or its members shall not be responsible for any errors or omissions contained at any MOST Cooperation Web Site, or in any MOST Cooperation document, and reserves the right to make changes without notice. Accordingly, all MOST Cooperation and third party information is provided "AS IS". In addition, MOST Cooperation or its members are not responsible for the content of any other Web Site linked to any MOST Cooperation Web Site. Links are provided as Internet navigation tools only.

MOST COOPERATION AND ITS MEMBERS DISCLAIM ALL WARRANTIES WITH REGARD TO THE INFORMATION (INCLUDING ANY SOFTWARE) PROVIDED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

In no event shall MOST Cooperation or its members be liable for any damages whatsoever, and in particular MOST Cooperation or its members shall not be liable for special, indirect, consequential, or incidental damages, or damages for lost profits, loss of revenue, or loss of use, arising out of or related to any MOST Cooperation Web Site, any MOST Cooperation document, or the information contained in it, whether such damages arise in contract, negligence, tort, under statute, in equity, at law or otherwise.

FEEDBACK INFORMATION

Any information provided to MOST Cooperation in connection with any MOST Cooperation Web Site, or any MOST Cooperation document, shall be provided by the submitter and received by MOST Cooperation on a non-confidential basis. MOST Cooperation shall be free to use such information on an unrestricted basis.

TRADEMARKS

MOST Cooperation and its members prohibit the unauthorized use of any of their trademarks. MOST Cooperation specifically prohibits the use of the MOST Cooperation LOGO unless the use is approved by the Steering Committee of MOST Cooperation.

SUPPORT AND FURTHER INFORMATION

For more information on the MOST technology, please contact:

> **MOST Cooperation**
> Administration
> Emmy-Noether-Str. 14
> 76131 Karlsruhe
> Germany
>
> Tel: (+49) (0) 721 966 50 00
>
> E-mail: contact@mostcooperation.com
> Web: www.mostcooperation.com

This Specification is Confidential Information of the MOST Cooperation. It may only be disclosed to member companies. Member companies wishing to discuss these Specifications with suppliers or other third parties must ensure that a commercially standard form of non-disclosure agreement has been previously executed by the party receiving such Specifications. Use of these Specifications may only be for purposes for which they are intended by the MOST Cooperation. Unauthorized use or disclosure is a violation of law.

MOST®
FBlock ExtendedNetworkControl Specification

Bibliography

All documents, which this MOST document has references to, are listed here with the actual revision this document is referring to.

Number	Document	Revision
[1]	MOST Specification	3.1

Document History

ExtendedNetworkControl FBlock 3.1.0

Change Ref.	FktID	Changes
3.1.0-001	General	Initial version of FBlock ExtendedNetworkControl.

1 Introduction

This document contains the specification of an FBlock. MOST FBlocks are standardized and maintained by MOST workgroup Device Architecture (WG_DA). In order to speed up the process of making new Function Blocks available, every FBlock will be updated individually as required.

2 Function Catalog

FBlock Overview	
FBlockID	**Name**
0x0A	ExtendedNetworkControl

2.1 ExtendedNetworkControl (FBlockID = 0x0A)

This FBlock is used for MOST Compliance Testing. If the node implements an FBlock with FBlockID 0x0A, the Limited Physical Layer Test of data consistency has to use the functions of FBlock 0x0A.

Function Overview		
FktID	**Name**	**Occurrence**
0x220	PhysicalLayerTest	Conditional
0x221	PhysicalLayerTestResult	Conditional

2.1.1 PhysicalLayerTest (0x220)

Occurrence: Conditional

Condition: PhysicalLayerTest shall be implemented if limited physical compliance testing is required for the node.

This function is used during testing of the physical layer of a MOST device. During the time defined by the parameters passed to the function the network interface controller is in special (retimed) bypass mode and cannot perform MOST communication, although the received signal is still being locked upon (if possible) and frames containing coding errors being counted. The device must stay powered for (at least) tPwrSwitchOffDelay after exiting retimed bypass mode.
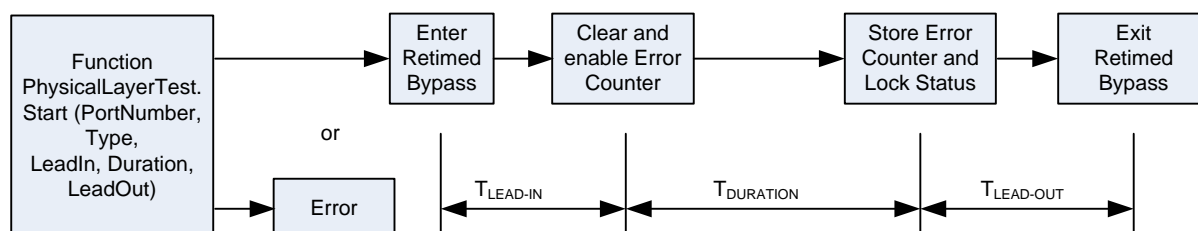
2.1.1.1 Format of Function

Function class: Unclassified Method

FBlock	Function	OPType	Parameter
ExtendedNetwork Control (0x0A)	PhysicalLayerTest (0x220)	Start	PortNumber, Type, LeadIn, Duration, LeadOut
		Error	ErrorCode, ErrorInfo

2.1.1.2 Parameter

PortNumber

The PortNumber identifies the MOST interface that the test is run on.
An error is returned if the PortNumber is out of range. For Network Interface Controllers with a single port, only 0 is allowed.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

Type

Determines forced TimingMaster or TimingSlave Retimed Bypass Mode.

Basis data type	Code	Name	Description
Enum (1 byte)	0x1	RetimedBypassTimingMaster	Force Retimed Bypass TimingMaster mode
	0x2	RetimedBypassTimingSlave	Force Retimed Bypass TimingSlave mode

LeadIn

Time from: Network interface controller entering Retimed Bypass Mode *until:* error counter reset and activated.
This time is needed to mask out any errors detected during the time the network interface controller and external devices need for switching over to Retimed Bypass Mode and ring stabilizes.

Basis data type	Unit	Exp.	Step
Unsigned Word	ms	0	1

Duration

The value passed by this parameter defines the time during which physical layer tests can be performed. During that time, frames containing coding errors are actively being counted and unlocks detected. The coding error counter saturates to its maximum value if the number of frames containing coding errors is greater than that maximum. At the end of that time, the coding error counter value and the lock status flag are stored in the ErrorCounterValue and the LockStatus properties, respectively, and the coding error counter is disabled.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Long	ms	0	1	50...4294967295	

LeadOut

Time from: error counter value being stored, *until:* Network interface controller switched to NetInterface Off. This time is needed to compensate for time drifts between the network interface controller and external hardware and ensure safe switching to NetInterface Off.

Basis data type	Unit	Exp.	Step
Unsigned Word	ms	0	1

2.1.2 PhysicalLayerTestResult (0x221)

Occurrence: Conditional

Condition: PhysicalLayerTestResult shall be implemented if limited physical compliance testing is required for the node.

This is a read only function to retrieve the result of the test of the physical layer initiated by function PhysicalLayerTest (0x220). The content of this property is stored as long as power is connected or function PhysicalLayerTest (0x220) is initiated anew.

Note: Sending PhysicalLayerTestResult.Get without prior PhysicalLayerTest.Start returns OPType Status with PortNumber 0xFF.

2.1.2.1 Format of Function

Function class: Unclassified Property

FBlock	Function	OPType	Parameter
ExtendedNetwork Control (0x0A)	PhysicalLayerTest Result (0x221)	Get	
		Status	PortNumber, LockStatus, ErrorCounterValue
		Error	ErrorCode, ErrorInfo

2.1.2.2 Parameter

PortNumber

The PortNumber identifies the MOST interface that the test is run on.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

LockStatus

Value notifying presence of at least one unlock event during Physical Layer Test.

Basis data type
Boolean

ErrorCounterValue

Contains the stored (at the end of the physical layer test) value of the coding error counter.

Basis data type	Unit	Exp.	Step
Unsigned Long	none	0	1

Notes: