

MCAL Configuration Verification Manual for Fr_17_Eray

32-bit TriCore™ AURIX™ TC3xx microcontroller family

About this document

Scope and purpose

This Configuration Data Reference document is applicable to all TC3xx devices in the TriCore™ AURIX™ family of 32-bit microcontrollers.

The purpose of this document is to facilitate the integrator to verify the generated code based on the input configuration parameters. This document describes details of structures, defines, macros and variables generated from the configuration parameters.

Intended audience

This document is intended for integrators who need to understand the logic of the generated configuration code of AURIX™ AUTOSAR MCAL.

Reference documents

This document should be read in conjunction with the following documents:

AURIX[™] TC3XX MCAL User Manual Fr_17_Eray

MCAL Configuration Verification Manual for Fr_17_Eray



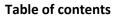




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1 Fr_17_Eray driver

This chapter describes the details of the configuration data generated from the FR driver.

1.1 File: Fr_17_Eray_Cfg.h

The generated header file contains all pre-compile configuration parameters. Pre-compile time configuration allows decoupling of the static configuration from implementation. The file is generated in 'inc' folder.

1.1.1 Macro: FR_17_ERAY_AR_RELEASE_MAJOR_VERSION

Table 1 FR_17_ERAY_AR_RELEASE_MAJOR_VERSION

Name	FR_17_ERAY_AR_RELEASE_MAJOR_VERSION	
Description	Major version number of AUTOSAR release on which the Fr_17_Eray implementation is based on.	
Verification method	The macro is generated with the value present in 'CommonPublishedInformation/ArMajorVersion'. Note: The macro is not user configurable.	
Example(s)	Action	Generated output
	Generate Fr_17_Eray_Cfg.h file with ArMajorVersion 4	#define FR_17_ERAY_AR_RELEASE_MAJOR_VERSION (4U)

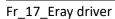
1.1.2 Macro: FR_17_ERAY_AR_RELEASE_MINOR_VERSION

Table 2 FR 17 ERAY AR RELEASE MINOR VERSION

Table 2 FR_1/_	Table 2 FR_17_ERAY_AR_RELEASE_MINOR_VERSION		
Name	FR_17_ERAY_AR_RELEASE_MINOR_VERSION		
Description	Minor version number of AUTOSAR release on which the Fr_17_Eray implementation is based on.		
Verification method	The macro is generated with the value present in 'CommonPublishedInformation/ArMinorVersion'. Note: The macro is not user configurable.		
Example(s)	Action	Generated output	
	Generate Fr_17_Eray_Cfg.h file with ArMinorVersion 2	#define FR 17 ERAY AR RELEASE MINOR VERSION (2U)	

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1.1.3 Macro: FR_17_ERAY_AR_RELEASE_REVISION_VERSION

Table 3 FR_17_ERAY_AR_RELEASE_REVISION_VERSION

Name	FR_17_ERAY_AR_RELEASE_I	FR_17_ERAY_AR_RELEASE_REVISION_VERSION	
Description	Revision version number of a based on.	Revision version number of AUTOSAR release on which the Fr_17_Eray implementation is based on.	
Verification method	The macro is generated with the value present in 'CommonPublishedInformation/ArPatchVersion'. Note: The macro is not user configurable.		
Example(s)	Action	Generated output	
	Generate Fr_17_Eray_Cfg.h file with ArPatchVersion 2	#define FR_17_ERAY_AR_RELEASE_REVISION_VERSION (2U)	

1.1.4 Macro: FR_17_ERAY_SW_MAJOR_VERSION

Table 4 FR_17_ERAY_SW_MAJOR_VERSION

Name	FR_17_ERAY_SW_MAJOR_VERSION		
Description	Major version number of the Fr_17_Eray module.		
Verification method	The macro is generated with the value present in 'CommonPublishedInformation/SwMajorVersion'. Note: The macro is not user configurable.		
Example(s)	Action	Generated output	
	Generate Fr_17_Eray_Cfg.h file with SwMajorVersion 10	#define FR_17_ERAY_SW_MAJOR_VERSION (10U)	

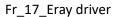
1.1.5 Macro: FR_17_ERAY_SW_MINOR_VERSION

Table 5 FR_17_ERAY_SW_MINOR_VERSION

Name	FR_17_ERAY_SW_MINOR_VERSION	
Description	Minor version number of the Fr_17_Eray module.	
Verification method	The macro is generated with the value present in 'CommonPublishedInformation/SwMinorVersion'. Note: The macro is not user configurable.	
Example(s)	Action	Generated output
	Generate Fr_17_Eray_Cfg.h file with SwMinorVersion 10	#define FR_17_ERAY_SW_MINOR_VERSION (10U)

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1.1.6 Macro: FR_17_ERAY_SW_PATCH_VERSION

Table 6 FR_17_ERAY_SW_PATCH_VERSION

Name	FR_17_ERAY_SW_PATCH_VERSION	
Description	Patch level version number of the Fr_17_Eray module.	
Verification method	The macro is generated with the value present in	
	'CommonPublishedInformation/SwPatchVersion'.	
	Note: The macro is not user configurable.	
Example(s)	Action	Generated output
	Generate Fr_17_Eray_Cfg.h file with SwPatchVersion 0	#define FR_17_ERAY_SW_PATCH_VERSION (0U)

1.1.7 Macro: FR_17_ERAY_INIT_API_MODE

Table 7 FR_17_ERAY_INIT_API_MODE

	– – – –		
Name	FR_17_ERAY_INIT_API_MODE		
Description	Decides the mode of execution of Init API.		
Verification method	The macro is generated as FR_17_ERAY_MCAL_USER1 if configuration parameter FrInitApiMode is set to 'FR_MCAL_USER1' else the macro is generated as FR_17_ERAY_MCAL_SUPERVISOR.		
Example(s)	Action	Generated output	
	Set FrInitApiMode as FR_MCAL_USER1	#define FR_17_ERAY_INIT_API_MODE (FR_17_ERAY_MCAL_USER1)	

1.1.8 Macro: FR_17_ERAY_DEV_ERROR_DETECT

Table 8 FR_17_ERAY_DEV_ERROR_DETECT

Name	FR_17_ERAY_DEV_ERROR_DETECT	
Description	Enables/disables the Development Error Detection.	
Verification method	The macro is generated as STD_ON if FrDevErrorDetect configuration parameter is set to 'True' else the macro is generated as STD_OFF.	
Example(s)	Action Generated output	
	Set FrDevErrorDetect as True	#define FR_17_ERAY_DEV_ERROR_DETECT

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	(STD_ON)
Set FrDevErrorDetect as False	#define FR_17_ERAY_DEV_ERROR_DETECT (STD_OFF)

1.1.9 Macro: FR_17_ERAY_VERSION_INFO_API

Table 9 FR 17 ERAY VERSION INFO API

Name	FR_17_ERAY_VERSION_INFO_API	
Description	Enables/disables Fr_17_Eray_GetVersionInfo API	
Verification method	The macro is generated as STD_ON if FrVersionInfoApi configuration parameter is set to 'True' else the macro is generated as STD_OFF.	
Example(s)	Action Generated output	
	Set FrVersionInfoApi as True	#define FR_17_ERAY_VERSION_INFO_API (STD_ON)
	Set FrVersionInfoApi as False	#define FR_17_ERAY_VERSION_INFO_API (STD_OFF)

1.1.10 Macro: FR_17_ERAY_PREPARE_LPDU

Table 10 FR_17_ERAY_PREPARE_LPDU

Name	FR_17_ERAY_PREPARE_LPDU	
Description	Enables/disables Fr_17_Eray_ PrepareLPdu API	
Verification method	The macro is generated as STD_ON if 'FrPrepareLPduSupport' configuration parameter is set to 'True' else the macro is generated as STD_OFF.	
Example(s)	Action Generated output	
	Set FrPrepareLPduSupport as True	#define FR_17_ERAY_PREPARE_LPDU (STD_ON)
	Set FrPrepareLPduSupport as False	#define FR_17_ERAY_PREPARE_LPDU (STD_OFF)

1.1.11 Macro: FR_17_ERAY_RECONFIG_LPDU

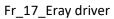
Table 11 FR_17_ERAY_RECONFIG_LPDU

Example(s)	Action	Generated output
	parameter is set to 'True' else the macro is generated as STD_OFF.	
Verification method	The macro is generated as STD_ON if 'FrReconfigLPduSupport' configuration	
Description	Enable/disables Fr_17_Eray_ReconfigLPdu API.	
Name	FR_17_ERAY_RECONFIG_LPDU	

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Set FrReconfigLPduSupport as True	#define FR_17_ERAY_RECONFIG_LPDU (STD_ON)
Set FrReconfigLPduSupport as False	#define FR_17_ERAY_RECONFIG_LPDU (STD_OFF)

1.1.12 Macro: FR_17_ERAY_DISABLE_LPDU

Table 12 FR_17_ERAY_DISABLE_LPDU

Name	FR_17_ERAY_DISABLE_LPDU	
Description	Enable/disables Fr_17_Eray_DisableLPdu API.	
Verification method	The macro is generated as STD_ON if 'FrDisableLPduSupport' configuration parameter is set to 'True' else the macro is generated as STD_OFF.	
Example(s)	Action Generated output	
	Set FrDisableLPduSupport as True	#define FR_17_ERAY_DISABLE_LPDU (STD_ON)
	Set FrDisableLPduSupport as False	#define FR_17_ERAY_DISABLE_LPDU (STD_OFF)

1.1.13 Macro: FR_17_ERAY_NMVECTOR_ENABLE

Table 13 FR_17_ERAY_NMVECTOR_ENABLE

Name	FR_17_ERAY_NMVECTOR_ENABLE	
Description	Enable/disables Fr_17_Eray_GetNmVector API.	
Verification method	The macro is generated as STD_ON if 'FrNmVectorEnable' configuration parameter is set to 'True' else the macro is generated as STD_OFF.	
	Action Generated output	
Example(s)	Action	Generated output
Example(s)	Action Set FrNmVectorEnable as True	#define FR_17_ERAY_NMVECTOR_ENABLE (STD_ON)

1.1.14 Macro: FR_17_ERAY_INDEX

Table 14 FR_17_ERAY_INDEX

Name	FR_17_ERAY_INDEX
Description	Instance ID of FR module.
Verification method	The macro is generated as a numeric value set in the configuration parameter 'FrGeneral/FrIndex'

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Fr_17_Eray driver

Example(s)	Action	Generated output
	Set FrIndex as 0	#define FR_17_ERAY_INDEX (0U)
	Set FrIndex as 240	#define FR_17_ERAY_INDEX (240U)

1.1.15 Macro: FR_17_ERAY_TIMEOUT_DURATION

Table 15 FR_17_ERAY_TIMEOUT_DURATION

145/6-25 11/21/21/11/12/00/25/25/11/01/		
Name	FR_17_ERAY_TIMEOUT_DURATION	
Description	Specifies the maximum time in nanoseconds for blocking function until a timeout is raised in short term wait loops.	
Verification method	The macro is generated as a numeric value set in the configuration parameter 'FrGeneral/FrTimeoutDurationFactor'	
Example(s)	Action Generated output	
	Set FrTimeoutDurationFactor as 1000	#define FR_17_ERAY_TIMEOUT_DURATION (1000U)
	Set FrTimeoutDurationFactor as 240000	#define FR_17_ERAY_TIMEOUT_DURATION (240000U)

1.1.16 Macro: Fr_17_ErayConf_FrController_<Name>

Table 16 Fr_17_ErayConf_FrController_<Name>

as 0

as 1

Set FrController_1/FrCtrlIdx

• Configure 1 FR controller

• Set FrController_0/FrCtrlIdx

(FrController_0).

Name	Fr_17_ErayConf_FrController_ <name></name>	
Description	Symbolic name definitions for FR controllers.	
Verification method	The macro is generated as a numeric value set in the configuration parameter 'FrController/FrCtrlIdx'.	
	Macro name is generated as Fr_17_ErayConf_FrController_ <name>, <name> is string configured in parameter 'FrController/Name' for individual controller.</name></name>	
Example(s)	Action Generated output	
	 Configure 2 FR controllers (FrController_0, FrController_1). Set FrController_0/FrCtrlIdx 	#define Fr_17_ErayConf_FrController_FrController_0 (0U) #define Fr_17_ErayConf_FrController_FrController_1 (1U)
	- Settreontrotter_o/rretttax	(1U)

(0U)

#define Fr_17_ErayConf_FrController_FrController_0

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Fr_17_Eray driver

as 0	

Macro: Fr_17_ErayConf_FrAbsoluteTimer_<Name> 1.1.17

Table 17	Fr_17_ErayConf_FrAbsoluteTime	r_ <name></name>
Name	Fr_17_ErayConf_FrAbsoluteTir	ner_ <name></name>
Description	Symbolic name definitions of a	bsolute timers for FR controller.
Verification method	'FrController/FrAbsoluteTimer, Macro name generated as Fr_1 <name> is string configured in Note: The value of pair</name>	Imeric value set in the configuration parameter /FrAbsTimerIdx'. 7_ErayConf_FrController_ <name>. n parameter 'FrController/Name' for individual controller. rameter FrAbsTimerIdx can be set to 0 only as only one is supported by the individual FR controller.</name>
Example(s)	Action	Generated output
	 Configure 2 FR controllers (FrController_0, FrController_1). Set 'FrController_0/ FrAbsTimerIdx' as 0 and Name as FrController_0 Set 'FrController_1/ 	#define Fr_17_ErayConf_FrAbsoluteTimer_FrController_0 (0U) #define Fr_17_ErayConf_FrAbsoluteTimer_FrController_1 (0U)
	FrAbsTimerIdx' as 0 and Name as FrController_1	
	 Configure 1 FR controller (FrController_0). Set 'FrController_0/ 	#define Fr_17_ErayConf_FrAbsoluteTimer_FrController_0 (0U)
	FrAbsTimerIdx' to 0 Set Name as FrController_0	

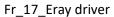
1.1.18 Macro: FR_17_ERAY_CTRL_TEST_COUNT

Table 18 FR_17_ERAY_CTRL_TEST_COUNT

Name	FR_17_ERAY_CTRL_TEST_COUNT
Description	Specifies the maximum number of iterations the FlexRay controller hardware test is
	performed during controller initialization.

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Verification method	The macro is generated as a nun 'FrGeneral/FrCtrlTestCount'.	neric value set in the configuration parameter
Example(s)	Action	Generated output
	Set FrCtrltestCount as 2	#define FR_17_ERAY_CTRL_TEST_COUNT (2U)
	Set FrCtrltestCount as 1	#define FR_17_ERAY_CTRL_TEST_COUNT (1U)

1.1.19 Macro: FR_17_ERAY_NUM_CTRL_SUPPORTED

Table 19 FR_17_ERAY_NUM_CTRL_SUPPORTED

Name	FR_17_ERAY_NUM_CTRL_SUPPO	PRTED
Description	Specifies the maximum number supports.	of communication controllers that the driver
Verification method	The macro is generated as a num 'FrGeneral/FrNumCtrlSupported	neric value set in the configuration parameter ,.
Example(s)	Action	Generated output
	Set FrNumCtrlSupported as 2	#define FR_17_ERAY_NUM_CTRL_SUPPORTED (2U)
	Set FrNumCtrlSupported as 1	#define FR_17_ERAY_NUM_CTRL_SUPPORTED (1U)

1.1.20 Macro: FR_17_ERAY_RX_STRINGENT_CHECK

Table 20 FR_17_ERAY_RX_STRINGENT_CHECK

Name	FR_17_ERAY_RX_STRINGENT_CH	HECK
Description	•	r detection. If stringent check is enabled (true), ed if slot status error has not occurred.
Verification method	•	ON if 'FrGeneral/FrRxStringentCheck' configuration e macro is generated as STD_OFF.
Example(s)	Action	Generated output
	Set FrRxStringentCheck as True	#define FR_17_ERAY_RX_STRINGENT_CHECK
	, and the second	(STD_ON)

1.1.21 Macro: FR_17_ERAY_RX_STRINGENT_LENGTH_CHECK

Table 21 FR_17_ERAY_RX_STRINGENT_LENGTH_CHECK

Name	FR_17_ERAY_RX_STRINGENT_LENGTH_CHECK

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Fr_17_Eray driver

Description	•	e length check. If length check is enabled then received the received payload length matches the configured
Verification method		ON if 'FrGeneral/ FrRxStringentLengthCheck' o 'True' else the macro is generated as STD_OFF.
Example(s)	Action	Generated output
	Set FrRxStringentLengthCheck as True	#define FR_17_ERAY_RX_STRINGENT_LENGTH_CHECK (STD_ON)
	Set FrRxStringentLengthCheck as False	#define FR_17_ERAY_RX_STRINGENT_LENGTH_CHECK (STD_OFF)

1.1.22 Macro: FR_17_ERAY_CLEAR_RAMS_TIMEOUT

for FR controller.

Table 22 FR_17_	ERAY_CLEAR_RAMS_TIMEOUT	
Name	FR_17_ERAY_CLEAR_RAMS_TIMI	EOUT
Description	Specifies the timeout duration in initialization of the E-Ray interna	n nanoseconds until a timeout is raised after al RAM blocks.
	The initialization of the E-Ray int	ernal RAM blocks requires minimum
	2048 fCLC_ERAY cycles. 5 percen	t margin (102 cycles) is added to the value.
Verification method	The macro is generated as a num 10000000000)/FrClockCLCERAY.	neric value which is calculated with formula (2150 *
	FrClockCLCERAY: (SPBFrequency	y)/(FrClockDivider)
	FrClockDivider is value configure	•
	'Fr/FrClockConfiguration/FrCloc	
		gured in the MCU driver for the parameter /McuPllDistributionSettingConfig/McuSPBFrequency'
Example(s)	Action	Generated output
	• Configure following params for FR controller.	#define FR_17_ERAY_CLEAR_RAMS_TIMEOUT (21500U)
	Set FrClockDivider as 1	
	 Set McuSPBFrequency as 100MHz 	
	Configure following params	#define FR_17_ERAY_CLEAR_RAMS_TIMEOUT

(43000U)

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Fr_17_Eray driver

Set FrClock	Divider as 2		
Set McuSPE	3Frequency as		
100MHz			

1.1.23 Macro: FR_17_ERAY_POC_BUSY_TIMEOUT

Table 23 FR 17 ERAY POC BUSY TIMEOUT

Table 23 FR_	17_ERAY_POC_BUSY_TIMEOUT	TIMEOUT	
Name	FR_17_ERAY_POC_BUSY_TIMEO	UT	
Description	during initialization until a timed	C_ERAY cycles for the POC to exit busy state.	
Verification metho	100000000)/FrClockCLCERAY. Where: FrClockCLCERAY: (SPBFrequency FrClockDivider is value configure 'Fr/FrClockConfiguration/FrCloc SPBFrequency is the value config	ed in parameter	
Example(s)	Action	Generated output	
	 Configure following params for FR controller. Set FrClockDivider as 1 Set McuSPBFrequency as 100MHz 	#define FR_17_ERAY_CLEAR_RAMS_TIMEOUT (10750U)	
	 Configure following params for FR controller. Set FrClockDivider as 2 Set McuSPBFrequency as 100MHz 	#define FR_17_ERAY_POC_BUSY_TIMEOUT (21500U)	

1.1.24 Macro: FR_17_ERAY_MBF_TO_OBF_TRNSF_TIMEOUT

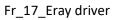
Table 24 FR_17_ERAY_MBF_TO_OBF_TRNSF_TIMEOUT

Name	FR_17_ERAY_MBF_TO_OBF_TRNSF_TIMEOUT
	TR_I7_ERAT_MBI_TO_OBI_TRNSI_TIMEOUT

Version 5.0

MCAL Configuration Verification Manual for Fr_17_Eray







Description	Specifies the worst case timeout Message Buffer RAM to Output B	duration in nanoseconds for the data transfer from uffer.	
	It takes a maximum of 435 fCLC_ERAY cycles for this data transfer.		
	5 percent margin (22 cycles) is ac	•	
Verification method	The macro is generated as a numeric value which is calculated with formula (457 * 1000000000)/FrClockCLCERAY.		
	Where:		
	FrClockCLCERAY: (SPBFrequency	FrClockCLCERAY: (SPBFrequency)/(FrClockDivider)	
	FrClockDivider is value configured in parameter 'Fr/FrClockConfiguration/FrClockDivider'.		
	SPBFrequency is the value configured in the MCU driver for the parameter 'McuClockReferencePointConfig/McuPllDistributionSettingConfig/McuSPBFrequency'		
Example(s)	Action	Generated output	
	 Configure following params for FR controller. Set FrClockDivider as 1 Set McuSPBFrequency as 100MHz 	#define FR_17_ERAY_MBF_TO_OBF_TRNSF_TIMEOUT (4570U)	
	 Configure following params for FR controller. Set FrClockDivider as 2 Set McuSPBFrequency as 100MHz 	#define FR_17_ERAY_MBF_TO_OBF_TRNSF_TIMEOUT (9140U)	

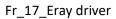
1.1.25 Macro: FR_17_ERAY_MSG_BUFF_COUNT_MAX_<x>

Table 25 FR_17_ERAY_MSG_BUFF_COUNT_MAX_<x>

Name	FR_17_ERAY_MSG_BUFF_COUNT_MAX_ <x></x>		
Description	Macro specifies maximum number of message buffers used per controller.		
Verification method	configured in the 'FrIf/FrIfCluster If the number of LPdus configure as 128.	The macro name is generated as FR_17_ERAY_MSG_BUFF_COUNT_MAX_ <frctrlidx>,</frctrlidx>	
Example(s)	Action Generated output		
	Configure following params	#define FR_17_ERAY_MSG_BUFF_COUNT_MAX_0	

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for FR controller in FrIf.	(9U)
Configure cluster 'FrIfCluster_0'	#define FR_17_ERAY_MSG_BUFF_COUNT_MAX_1 (9U)
 Configure 2 Fr controllers (FrIfController_0, FrIfController_1). Configure 9 LPdus for each FR controller (FrIfLPdu_0 to 	
FrlfLPdu_8).	
• Configure following params for FR controller in 'FrIf'.	#define FR_17_ERAY_MSG_BUFF_COUNT_MAX_0 (128U)
Configure cluster 'FrIfCluster_0'	
 Configure 1 Fr controller (FrlfController_0). 	
 Configure 129 LPdus for FR controller (FrIfLPdu_0 to FrIfLPdu_128). 	

1.1.26 Macro: FR_17_ERAY_CONTROLLER0_CONFIGURED

Table 26 FR_17_ERAY_CONTROLLER0_CONFIGURED

Table 20 TR_TT_ERAT_CONTROLLERO_CONTROLLED		
Name	FR_17_ERAY_CONTROLLER0_CONFIGURED	
Description	Indicates whether controller0 is configured or not.	
Verification method	The macro is generated as STD_ON if FR controller 0 is configured in 'Fr/FrController/FrCtrlIdx' else it is generated as STD_OFF.	
Example(s)	Action	Generated output
	 Configure following params for FR controller. 	#define FR_17_ERAY_CONTROLLER0_CONFIGURED (STD_ON)
	 Configure cluster 'FrIfCluster_0' 	
	 Configure 1 Fr controller in Fr module (FrController_0). 	
	Set FrCtrlldx as 0	
	Configure following parameters for FR controller.	#define FR_17_ERAY_CONTROLLER0_CONFIGURED (STD_OFF)
	 Configure cluster 'FrIfCluster_0' 	
	Configure 1 Fr controller in	

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Fr_17_Eray driver

Fr module (FrController_0).	
Set FrCtrlldx as 1	

1.1.27 Macro: FR_17_ERAY_CONTROLLER1_CONFIGURED

Table 27 FR_17_ERAY_CONTROLLER1_CONFIGURED

FR_17_ERAY_CONTROLLER1_CONFIGURED		
Indicates whether controller1 is configured or not.		
The macro is generated as STD_ON if FR controller 1 is configured in 'Fr/FrController/FrCtrlIdx' else it is generated as STD_OFF.		
Action Generated output		
 Configure following parameters for FR controller. Configure 1 Fr controller in Fr module (FrController_1). Set FrCtrlldx as 1 	#define FR_17_ERAY_CONTROLLER1_CONFIGURED (STD_ON)	
 Configure 1 Fr controller in Fr module (FrController_1). 	#define FR_17_ERAY_CONTROLLER1_CONFIGURED (STD_OFF)	
	Indicates whether controller1 is of the macro is generated as STD_C 'Fr/FrController/FrCtrlIdx' else it Action Configure following parameters for FR controller. Configure 1 Fr controller in Fr module (FrController_1). Set FrCtrlIdx as 1 Configure following parameters for FR controller. Configure following parameters for FR controller. Configure 1 Fr controller in	

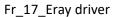
1.1.28 Macro: FR_17_ERAY_NUM_CONTROLLERS_IN_DEVICE

Table 28 FR_17_ERAY_NUM_CONTROLLERS_IN_DEVICE

Name	FR_17_ERAY_NUM_CONTROLLERS_IN_DEVICE	
Description	Specifies number of ERAY Controllers available in the device.	
	Note: This macro is not configurable by the user.	
Verification method	The macro is generated as a numeric value that specifies the number of ERAY controllers available in the device.	
Example(s)	Action Generated output	
	Generate Fr_17_Eray_Cfg.h	/* Number of ERAY Controllers available in the device */
#define		#define

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FR_17_ERAY_NUM_CONTROLLERS_IN_DEVICE (2U)

1.1.29 Macro: FR_17_ERAY_FIFO_CONFIGURED

Table 29 FR_17_ERAY_FIFO_CONFIGURED

Name	FR_17_ERAY_FIFO_CONFIGURED	
Description	Specifies whether FIFO is configured or not.	
Verification method	The macro is generated as a STD_ON if FIFO is configured in container 'FrController/ FrFifo/*' else it is generated as a STD_OFF.	
Example(s)	Action	Generated output
	 Configure 1 FrController (FrController_0) Configure 1 FIFO for FrController_0 (FrFifo_0). 	#define FR_17_ERAY_FIFO_CONFIGURED (STD_ON)
	Configure 2 FrControllers (FrController_0, FrController_2)	#define FR_17_ERAY_FIFO_CONFIGURED (STD_OFF)
	• Don't configure FIFO for both controllers.	

1.1.30 Macro: FR_17_ERAY_INSTANCE_ID

Table 30 FR_17_ERAY_INSTANCE_ID

Name	FR_17_ERAY_INSTANCE_ID	
Description	Instance ID of FR module.	
Verification method	The macro is generated as a numeric value set in the configuration parameter 'FrGeneral/FrIndex'	
Example(s)	Action Generated output	
	Set FrIndex as 0	#define FR_17_ERAY_INSTANCE_ID (0U)
	Set FrIndex as 240	#define FR_17_ERAY_INSTANCE_ID (240U)

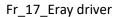
1.1.31 Macro: FR_17_ERAY_TX_CONFLICT_DETECTION

Table 31 FR 17 ERAY TX CONFLICT DETECTION

Name	FR_17_ERAY_TX_CONFLICT_DETECTION
Description	Enables/ disables the detection of the transmission conflict occurrence by the Fr_17_Eray_CheckTxLPduStatus API.

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Verification method	The macro is generated as STD_ON if 'FrTxConflictDetection' configuration parameter is set to 'True' else the macro is generated as STD_OFF.	
Example(s)	Action	Generated output
	Set FrTxConflictDetection as True	#define FR_17_ERAY_TX_CONFLICT_DETECTION (STD_ON)
	Set FrTxConflictDetection as False	#define FR_17_ERAY_TX_CONFLICT_DETECTION (STD_OFF)

1.1.32 Macro: FR_17_ERAY_RUNTIME_ERROR_DETECT

Table 32 FR_17_ERAY_RUNTIME_ERROR_DETECT

Name	FR_17_ERAY_RUNTIME_ERROR_DETECT	
Description	Enables/disables the Runtime Error Detection.	
Verification method	The macro is generated as STD_ON if 'FrRunTimeErrorDetect' configuration parameter is set to 'True' else the macro is generated as STD_OFF. This MACRO is applicable only for AUTOSAR 4.4.0 version.	
Example(s)	Action Generated output	
	Set FrRunTimeErrorDetect as True	#define FR_17_ERAY_RUNTIME_ERROR_DETECT (STD_ON)
	Set FrRunTimeErrorDetect as False	#define FR_17_ERAY_RUNTIME_ERROR_DETECT (STD_OFF)

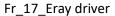
1.1.33 Macro: FR_17_ERAY_EXTENDED_LPDU_REPORTING

Table 33 FR_17_ERAY_EXTENDED_LPDU_REPORTING

Name	FR_17_ERAY_EXTENDED_LPDU_REPORTING		
Description	Enables/disables the Extended LPdu Reporting.		
Verification method	The macro is generated as STD_ON if 'FrExtendedLPduReporting' configuration parameter is set to 'True' else the macro is generated as STD_OFF. This MACRO is applicable only for AUTOSAR 4.4.0 version.		
Example(s)	Action	Generated output	
	Set FrExtendedLPduReporting as True	#define FR_17_ERAY_EXTENDED_LPDU_REPORTING (STD_ON)	
	Set FrExtendedLPduReporting as False	#define FR_17_ERAY_EXTENDED_LPDU_REPORTING (STD_OFF)	

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1.2 File: Fr_17_Eray[_<variant>]_PBcfg.c

The generated source file contains all post-build configuration parameters. Post-build time configuration mechanism allows configurable functionality of FR driver that is deployed as object code. The file is generated in 'src' folder.

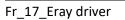
1.2.1 Structure: Fr_17_Eray_Config[_<variant>]

Table 34 Fr_17_Eray_Config[_<variant>]

Table 34	r_1r_cray_comig[_ <variant>]</variant>			
Name	Fr_17_Eray_Config[_ <variant>]</variant>			
Туре	Fr_17_Eray_ConfigType	Fr_17_Eray_ConfigType		
Description	Root configuration structure of FR driver which will be used during initialization.			
Verification method	The generated structure is present in Fr_17_Eray[_ <variant>]_PBcfg.c file. The <variant> indicates the name of the post-build variant. For a variant-aware configuration the structure name is appended with the variant name. For variant-unaware configuration <variant> is ignored.</variant></variant></variant>			
Example(s)	Action	Generated output		
	 Configure 2 FR controllers Set FrMultipleConfiguration/Nam e to 'FrMultipleConfiguration' (variant-unaware) 	<pre>const Fr_17_Eray_ConfigType Fr_17_Eray_Config = { &Fr_17_Eray_FrMultipleConfiguration_CC[0], &Fr_17_Eray_FrMultipleConfiguration_CCMap[0] };</pre>		
	 Configure 2 FR controllers Set FrMultipleConfiguration/Nam e to 'FrMultipleConfiguration' (variant-aware. Variant name is 'Petrol') 	<pre>const Fr_17_Eray_ConfigType Fr_17_Eray_Config_Petrol = { &Fr_17_Eray_FrMultipleConfiguration_CC[0], &Fr_17_Eray_FrMultipleConfiguration_CCMap[0] };</pre>		
	 Configure 1 FR controller with FrCtrlldx to 0 Set FrMultipleConfiguration/Nam e as 'FrMultipleConfiguration_0' (variant-unaware) 	<pre>const Fr_17_Eray_ConfigType Fr_17_Eray_Config = { &Fr_17_Eray_FrMultipleConfiguration_0_CC[0], &Fr_17_Eray_FrMultipleConfiguration_0_CCMap[0] };</pre>		

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1.2.1.1 Member: CfgPtr

Tab	le 35	CfgPtr
ı ab	IE 35	CIPPIT

Tuble 35 C	19. (1			
Name	CfgPtr			
Туре	Fr_17_Eray_CCType *			
Description	Pointer to the data structure controller.	Pointer to the data structure containing the initialization data for the individual FlexRay controller.		
Verification method	The generated structure member is present in the Fr_17_Eray_Config[_ <variant>] structure. Address is generated as &Fr_17_Eray_< ConfigShortName>_CC[0]. <configshortname> is string configured in parameter 'FrMultipleConfiguration/Name'.</configshortname></variant>			
Example(s)	Action	Generated output		
	 Configure 2 (Number of FR controller available in device) FR controllers Set Name as 'FrMultipleConfiguration' 	&Fr_17_Eray_FrMultipleConfiguration_CC[0]		
	 Configure 2 (Number of FR controller available in device) FR controllers Set Name as 'MyConfig' 	&Fr_17_Eray_MyConfig_CC[0]		
	 Configure 1 FR controller with FrCtrlIdx to 0 Set Name as 'FrMultipleConfiguration_ 0' 	&Fr_17_Eray_FrMultipleConfiguration_0_CC[0]		

1.2.1.2 Member: Phy2LogIdxPtr

Table 36 Phy2LogIdxPtr

Name	Phy2LogIdxPtr
Туре	uint8 *
Description	Pointer to Physical to Logical Indexing map array.
Verification method	The generated structure member is present in the Fr_17_Eray_Config[_ <variant>] structure. Address is generated as &Fr_17_Eray_< ConfigShortName >_CCMap[0].</variant>
	< ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Name'.

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Fr_17_Eray driver

Example(s)	Action	Generated output
	 Configure 2 (Number of FR controller available in device) FR controllers 	&Fr_17_Eray_FrMultipleConfiguration_CCMap[0]
	 Set Name as 'FrMultipleConfiguratio n' 	
	 Configure 2 (Number of FR controller available in device) FR controllers Set Name as 'MyConfig' 	&Fr_17_Eray_MyConfig_CCMap[0]
	Configure 1 FR controller with FrCtrlldx set to 0	&Fr_17_Eray_FrMultipleConfiguration_0_CCMap[0]
	 Set Name as 'FrMultipleConfiguratio n_0' 	

1.2.2 Structure: Fr_17_Eray_< ConfigShortName >_CCMap

Table 37 Fr_17_Eray_< ConfigShortName >_CCMap

Example(s)	Action	Generated output
	If FR controller is not configured then logical index is generated as 255 (not configured) else it is generated as logical index configured.	
	< ConfigShortName> is string configured in parameter 'FrMultipleConfiguration/Name'.	
method	'Fr_17_Eray_ <configshortname>_CCMap', size of array is depends on number of FR controllers supported by device.</configshortname>	
Verification	The generated file has this array. Array name is generated as	
Description	Array which contains the mapping of physical to logical index	
Туре	uint8	
Name	Fr_17_Eray_< Config	ShortName >_CCMap

	Action	Generated output	
	Configure 2(Number of FR controller available in device) Controllers. (FrController_0, FrController_1)	static const uint8 Fr_17_Eray_FrMultipleConfiguration_CCMap[FR_17_ERAY_NUM_CONTR OLLERS_IN_DEVICE] = { 0U, 1U	

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Fr_17_Eray driver

• Configure FrController_0/F rCtrlldx as 0	};
 Configure FrController_1/F rCtrlldx as 1 	
 Set Name as 'FrMultipleConfi guration' 	
• Configure 1 Controller. (FrController_0)	static const uint8 Fr_17_Eray_FrMultipleConfiguration_0_CCMap[FR_17_ERAY_NUM_CONT ROLLERS_IN_DEVICE] =
 Configure FrController_0/F rCtrlldx as 1 	{ 255U,
 Set Name as 'FrMultipleConfi guration_0' 	OU };

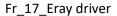
1.2.3 Structure: Fr_17_Eray_< ConfigShortName >_CC

Table 38 Fr_17_Eray_< ConfigShortName >_CC

Name	Fr_17_Eray_< Co	Fr_17_Eray_< ConfigShortName >_CC	
Туре	Fr_17_Eray_CCType		
Description	Array of FlexRay data structure which contains configuration of individual communication controller.		
Verification method	The generated file has array as Fr_17_Eray_< ConfigShortName >_CC which contains configuration of individual FR controller.		
	'FrController/'.	r of array members depends on number of FR controllers configured under roller/'. ShortName> is string configured in parameter 'FrMultipleConfiguration/Name'	
Example(s)	Action	Generated output	
	• Configure 1 FR controller with 2 LPdus and Set	<pre>static const Fr_17_Eray_CCType Fr_17_Eray_FrMultipleConfiguration_CC[] = { {</pre>	

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```
/* Pointer to configuration of Communication Controller */
FrCtrlldx as
0
               &Fr_17_Eray_FrMultipleConfiguration_kCCCfg_0,
Set Name as
FrMultipleC
               /* Pointer to array of LPDU configurations */
onfiguration
               Fr_17_Eray_FrMultipleConfiguration_kLPduConfig_0,
               #if (FR_17_ERAY_FIFO_CONFIGURED == STD_ON)
               &Fr_17_Eray_FrMultipleConfiguration_RxFifoConfig_0,
               #endif
               /* Pointer to array of FR parameters accessed by Fr_ReadCCConfig */
               Fr_17_Eray_FrMultipleConfiguration_CCConfigArray_0,
               /* Pointer to LPDU to message buffer mapping array */
               Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_0,
               /* Pointer to Data pointer offsets */
               Fr_17_Eray_FrMultipleConfiguration_DataPointerOffset_0,
               /* Number of LPDUs configured */
               2U,
               /* ERAY Module clock configuration : Runtime Mode Control setting */
               1U,
               /* Buffer Reconfiguration Status */
               0U,
               /*DEM Id for FlexRay controller hardware test failure.*/
               FR_17_ERAY_DEM_REPORT_DISABLED,
               /* Number of HW message buffers required */
               2U
```

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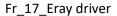
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Fr_17_Eray driver

```
}
              };
Configure 2
              static const Fr_17_Eray_CCType Fr_17_Eray_FrMultipleConfiguration_CC[] =
FR
controllers.
(FrControlle
r_0,
FrController
               /* Pointer to configuration of Communication Controller */
_1)
               &Fr_17_Eray_FrMultipleConfiguration_kCCCfg_0,
Configure
FrController
_0/FrCtrlIdx
               /* Pointer to array of LPDU configurations */
as 0 and
               Fr_17_Eray_FrMultipleConfiguration_kLPduConfig_0,
FrController
_1/FrCtrlIdx
as 1.
                #if (FR_17_ERAY_FIFO_CONFIGURED == STD_ON)
Set Name as
                NULL_PTR,
FrMultipleC
                #endif
onfiguration
               /* Pointer to array of FR parameters accessed by Fr_ReadCCConfig */
               Fr_17_Eray_FrMultipleConfiguration_CCConfigArray_0,
               /* Pointer to LPDU to message buffer mapping array */
               Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_0,
               /* Pointer to Data pointer offsets */
               Fr_17_Eray_FrMultipleConfiguration_DataPointerOffset_0,
               /* Number of LPDUs configured */
               2U,
               /* ERAY Module clock configuration : Runtime Mode Control setting */
                1U,
               /* Buffer Reconfiguration Status */
                0U,
```

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```
/*DEM Id for FlexRay controller hardware test failure.*/
FR_17_ERAY_DEM_REPORT_DISABLED,
/* Number of HW message buffers required */
2U
},
/* Pointer to configuration of Communication Controller */
&Fr_17_Eray_FrMultipleConfiguration_kCCCfg_1,
/* Pointer to array of LPDU configurations */
Fr_17_Eray_FrMultipleConfiguration_kLPduConfig_1,
#if (FR_17_ERAY_FIFO_CONFIGURED == STD_ON)
NULL_PTR,
 #endif
/* Pointer to array of FR parameters accessed by Fr_ReadCCConfig */
Fr_17_Eray_FrMultipleConfiguration_CCConfigArray_1,
/* Pointer to LPDU to message buffer mapping array */
Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_1,
/* Pointer to Data pointer offsets */
Fr_17_Eray_FrMultipleConfiguration_DataPointerOffset_1,
/* Number of LPDUs configured */
2U,
/* ERAY Module clock configuration : Runtime Mode Control setting */
 1U,
```

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/* Buffer Reconfiguration Status */
0U,
/*DEM Id for FlexRay controller hardware test failure.*/
DemConf_DemEventParameter_Fr_17_ErayCtrlTestResult_Ctrl0,
/* Number of HW message buffers required */
2U
}
} ;

1.2.3.1 Member: CCCfgPtr

Table	39	CCCfgPtr

Table 39 C	CCCigPti			
Name	CCCfgPtr	CCCfgPtr		
Туре	Fr_17_Eray_CCConfigType *			
Description	Pointer to configuration of Communication Controller.			
Verification method	The structure member is generated as &Fr_17_Eray_ <configshortname>_kCCCfg_<frctrlidx>. < ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Nam <frctrlidx> is FR index configured in parameter 'FrController/FrCtrlIdx' for individual F controller.</frctrlidx></frctrlidx></configshortname>			
Example(s)	Action	Generated output		
	• Configure 1 FR controller (FrController_0).	/* Pointer to configuration of Communication Controller */		
	Set FrCtrlldx as 0Set Name as FrMultipleConfiguration	&Fr_17_Eray_FrMultipleConfiguration_kCCCfg_0,		
	• Configure 1 FR controller (FrController_0).	/* Pointer to configuration of Communication Controller */		
	Set FrCtrlldx as 1Set Name as MyConfig	&Fr_17_Eray_MyConfig_kCCCfg_1,		

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1.2.3.2 Member: LPduConfigPtr

Table 40	LPduConfigPtr

Name	LPduConfigPtr	
Туре	Fr_17_Eray_LPduConfigType *	
Description	Pointer to array of LPdu configurations	
Verification method	The structure member is the generated address of the array which contains the LPdu configurations, structure member is generated as Fr_17_Eray_< ConfigShortName>_kLPduConfig_ <frctrlidx>.</frctrlidx>	
		ing configured in parameter 'FrMultipleConfiguration/Name'. figured for individual FR controller in 'FrController/FrCtrlIdx'.
Example(s)	Action	Generated output
	 Configure 1 FR controller (FrController_0). Set FrCtrlldx as 0 Set Name as FrMultipleConfiguration 	/* Pointer to array of LPDU configurations */ Fr_17_Eray_FrMultipleConfiguration_kLPduConfig_0,
	 Configure 1 FR controller (FrController_0). Set FrCtrlldx as 1 Set Name as MyConfig 	/* Pointer to array of LPDU configurations */ Fr_17_Eray_MyConfig_kLPduConfig_1,

1.2.3.3 Member: RxFifoConfigPtr

Table 41 RxFifoConfigPtr

Name	RxFifoConfigPtr Fr_17_Eray_RxFifoConfigType *		
Туре			
Description	Pointer to array of Receive FIFO configuration.		
Verification method	The structure member is generated FIFO configuration array address for individual FR controller, Structure member is generated as Fr_17_Eray_< ConfigShortName >_ RxFifoConfig_< FrCtrlIdx>. If FIFO is not configured in 'FrController/FrFifo' for FR controller then member is generated as a NULL_PTR.		

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Fr_17_Eray driver

	< ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Name'. <frctrlldx> is FR index configured for individual FR controller in 'FrController/FrCtrlldx'.</frctrlldx>		
Example(s)	Action	Generated output	
	 Configure 1 FR controller (FrController_0). Configure FIFO for FR controller (FrFifo_0) Set FrCtrlldx as 1 Set Name as MyConfig 	#if (FR_17_ERAY_FIFO_CONFIGURED == STD_ON) &Fr_17_Eray_MyConfig_RxFifoConfig_1, #endif	
	 Configure 1 FR controller (FrController_0). Set FrCtrlldx as 1 Set Name as MyConfig Do not configure FIFO. 	#if (FR_17_ERAY_FIFO_CONFIGURED == STD_ON) NULL_PTR, #endif	

1.2.3.4 Member: ConfigParamPtr

Table 42 ConfigParar

Name	ConfigParamPtr		
Туре	uint32 *		
Description	Pointer to array of FlexRay protocol configuration parameters for a particular FlexRay controller.		
Verification method	The structure member is generated as pointer to protocol configuration for individual FR controller, Structure member is generated as Fr_17_Eray_< ConfigShortName>_CCConfigArray_< FrCtrlIdx>. <pre>< ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Name'.</pre> <pre>< FrCtrlIdx> is FR index configured for individual FR controller in 'FrController/FrCtrlIdx'.</pre>		
	<pre><frctrlidx> is FR index</frctrlidx></pre>	configured for individual FR controller in 'FrController/FrCtrlIdx'.	
Example(s)	<pre><frctrlldx> is FR index</frctrlldx></pre> Action	configured for individual FR controller in 'FrController/FrCtrlIdx'. Generated output	

1.2.3.5 Member: LPduldx2MsgBuffldxPtr

Fr Multiple Configur

Set Name as

Table 43 LPduIdx2MsgBuffIdxPtr

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Name	LPduldx2MsgBuffldxPtr			
Туре	uint8 *			
Description	Pointer to LPdu to messa	Pointer to LPdu to message buffer mapping array.		
Verification method	The structure member is generated as pointer to LPdu to message buffer mapping array for individual FR controller, Structure member generated as Fr_17_Eray_< ConfigShortName>_LPduIdx2MsgBuff_< FrCtrlIdx>.			
Example(s)	< ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Name'. <frctrlidx> is FR index configured for individual FR controller in 'FrController/FrCtrlIdx'. Action Generated output</frctrlidx>			
	 Configure 1 FR controller (FrController_0). Set FrCtrlIdx as 0 Set Name as FrMultipleConfigurat ion 	/* Pointer to LPDU to message buffer mapping array */ Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_0,		

1.2.3.6 Member: DataPointerOffsetPtr

Table 44	DataPointerOffsetPtr
I avic TT	Dataronnieronsetru

Name	DataPointerOffsetPtr		
Туре	uint16 *		
Description	Pointer to array of data offsets of message buffers.		
Verification method	The structure member is generated as pointer to array which contain mapping of data offset configuration for individual FR controller, Structure member generated as Fr_17_Eray_< ConfigShortName > LPduIdx2MsgBuff_< FrCtrlIdx>. <configshortname> is string configured in parameter 'FrMultipleConfiguration/Name'. <frctrlidx> is FR index configured for individual FR controller in 'FrController/FrCtrlIdx'.</frctrlidx></configshortname>		
Example(s)	Action Generated output /* Pointer to LPDU to message buffer mapping array */ Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_0, Set FrCtrlIdx as 0 Set Name as FrMultipleConfigurat		

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	ion		
1.2.3.7	Member: LPduCount		
Table 45	LPduCount		
Name	LPduCount		
Туре	uint16		
Description	Number of LPdus configured for individual FR controller.		
Verification method	The structure member is generated as numeric value. Value is generated as number of LPdus configured in 'FrIf/FrIfConfig/FrIfCluster/FrIfController/FrIfLPdu/*' for individual controller.		
Example(s)	Action	Generated output	
1.2.3.8	 Configure 1 FR controller in 'FrIf' module under FrIfController container. (FrController_0). Set FrIfCtrlIdx as 0 Configure 9 LPdus for FrController_0. Set FrIfFrCtrlRef as /Fr/Fr/MyConfig/FrControlle r_0 Member: FrClockDivider 	/* Number of LPDUs configured */ 9U,	
Table 46	FrClockDivider		
Name	FrClockDivider		
Туре	uint8		
Description	ERAY System Clock Divider.		
Verification method	The structure member is generated as a numeric value which is configured in 'FrMultipleConfiguration/FrClockDivider'.		

as 1	
 Configure 1 FR controller in 'Fr' module. 	/* ERAY Module clock configuration : Runtime Mode Control setting */ 3U,

/* ERAY Module clock configuration : Runtime Mode Control setting */

Generated output

1U,

Example(s) Action

• Configure 1 FR

module.

controller in 'Fr'

(FrController_0).
Set FrClockDivider

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	(FrController_0).
•	Set FrClockDivider
	as 3

1.2.3.9 Member: FrIsBuffReconfigOn

Table 47 FrIsBuffReconfigOn

Example(s)	Action	Generated output	
method controller is greater than 128 or If all the configured LPdus do not fit within the method of the FR controller, then value is generated as 1 else 0 is generated.			
Varification	The structure member is generated as numeric value. If number of LPdus configured for FR		
Description	Flag to indicate whether the Buffer reconfiguration is enabled for individual FR controller.		
Туре	e uint8		
Name	FrIsBuffReconfigOn		

xample(s)	Action	Generated output
	 Configure 1 FR controller in 'Fr' module. (FrController_0). 	/* Buffer Reconfiguration Status */ 0U,
	 Configure 2 LPdus each with FrIfLSduLength as 4 	
	Configure 1 FR controller in 'Fr' module. (FrController_0).	/* Buffer Reconfiguration Status */ 1U,
	• Configure 130 LPdus (FrlfLPdu 0 to	

1.2.3.10 Member: FrDemCtrlTestResultId

FrlfLPdu_129)

Table 48 FrDemCtrlTestResultId

Name	FrDemCtrlTestResultId		
Туре	Dem_EventIdType		
Description	DEM Id for FlexRay controller hardware test failure.		
Verification method	The structure member is generated as FR_17_ERAY_DEM_REPORT_DISABLED when DEM event is not configured in FrController/FrControllerDemEventParameterRefs/*[1]/FR_E_CTRL_TESTRESULT/*[1].		
	If DEM event is configured in container		

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FI_I/_Elay ul	IVCI			
	'FrController/FrControllerDemEventParameterRefs/*[1]/FR_E_CTRL_TESTRESULT/*[1]' then member is generated as DemConf_DemEventParameter_< FrControllerDemEventParameterRefs/*[1]/FR_E_CTRL_TESTRESULT/*[1]>			
Example(s)	Action	Generated output		
	 Configure 1 FR contro in 'Fr' module. (FrController_0). FR_E_CTRL_TESTRES T/* = Fr_17_ErayCtrlTestRe 	DemConf_DemEventParameter_Fr_17_ErayCtrlTestResult_Ctrl0,		
	t_Ctrl0			
	 Configure 1 FR contro in 'Fr' module. (FrController_0). Production Error is no 	FR_17_ERAY_DEM_REPORT_DISABLED,		
	configured			
1.2.3.11	Member: MsgBuffCountMax			
Table 49	MsgBuffCountMax			
Name	MsgBuffCountMax			
Туре	uint8			
Description	Number of Message but	Number of Message buffers configured.		
Verification method	The structure member is generated as a numeric value which corresponds to the number of elements in the list 'FrIf/FrIfCluster/ FrIfController/FrIfLPdu/*' for individual FR controller when message buffer reconfiguration is disabled. If message buffer reconfiguration is enabled, then the structure member is generated as a numeric value which corresponds to the actual number of hardware message buffers used within the individual FR controller.			
Example(s)	Action	Generated output		
	controller	/* Number of HW message buffers required */ 9U		
	 Configure 1 FR controller. (FrController_0). Configure 130 	/* Number of HW message buffers required */ 128U		

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LPdus.
(FrIfLPdu_0 to
FrlfLPdu_129)

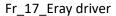
1.2.4 Structure: Fr_17_Eray_< ConfigShortName >_kCCCfg_<FrIfCtrlldx >

Table 50 Fr_17_Eray_< ConfigShortName > _kCCCfg_<FrIfCtrlldx>

Name	Fr_17_Eray_< ConfigShortName >_kCCCfg_ <frlfctrlldx></frlfctrlldx>	
Туре	Fr_17_Eray_CCConfigType	
Description	Structure containing configuration parameters for a FlexRay communication controller.	
Verification method	The structure is generated as Fr_17_Eray_ <configshortname>_kCCCfg_<frlfctrlldx>.</frlfctrlldx></configshortname>	
	< ConfigShortName> is string configured in parameter 'FrMultipleConfiguration/Name'.	
	<pre><frctrlidx> is FR index configured for individual FR controller in 'FrController/FrCtrlIdx'.</frctrlidx></pre>	

Action	Generated output
• Configure 1 FR controller	static const Fr_17_Eray_CCConfigType
Set Name as MyConfig	Fr_17_Eray_MyConfig_kCCCfg_0 =
 Set FrCtrlIdx as 0 	{
	/* SUCC1 register configuration */
	/*
	0U - CmdPOCBusy (Unused member)
	1U - pKeySlotUsedForStartup
	1U - pKeySlotUsedForSync
	0U - Reserved bit
	0x1fU - FrIfGColdStartAttempts
	7U - FrPAllowPassiveToActive
	0U - FrPWakeupChannel
	0U - FrPKeySlotOnlyEnabled in FlexRay Protocol 2.1 Rev. A
	1U - FrPAllowHaltDueToClock
	0U - pChannelsMTS (Unused), 0 means no channels selected
	3U - FrPChannels, add 0x1 as the hw regs take ChannelA = 1, ChannelB = 2 and ChannelAB = 3
	*/
	0x0c87fb00U,
	/* SUCC2 register settings */
	Configure 1 FR controllerSet Name as MyConfig

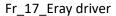
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```
0x13972U - FrPdListenTimeout
0xfU - (FrlfGListenNoise - 1)
0x0f013972U,
/* SUCC3 register settings */
0x1U - FrIfGMaxWithoutClockCorrectPassive
0x1U - FrIfGMaxWithoutClockCorrectFatal
*/
0x0000011U,
/* NEMC register settings */
0x2U - FrIfGNetworkManagementVectorLength
*/
0x00000002U,
/* PRTC1 register settings */
0xaU - FrIfGdTSSTransmitter
0x61U - FrIfGdCasRxLowMax
0U - Strobe Point Position. Always zero (default)
0U - BRP. Always zero as driver supports only 10Mbps
rate
0x4cU - FrIfgdWakeupRxWindow
0x2U - FrPWakeupPattern
*/
0x084c061aU,
/* PRTC2 register settings */
0x12U - FrIfgdWakeupRxIdle
0x12U - FrlfgdWakeupRxLow
0xb4U - FrIfGdWakeupTxIdle
0x3cU - FrIfGdWakeupTxActive
```

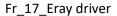
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```
0x3cb41212U,
/* MHDC register settings */
0x4U - FrIfGPayloadLengthStatic
0x3fU - FrPLatestTx
*/
0x003f0004U,
/* GTUC01 register settings */
0x9c40U - UT: FrPMicroPerCycle
*/
0x00009c40U,
/* GTUC02 register settings */
0x3e8U - FrIfGMacroPerCycle
0x4U - FrIfGSyncFrameIDCountMax maps to
FrIfGSyncNodeMax FR Pr 2.1
*/
0x000403e8U,
/* GTUC03 register settings */
0x18U - FrPMicroInitialOffsetA [A]
0x18U - FrPMicroInitialOffsetB [B]
0xaU - FrPMacroInitialOffsetA [A]
0xaU - FrPMacroInitialOffsetB [B]
*/
0x0a0a1818U,
/* GTUC04 register settings */
0x38eU - NetworkIdleTimeStart = (FrIfGMacroPerCycle -
FrIfGdNit - 1)
0x393U - Range: 8 -15998, maps to
(FrPOffsetCorrectionStart - 1)
```

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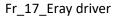




```
0x0393038eU,
/* GTUC05 register settings */
0x4U - FrPDelayCompensationA
0x4U - FrPDelayCompensationB
0x1U - FrPClusterDriftDamping
0x34U - FrPDecodingCorrection
*/
0x34010404U,
/* GTUC06 register settings */
0x81U - FrPdAcceptedStartupRange
0xd2U - is same as FrPdMaxDrift
*/
0x00d20081U,
/* GTUC07 register settings */
0x32U - FrIfGdStaticSlot
0xc - FrIfGNumberOfStaticSlots
*/
0x000c0032U,
/* GTUC08 register settings */
0x4U - FrIfGdMinislot
0x4bU - FrIfGNumberOfMinislots
0x004b0004U,
/* GTUC09 register settings */
0x8U - FrlfgdActionPointOffset
0x3U-FrIfgdMinislotActionPointOffset\\
0x1U - FrIfgdDynamicSlotIdlePhase
```

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```
0x00010308U,
/* GTUC10 register settings */
0x32U - FrPOffsetCorrectionOut
0xd2U - FrPRateCorrectionOut
*/
0x00d20032U,
 /* GTUC11 register settings */
0x0000U - Unused (FrPExternOffsetControl,
FrPExternRateControl
0U - FrPExternOffsetCorrection is not present in AS40
0U - FrPExternRateCorrection is not present in AS40
*/
0x0000000U,
/* CUST1 register settings */
0x00U - Unused
0x00U - Reserved
FR_RXSEL0 - FrRxInputSelection Channel A
FR_RXSEL0 - FrRxInputSelection Channel B
0x00U - Unused
*/
0x0000000U
};
```

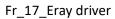
1.2.4.1 Member: Succ1CfgVal

Table 51 Succ1CfgVal

Name	Succ1CfgVal	
Туре	uint32	
Description	Configuration value for register SUCC1.	
Verification The structure member is generated as numeric value aligned to members of SUCC1		

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method	register based on value of the configuration parameters FrIfSlotId, FrIfBaseCycle, FrIfCycleRepetition, FrIfChannel and FrIfPayloadPreamble.	
Example(s)	Action	Generated output
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) 	/* SUCC1 register configuration */ /* 0U - CmdPOCBusy (Unused member)
	 Configure following parameters in FrIfCluster_0 and FrController_0: 	1U - pKeySlotUsedForStartup 1U - pKeySlotUsedForSync 0U - Reserved bit
	 Set FrPKeySlotUsedForStartup as True Set FrPKeySlotUsedForSync as True Set FrIfGColdStartAttempts as 31 Set FrPAllowPassiveToActive as 7 Set FrPWakeupChannel as 	0x1fU - FrIfGColdStartAttempts 7U - FrPAllowPassiveToActive 0U - FrPWakeupChannel 0U - FrPKeySlotOnlyEnabled in FlexRay Protocol 2.1 Rev. A 1U - FrPAllowHaltDueToClock 0U - pChannelsMTS (Unused), 0 means no channels selected 3U - FrPChannels, add 0x1 as the hw regs take ChannelA = 1, ChannelB = 2 and ChannelAB = 3 */ 0x0c87fb00U,
	 FR_CHANNEL_A Set FrPKeySlotOnlyEnabled as False Set FrPAllowHaltDueToClock as True Set FrPChannels as FR_CHANNEL_AB 	

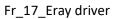
1.2.4.2 Member: Succ2CfgVal

Table 52 Succ2CfgVal

Name	Succ2CfgVal		
Туре	uint32		
Description	Configuration value for register SUCC2.		
Verification The structure member is generated as numeric value aligned to members of SUCC2 method register based on value of the configuration parameters FrPdListenTimeout and			

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	FrlfGListenNoise.		
Example(s)	Action	Generated output	
Example(5)	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters in FrIfCluster_0 and FrController_0: 	/* SUCC2 register settings */ /* 0x13972U - FrPdListenTimeout 0xfU - (FrIfGListenNoise - 1) */ 0x0f013972U,	
	 Set FrPdListenTimeout as 80242 		
	Set FrlfGListenNoise as 16		

1.2.4.3 Member: Succ3CfgVal

Table 53	Succ3CfgVal
----------	-------------

Name	Succ3CfgVal	
Туре	uint32	
Description	Configuration value for register SUCC3.	
Verification method	The structure member is generated as numeric value aligned to members of SUCC3 register based on value of the configuration parameters FrIfGMaxWithoutClockCorrectPassive, FrIfGMaxWithoutClockCorrectFatal.	
Example(s)	Action	Generated output
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters in FrIfCluster_0 and FrController_0: Set FrIfGMaxWithoutClockCorrectPassive as 1 Set FrIfGMaxWithoutClockCorrectFatal as 1 	/* SUCC3 register settings */ /* 0x1U - FrIfGMaxWithoutClockCorrectPassive 0x1U - FrIfGMaxWithoutClockCorrectFatal */ 0x00000011U,

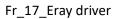
1.2.4.4 Member: NemcCfgVal

Table 54 NemcCfgVal

Name	NemcCfgVal
Туре	uint32
Description	Configuration value for register NEMC.

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Verification method	The structure member is generated as numeric value aligned to members of NEMC register based on value of the configuration parameters FrIfGNetworkManagementVectorLength.	
Example(s)	Action	Generated output
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters in FrIfCluster_0 and FrController_0: Set FrIfGNetworkManagementVectorLen gth as 2 	/* NEMC register settings */ /* 0x2U - FrlfGNetworkManagementVectorLength */ 0x00000002U,

Member: Prtc1CfgVal 1.2.4.5

Table 55	Prtc1CfgVal	c1CfgVal	
Name	Prtc1CfgVal	Prtc1CfgVal	
Туре	uint32	uint32	
Description	Configuration value for register PI	Configuration value for register PRTC1.	
Verification method	register based on value of the con	The structure member is generated as numeric value aligned to members of PRTC1 register based on value of the configuration parameters FrIfGdTSSTransmitter, FrIfGdCasRxLowMax, FrIfgdWakeupRxWindow and FrPWakeupPattern.	
Example(s)	Action Go	enerated output	
	and 1 FRIfCluster. (FrController_0, FrIfCluster_0) • Configure following parameters in FrIfCluster_0 and FrController_0: • Set FrIfGdTSSTransmitter as 10 • Set FrIfGdCasRxLowMax as 97	OxaU - FrIfGdTSSTransmitter Ox61U - FrIfGdCasRxLowMax OU - Strobe Point Position. Always zero (default) OU - BRP. Always zero as driver supports only 10Mbps rate Ox4cU - FrIfgdWakeupRxWindow Ox2U - FrPWakeupPattern	
	Set FrlfgdWakeupRxWindow as 76	XV84CU61aU,	

Version 5.0

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Fr_17_Eray driver



1.2.4.6 Member: Prtc2CfgVal

Table 56	Prtc2CfgVal			
Name	Prtc2CfgVal	Prtc2CfgVal		
Туре	uint32			
Description	Configuration value for register I	Configuration value for register PRTC2.		
Verification method	register based on value of the co	The structure member is generated as numeric value aligned to members of PRTC2 register based on value of the configuration parameters FrIfgdWakeupRxIdle, FrIfGdWakeupRxLow, FrIfGdWakeupTxIdle and FrIfGdWakeupTxActive.		
Example(s)	Action	Generated output		
	(FrController_0, FrIfCluster_0)	/* PRTC2 register settings */ /* 0x12U - FrIfgdWakeupRxIdle 0x12U - FrIfgdWakeupRxLow		
	parameters in FrIfCluster_0 and FrController_0:	0xb4U - FrIfGdWakeupTxIdle 0x3cU - FrIfGdWakeupTxActive		
	Set FrifGdWakeupRxLow as 18Set FrifGdWakeupTxIdle as	*/ 0x3cb41212U,		
	180Set FrlfGdWakeupTxActive			

1.2.4.7 Member: MHDC

as 60

Table 57 MHDC

Name	MHDC	MHDC		
Туре	uint32			
Description	Configuration value for registe	er MHDC.		
Verification method		The structure member is generated as numeric value aligned to members of MHDC register based on value of the configuration parameters FrIfGPayloadLengthStatic and FrPLatestTx.		
Example(s)	Action Generated output			
	Configure 1 FR controller	/* MHDC register settings */		

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 and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: 	/* 0x4U - FrIfGPayloadLengthStatic 0x3fU - FrPLatestTx */
Set FrIfGPayloadLengthStatic as 4	0x003f0004U,
Set FrPLatestTx as 63	

1.2.4.8 Member: GTUC01

Tahl	le 58	GT	114	2	1
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Name	GTUC01		
Туре	uint32		
Description	Configuration value for registe	er GTUC01.	
Verification method	The structure member is generated as numeric value aligned to members of GTUC01 register based on value of the configuration parameter FrPMicroPerCycle.		
Example(s)	Action	Generated output	
Example (3)	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0) Configure following parameters: Set FrPMicroPerCycle as 40000 	/* GTUC01 register settings */ /* 0x9c40U - UT: FrPMicroPerCycle */ 0x00009c40U,	

1.2.4.9 Member: GTUC02

Table 59 GTUC02

Name	GTUC02	GTUC02		
Туре	uint32			
Description	Configuration value for registe	r GTUC02.		
Verification method	The structure member is generated as numeric value aligned to members of GTUC02 register based on value of the configuration parameters FrIfGMacroPerCycle and FrIfGSyncFrameIDCountMax.			
Example(s)	Action	Generated output		
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) 	/* GTUC02 register settings */ /* 0x3e8U - FrIfGMacroPerCycle		
	Configure following	0x4U - FrIfGSyncFrameIDCountMax maps to		

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parameters:	FrlfGSyncNodeMax FR Pr 2.1
• Set FrIfGMacroPerCycle as	*/
1000	0x000403e8U,
• Set	0,000 105000,
${\sf FrIfGSyncFrameIDCountMax}$	
as 4	

1.2.4.10 Member: GTUC03

Tab	le	60	G	Т	U	C	0	3

Name	GTUC03		
Туре	uint32		
Description	Configuration value for register GTUC03.		
Verification method	The structure member is generated as numeric value aligned to members of GTUC03 register based on value of the configuration parameters FrPMicroInitialOffsetA, FrPMicroInitialOffsetB, FrPMacroInitialOffsetB from.		
Example(s)	Action	Generated output	
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrPMicroInitialOffsetA as 24 Set FrPMicroInitialOffsetB as 24 Set FrPMacroInitialOffsetA as 10 Set FrPMacroInitialOffsetB as 10 	/* GTUC03 register settings */ /* 0x18U - FrPMicroInitialOffsetA [A] 0x18U - FrPMicroInitialOffsetB [B] 0xaU - FrPMacroInitialOffsetA [A] 0xaU - FrPMacroInitialOffsetB [B] */ 0x0a0a1818U,	

1.2.4.11 Member: GTUC04

Table 61 GTUC04

Name	GTUC04	
Туре	uint32	
Description	Configuration value for register GTUC04.	
Verification method	The structure member is generated as numeric value aligned to members of GTUC04 register based on value of the configuration parameters FrIfGMacroPerCycle, FrIfGdNit	

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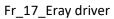
	and FrPOffsetCorrectionStart.			
	NIT (Network idle time) = (FrIfG	GMacroPerCycle - FrIfGdNit - 1)		
	OCS (Offset correction start) =	(FrPOffsetCorrectionStart - 1)		
Example(s)	Action	Generated output		
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrIfGMacroPerCycle as 1000 Set FrIfGdNit as 89 Set FrPOffsetCorrectionStart as 916 	/* GTUC04 register settings */ /* 0x38eU - NetworkIdleTimeStart = (FrIfGMacroPerCycle - FrIfGdNit - 1) 0x393U - Range: 8 -15998, maps to (FrPOffsetCorrectionStart - 1) */ 0x0393038eU,		

1.2.4.12 Member: GTUC05

Table 62	GTUC05	JC05		
Name	GTUC05	GTUC05		
Туре	uint32			
Description	Configuration value for registe	r GTUC05.		
Verification method	register based on value of the	The structure member is generated as numeric value aligned to members of GTUC05 register based on value of the configuration parameters FrPDelayCompensationA, FrPDelayCompensationB, FrPClusterDriftDamping and FrPDecodingCorrection.		
Example(s)	Action	Generated output		
Example(s)	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrPDelayCompensationA as 4 Set FrPDelayCompensationB as 4 	/* GTUC05 register settings */ /* 0x4U - FrPDelayCompensationA 0x4U - FrPDelayCompensationB 0x1U - FrPClusterDriftDamping 0x34U - FrPDecodingCorrection */ 0x34010404U,		

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•	Set
	FrPClusterDriftDamping as
	1
١,	Set
	FrPDecodingCorrection as
	52

1.2.4.13 Member: GTUC06

Tabl	le 63	GTUC06

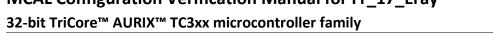
Name	GTUC06		
Туре	uint32		
Description	Configuration value for register	Configuration value for register GTUC06.	
Verification method The structure member is generated as numeric value aligned to members of GT register based on value of the configuration parameters FrPdAcceptedStartupF FrPdMaxDrift.		•	
Example(s)	Action	Generated output	
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrPdAcceptedStartupRang e as 129 	/* GTUC06 register settings */ /* 0x81U - FrPdAcceptedStartupRange 0xd2U - is same as FrPdMaxDrift */ 0x00d20081U,	
	 Set FrPdMaxDrift as 210 		

1.2.4.14 Member: GTUC07

Table 64 GTUC07

Name	GTUC07	
Туре	uint32	
Description	Configuration value for register GTUC07.	
Verification method	The structure member is generated as numeric value aligned to members of GTUC07 register based on value of the configuration parameters FrIfGdStaticSlot and FrIfGNumberOfStaticSlots.	
Example(s)	Action	Generated output
	Configure 1 FR controller and 1 FRIfCluster.	/* GTUC07 register settings */ /*

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 (FrController_0, FrlfCluster_0) Configure following parameters: Set FrlfGdStaticSlot as 50 	0x32U - FrIfGdStaticSlot 0xc - FrIfGNumberOfStaticSlots */ 0x000c0032U,
 Set FrlfGNumberOfStaticSlots as 12 	

1.2.4.15 Member: GTUC08

Tabl	I - CF	CTII	~~~
ı apı	le 65	GTU	ししと

Table 65 GT	JC08	
Name	GTUC08	
Туре	uint32	
Description	Configuration value for registe	r GTUC08.
Verification method	The structure member is generated as numeric value aligned to members of GTUC08 register based on value of the configuration parameters FrIfGdMinislot and FrIfGNumberOfMinislots.	
Example(s)	Action	Generated output
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrIfGdMinislot as 4 Set FrIfGNumberOfMinislots as 75 	/* GTUC08 register settings */ /* 0x4U - FrIfGdMinislot 0x4bU - FrIfGNumberOfMinislots */ 0x004b0004U,

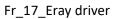
1.2.4.16 Member: GTUC09

Table 66 GTUC09

Type Description Verification	Configuration value for register GTUC09.	
method	The structure member is generated as numeric value aligned to members of GTUC09 register based on value of the configuration parameters FrIfgdActionPointOffset, FrIfgdMinislotActionPointOffset and FrIfgdDynamicSlotIdlePhase.	
Example(s)	Action	Generated output

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 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrIfgdActionPointOffset as 8 Set FrIfgdMinislotActionPointOffset 	/* GTUC09 register settings */ /* 0x8U - FrlfgdActionPointOffset 0x3U - FrlfgdMinislotActionPointOffset 0x1U - FrlfgdDynamicSlotIdlePhase */ 0x00010308U,
as 3 • Set	
FrIfgdDynamicSlotIdlePhase as	

1.2.4.17 Member: GTUC10

Table 67 GTUC10

Name	GTUC10		
Туре	uint32	uint32	
Description	Configuration value for register (GTUC10.	
Verification method	The structure member is generated as numeric value aligned to members of GTUC10 register based on value of the configuration parameters FrPOffsetCorrectionOut and FrPRateCorrectionOut.		
Example(s)	Action	Generated output	
	and 1 FRIfCluster.(FrController_0,FrIfCluster_0)Configure following	/* GTUC10 register settings */ /* 0x32U - FrPOffsetCorrectionOut 0xd2U - FrPRateCorrectionOut	
	 parameters: Set FrPOffsetCorrectionOut as Set FrPRateCorrectionOut as 210 	*/ 0x00d20032U,	

1.2.4.18 Member: GTUC11

Table 68 GTUC11

Name	GTUC11

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Туре	uint32	
Description	Configuration value for register GTUC11.	
Verification method	The structure member is generated as numeric value 0.	
	Note: The member is not user configurable.	
Example(s)	Action	Generated output
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Generate configuration. 	/* GTUC11 register settings */ /* 0x0000U - Unused (FrPExternOffsetControl, FrPExternRateControl 0U - FrPExternOffsetCorrection is not present in AS40 0U - FrPExternRateCorrection is not present in AS40 */ 0x00000000U,

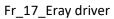
1.2.4.19 Member: CUST1

Table 69 CUST1

Name	CUST1		
Туре	uint32		
Description	Configuration value for register CUST1.		
Verification method	The structure member is generated as numeric value aligned to members of CUST1 register based on value of the configuration parameters FrRxInputSelectionA and FrRxInputSelectionB.		
Example(s)	Action	Generated output	
	 Configure 1 FR controller and 1 FRIfCluster. (FrController_0, FrIfCluster_0) Configure following parameters: Set FrRxInputSelectionA as FR_RXSEL0_PORT14_8 Set FrRxInputSelectionB as FR_RXSEL0_PORT14_7 	/* CUST1 register settings */ /* 0x00U - Unused 0x00U - Reserved FR_RXSEL0 - FrRxInputSelection Channel A FR_RXSEL0 - FrRxInputSelection Channel B 0x00U - Unused */ 0x00000000U	

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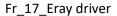


1.2.5 Structure: Fr_17_Eray_< ConfigShortName >_kLPduConfig_< FrIfCtrlldx>[<LPduCount>]

Table 70	Fr_17_Eray_< ConfigShortName >	kLPduConfig	<frifctrlidx>[-</frifctrlidx>	<lpducount>1</lpducount>
	··		• • • • • • • •	

Name	Fr_17_Eray_< ConfigS	hortName >_kLPduConfig_ <frifctrlidx>[<lpducount>]</lpducount></frifctrlidx>	
Туре	Fr_17_Eray_LPduConf	Fr_17_Eray_LPduConfigType	
Description	Array of LPdus configuration for the individual FlexRay controller.		
Verification method			
	< ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Name'.		
	<frctrlidx> is FR index configured for individual FR controller in 'FrController/FrCtrlIdx'.</frctrlidx>		
	<lpducount>: Numbe</lpducount>	r of LPdu configured in container 'FrlfLPdu/*'	
Example(s)	Action	Generated output	
	 Configure 1 FR controller with 2 Lpdus and Set FrCtrlldx as 0 Set Name as MyConfig 	/**************************/ static const Fr_17_Eray_LPduConfigType Fr_17_Eray_MyConfig_kLPduConfig_0 [2] = { /***	

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```
0U - FrIfAllowDynamicLSduLength
 0x000207c7U,
 FR_17_ERAY_LPDU_NOT_RECONFIGURABLE,
 /*DEM Id for FlexRay Slot Status Error. */
 FR_17_ERAY_DEM_REPORT_DISABLED
},
   -----*/
 {
 4U - Slot ID
 1U - Cycle code
 3U, - FrPChannels, add 0x1 as the hw regs take ChannelA = 1, ChannelB =
2
   and ChannelAB = 3
 0U - Message Buffer Direction: 0 - Receive, 1 - Transmit
 1U, - PPIT: 0 - Disable, 1 - Enable
 1U, - Transmission Mode: 1 - Single shot - always single shot
 0U - Message Buffer Service Request - always set to 0
 0x1b010004U,
 0x0U - Header CRC
 2U - Payload Length Configured
 0U - FrIfAllowDynamicLSduLength
 */
 0x00020000U,
 FR_17_ERAY_LPDU_RECONFIGURABLE,
 /*DEM Id for FlexRay Slot Status Error. */
 FR_17_ERAY_DEM_REPORT_DISABLED
}
};
```

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1.2.5.1 Member: Wrhs1CfgVal

Table 71 Wrhs1CfgVal

Table 11	MILIST CI B AUC			
Name	Wrhs1CfgVal	Wrhs1CfgVal		
Туре	uint32	uint32		
Description	Configuration value for registe	er WRHS1.		
Verification method	register based on value of the	The structure member is generated as numeric value aligned to members of WRHS1 register based on value of the configuration parameters FrIfSlotId, FrIfBaseCycle, FrIfCycleRepetition, FrIfChannel and FrIfPayloadPreamble.		
Example(s)	Action	Generated output		
	 Configure 1 FR controller (FrlfController_0). Configured 1 LPdu. Following parameters configure in FrlfFrameTriggering container: Set FrlfSlotId as 3 Set FrlfChannel as FRIF_CHANNEL_AB Set FrlfBaseCycle as 0 Set FrlfPayloadPreamble as True Set FrlfCycleRepetition as 1 	/* 3U - Slot ID 1U - Cycle code 3U, - FrPChannels, add 0x1 as the hw regs take ChannelA = 1, ChannelB = 2 and ChannelAB = 3 1U - Message Buffer Direction: 0 - Receive, 1 - Transmit 1U, - PPIT: 0 - Disable, 1 - Enable 1U, - Transmission Mode: 1 - Single shot - always single shot 0U - Message Buffer Service Request - always set to 0 */ 0x1f010003U,		

1.2.5.2 Member: Wrhs2CfgVal

Table 72 Wrhs2CfgVal

Table 12 Williszeigvat				
Name	Wrhs2CfgVal	Wrhs2CfgVal		
Туре	uint32			
Description	Configuration value for register WRHS2.			
Verification method	The structure member is generated as numeric value aligned to members of WRHS2 register based on calculated CRC value and one bit is allocated to indicate the value of FrIfAllowDynamicLSduLength.			
Example(s) Action Generated output		Generated output		
	 Configure 1 FR controller (FrIfController_0). Configured 1 LPdu. 	/* 0x7c7U - Header CRC		

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Following parameters	2U - Payload Length Configured
configured in	0U - FrIfAllowDynamicLSduLength
FrlfFrameTriggering container:	*/
• Set	0x000207c7U,
FrIfAllowDynamicLSduLength	
as False	

1.2.5.3 Member: LpduReconfigurable

Table 73 LpduReconfigurable

Name	LpduReconfigurable	LpduReconfigurable		
Туре	uint8	uint8		
Description	Indicates whether an LPdu is	Indicates whether an LPdu is dynamically reconfigurable or not.		
Verification method	The structure member is generated as FR_17_ERAY_LPDU_NOT_RECONFIGURABLE If parameter 'FrIfLPdu/FrIfReconfigurable' is configured as 'True' else as FR_17_ERAY_LPDU_RECONFIGURABLE.			
Example(s) Action Generated output		Generated output		
	• Set FrIfReconfigurable as False	FR_17_ERAY_LPDU_NOT_RECONFIGURABLE,		
	Set FrIfReconfigurable as True	FR_17_ERAY_LPDU_RECONFIGURABLE,		

1.2.5.4 Member: FrDemFTSlotStatusErrId

Table 74 FrDemFTSlotStatusErrId

Table 14	FrDemF i SlotStatusErria		
Name	FrDemFTSlotStatusErrId		
Туре	Dem_EventIdType		
Description	DEM Id for FlexRay Slot Status error.		
Verification method	The structure member is generated as FR_17_ERAY_DEM_REPORT_DISABLED If parameter 'FrIfController/FrIfFrameTriggering/ FrIfFrameTriggeringDemEventParameterRefs' is not configured else generate as a DemConf_DemEventParameter_ <frifframetriggeringdemeventparameterrefs *[1]="" du_slotstatus="" frif_e_lp="">.</frifframetriggeringdemeventparameterrefs>		
Example(s)	S) Action Generated output		
	Configure 1 LPdu and do not configure DEM id in FrlfFrameTriggeringDemEventParameterRefs	FR_17_ERAY_LPDU_NOT_RECONFIGURABLE,	
	Configure 1 LPdu and Configure the DEM Id FrIfFrameTriggeringDemEventParameterRef.	/*DEM Id for FlexRay Slot Status Error. */ DemConf_DemEventParameter_Fr_17_EraySl	

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Fr_17_Eray or	IVEI		
	/*[1]/FRIF_E_L	otStatusErr_Lpdu1 geringDemEventParameterRefs .PDU_SLOTSTATUS/* as tStatusErr_Lpdu1	
1.2.6	Structure:Fr_	_17_Eray_ <configshortname>_RxFifoConfig_<frifctrlld< th=""><th> X></th></frifctrlld<></configshortname>	 X>
Table 75	Fr_17_Eray_< Co	onfigShortName >_RxFifoConfig_ <frifctrlidx></frifctrlidx>	
Name	Fr_17_Eray_< Cor	nfigShortName >_RxFifoConfig_ <frifctrlidx></frifctrlidx>	
Туре	Fr_17_Eray_RxFife	oConfigType	
Description	FR receive FIFO co	onfiguration.	
Verification method	If FIFO is configured in 'FrController/FrFifo/*' then this structure is generated else it is not generated. The structure is generated as Fr_17_Eray_< ConfigShortName >_RxFifoConfig_ <frifctrlldx> for individual FR controller.</frifctrlldx>		or
	< ConfigShortName > is string configured in parameter 'FrMultipleConfiguration/Name'. <frctrlldx> is FR index configured for individual FR controller in 'FrController/FrCtrlldx'.</frctrlldx>		
Example(s)	Action	Generated output	
	 Configure 1 FR controller with 2 LPdus and set FrCtrlldx as 0 Set Name as MyConfig Configure FIFO. 	static const Fr_17_Eray_RxFifoConfigType Fr_17_Eray_MyConfig_RxFifoConfig_0 = { /* Fifo Rejection Filter criteria FrChannels (FrFid<<2) ((FrCycleRepetition FrBaseCycle)<<16U) (RSS<23) (RNF<24) */ 270333U, /* FIFO Rejection Filter Mask */ 0U, /* Fifo Depth. It is the number of FIFO Lpdus/FrFifoDepth which is lower */ 0U	

1.2.6.1 Member: FrFifoFrfCfg

};

Table 76 FrFifoFrfCfg

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Name	FrFifoFrfCfg	
Туре	uint32	
Description	Configuration value for Fifo Rejection Filter criteria.	
Verification method	The structure member is generated as numeric value based on parameters FrFrameIdRejectionFilter, FrCycleRepetition, FrBaseCycle, RejectStaticSegment and RejectNullFrames using following formula: FIFO rejection filter criteria = Fr Channel Value (FrFrameIdRejectionFilter << 2) ((FrCycleRepetition FrBaseCycle) << 16U) (RejectStaticSegment << 23) (RejectNullFrames << 24).	
Example(s)	Action	Generated output
	 Configure following parameters in FrFifo: Set FrFrameIdRejectio nFilter as 2047 Set FrCycleRepetition as 4 Set FrBaseCycle as 2 Set RejectStaticSegm ent as False Set RejectNullFrame as False 	/* Fifo Rejection Filter criteria FrChannels (FrFid<<2) ((FrCycleRepetition FrBaseCycle)<<16U) (RSS<23) (RNF<24) */ 401405U,
	 Configure following parameters in FrFifo: Set FrFrameIdRejectio nFilter as 2047 Set FrCycleRepetition as 4 Set FrBaseCycle as 	/* Fifo Rejection Filter criteria FrChannels (FrFid<<2) ((FrCycleRepetition FrBaseCycle)<<16U) (RSS<23) (RNF<24) */ 25567229U,

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	2
•	Set
	RejectStaticSegm
	ent as True
•	Set
	RejectNullFrames
	as True

1.2.6.2 Member: FrFifoFrfm

Tal	ble	77	FrFifoFrfm
ıaı	שוע		FIFIIVEIIII

Name	FrFifoFrfm	
Туре	uint16	
Description	FIFO Rejection Filter Mask.	
Verification method	The structure member is gener 'FrController/FrFifo/FrameIdRe	rated as numeric value which is configured in parameter ejectionFilterMask'.
Example(s)	Action	Generated output
	 Configure following parameters in FrFifo: 	/* FIFO Rejection Filter Mask */
	 Set FrameIdRejectionFilterMas k as 2 	2U,

1.2.6.3 Member: FrFifoDepth

Table 78 FrFifoDepth

Name	FrFifoDepth	
Туре	uint8	
Description	Fifo Depth.	
Verification method	2 parameter values:	ated as a numeric value which is the minimum of the below ter 'Fr/FrController/FrFifo/FrFifoDepth'. e satisfy the FIFO criteria.
Example(s)	Action	Generated output
	 Set FrFifoDepth as 1 Configure 6 LPdus which are not satisfying FIFO criteria. 	/* Fifo Depth. It is the number of FIFO Lpdus/FrFifoDepth which is lower */
	Set FrFifoDepth as 1	/* Fifo Depth. It is the number of FIFO Lpdus/FrFifoDepth

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 Configure 8 LPdus, Out of 	which is lower */
that 1 LPdu is satisfying FIFO criteria.	1U

1.2.7	Array: Fr_17_Eray_ <configshortname>_</configshortname>	CCConfigArray_ <frifctrlldx>[63]</frifctrlldx>
Table 79	Fr_17_Eray_< ConfigShortName >_RxFifoC	onfig_ <frifctrlldx>[63]</frifctrlldx>
Name	Fr_17_Eray_ <configshortname>_CCConfigA</configshortname>	Array_ <frifctrlidx>[63]</frifctrlidx>
Туре	uint32	
Description	FlexRay protocol configuration parameters f	or a individual FlexRay controller
Verification method	The array is generated as Fr_17_Eray_< Conf for individual FR controller.	igShortName >_CCConfigArray_ <frifctrlidx>[63]</frifctrlidx>
	< ConfigShortName> is string configured in p	parameter 'FrMultipleConfiguration/Name'.
	<frctrlldx> is FR index configured for individ</frctrlldx>	ual FR controller in 'FrController/FrCtrlIdx'.
Example(s)	Action Generated output	·
	• Configure 1 FR controller with 2 LPdus and set FrCtrlldx as 0 • Set as Name as MyConfig • Set as Noodoooooooooooooooooooooooooooooooooo	PMicroPerCycle */ istenTimeout */ lacroPerCycle */ lMacrotick */ lumberOfMinislots */ lumberOfStaticSlots */ lNit */ StaticSlot */ WakeupRxWindow */ ySlotId */ estTx */ fsetCorrectionOut */ iteCorrectionOut */ and Keyslot ID */

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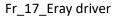




```
0x0000001fU, /* FrIfGColdStartAttempts */
0x000003fU, /* FrIfGCycleCountMax */
0x0000010U, /*FrlfGListenNoise */
0x0000001U, /* FrIfGMaxWithoutClockCorrectFatal */
0x0000001U, /* FrlfGMaxWithoutClockCorrectPassive */
0x00000002U, /* FrIfGNetworkManagementVectorLength */
0x0000004U, /* FrIfGPayloadLengthStatic */
0x00000004U, /* FrlfGSyncFrameIDCountMax maps to FrlfGSyncNodeMax
FR Pr 2.1 */
0x0000008U, /* FrlfgdActionPointOffset */
0x0000000U, /* FrIfGdBit */
0x00000061U, /* FrlfGdCasRxLowMax */
0x0000001U, /* FrlfgdDynamicSlotIdlePhase */
0x0000003U, /* FrIfgdMinislotActionPointOffset */
0x0000004U, /* FrIfGdMinislot */
0x0000000U, /* 0 - T12_5NS -> 10 Mbps */
0x0000000U, /* FrIfGdSymbolWindow */
0x0000008U, /* FrlfgdActionPointOffset */
0x000000aU, /* FrIfGdTSSTransmitter */
0x0000012U, /* FrIfgdWakeupRxIdle */
0x00000012U, /* FrIfgdWakeupRxLow */
0x0000003cU, /* FrlfGdWakeupTxActive */
0x000000b4U, /* FrIfGdWakeupTxIdle */
0x0000007U, /* FrPAllowPassiveToActive */
0x0000002U, /* FrPChannels */
0x0000001U, /* FrPClusterDriftDamping */
0x00000034U, /* FrPDecodingCorrection */
0x0000004U, /* FrPDelayCompensationA */
0x0000004U, /* FrPDelayCompensationB */
0x000000aU, /* FrPMacroInitialOffsetA */
0x000000aU, /* FrPMacroInitialOffsetB */
0x0000018U, /* FrPMicroInitialOffsetA */
0x0000018U, /* FrPMicroInitialOffsetB */
0x0000007fU, /* FrPPayloadLengthDynMax */
```

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0x0000001U, /* 1 - N2SAMPLES - Fixed at N2 samples as the baudrate supported is 10Mbit/s */
0x0000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */
0x0000002U, /* FrPWakeupPattern */
0x0000001U, /* FrPdMicrotick -> 1 - T25NS */
0x0000000U, /* FrlfGdIgnoreAfterTx - Set to 0 for FR Pr 2.1 */
0x0000001U, /* FrPAllowHaltDueToClock */
0x0000000U, /* FrPExternalSync - Set to 0 for FR Pr 2.1 */
0x0000000U, /* FrPFallBackInternal - Set to 0 for FR Pr 2.1 */
0x0000000U, /* FrPKeySlotOnlyEnabled */
0x0000001U, /* FrPKeySlotUsedForStartup */
0x0000001U, /* FrPKeySlotUsedForSync */
0x0000000U, /* FrPNmVectorEarlyUpdate - Set to 0 for FR Pr 2.1 */
0x0000000U /* FrPTwoKeySlotMode - Set to 0 for FR Pr 2.1 */
};

1.2.7.1 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[0]

Table 80 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[0]

Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[0]</frifctrlidx>
Туре	uint32	
Description	Configuration value	of FrIfGdCycle.
Verification method	with following formu	generated as numeric value based on parameter 'FrIfCluster/FrIfGdCycle' ıla: 'IfGdCycle * 1000000000
Example(s)	Action	Generated output
	Set FrIfGdCycle as 0.001	0x000f4240U, /* FrIfGdCycle */

1.2.7.2 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[1]

Table 81 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[1]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[1]</frifctrlidx>
Туре	uint32

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,			
Description	Configuration value	of FrPMicroPerCycle.	
Verification method	The array member is FrPMicroPerCycle'.	generated as numeric value which is configured in parameter 'FrIfC	Cluster/
Example(s)	Action	Generated output	
	Set FrPMicroPerCycl e as 40000	0x00009c40U, /* UT: FrPMicroPerCycle */	
1.2.7.3	Member: Fr_17_E	Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[2]</frifctrlldx></configshortname>	
Table 82	Fr_17_Eray_< Con	nfigShortName >_CCConfigArray_ <frifctrlldx>[2]</frifctrlldx>	
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[2]</frifctrlidx>	
Туре	uint32		
Description	Configuration value	of FrPdListenTimeout.	
Verification method	The array member is FrPdListenTimeout'.	generated as numeric value which is configured in parameter 'FrIfC	Cluster/
Example(s)	Action	Generated output	
	Set FrPdListenTime out as 80242	0x00013972U, /* FrPdListenTimeout */	
1.2.7.4 Table 83		Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[3] IfigShortName>_CCConfigArray_<frifctrlldx>[3]</frifctrlldx></frifctrlldx></configshortname>	
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[3]</frifctrlidx>	
Туре	uint32		
Description	Configuration value	of FrIfGMacroPerCycle.	
Verification method	The array member is 'FrIfCluster/FrIfGMad	generated as numeric value which is configured in parameter croPerCycle'.	
Example(s)	Action	Generated output	
	Set FrlfGMacroPerCy cle as 1000	0x000003e8U, /* FrIfGMacroPerCycle */	
1.2.7.5	Member: Fr_17_E	eray_ <configshortname>_CCConfigArray_<frifctrlldx>[4]</frifctrlldx></configshortname>	
Table 84	Fr_17_Eray_< Con	nfigShortName >_CCConfigArray_ <frifctrlldx>[4]</frifctrlldx>	
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[4]</frifctrlidx>	
Туре	uint32		
Description	Configuration value	of FrIfGdMacrotick.	
Configuration Da	ata Reference	63 of 89	Version 5

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Verification	The array member is	generated as numeric value based on parameter
method	'FrIfCluster/FrIfGdMa	crotick' with following formula:
	Generated value = Fr	fGdMacrotick * 1000000000
Example(s)	Action	Generated output
	• Set	0x000003e8U, /* FrlfGdMacrotick */
	FrIfGdMacrotick	•
	as 1.0E-6	
1.2.7.6	Member: Fr_17_E	ray_ <configshortname>_CCConfigArray_<frifctrlldx>[5]</frifctrlldx></configshortname>
Table 85	Fr_17_Eray_< Con	figShortName >_CCConfigArray_ <frifctrlldx>[5]</frifctrlldx>
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[5]</frifctrlidx>
Туре	uint32	
Description	Configuration value	of FrIfGNumberOfMinislots.
	-	generated as numeric value which is configured in parameter
method	'FrlfCluster/FrlfGNun	
Example(s)	Action	Generated output
	• Set	0x0000004bU, /* FrIfGNumberOfMinislots */
	FrIfGNumberOfMi	nisl
	ots as 75	
1.2.7.7	Member: Fr_17_E	ray_ <configshortname>_CCConfigArray_<frifctrlldx>[6]</frifctrlldx></configshortname>
Table 86	Fr 17 Fray & Can	GachautNama > CCCanfigAuray «FulfCtulldy» [C]
		figShortName >_CCConfigArray_ <frifctrlldx>[6]</frifctrlldx>
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[6]</frifctrlidx>
Туре	uint32	
Description	Configuration value	of FrIfGNumberOfStaticSlots.
Verification	The array member is	generated as numeric value which is configured in parameter 'F
method	FrifCluster/FrifGNum	
Example(s)	Action	Generated output
-xap.(0)		·
	Set FrlfGNumberOfSt	0x000000cU, /* FrlfGNumberOfStaticSlots */
	ots as 12	action (
1.2.7.8		ray <configshortnamo> CCConfigArray <erlfctrlldv>[7]</erlfctrlldv></configshortnamo>
1.2.1.0	Mellinel: Ll_T1_E	ray_ <configshortname>_CCConfigArray_<frifctrlldx>[7]</frifctrlldx></configshortname>
Table 87	Fr_17_Eray_< Con	figShortName >_CCConfigArray_ <frifctrlldx>[7]</frifctrlldx>
Name		ShortName >_CCConfigArray_ <frifctrlidx>[7]</frifctrlidx>
	-	
Type	uint32	

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Description	Configuration value	of FrIfGdNit.
Verification method	The array member is 'FrIfCluster/FrIfGdNi	generated as numeric value which is configured in parameter t'.
Example(s)	Action	Generated output
	Set FrlfGdNit as 89	0x00000059U, /* FrIfGdNit */
1.2.7.9	Member: Fr_17_E	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[8]</frifctrlidx></configshortname>
Table 88	Fr_17_Eray_< Con	figShortName >_CCConfigArray_ <frifctrlldx>[8]</frifctrlldx>
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[8]</frifctrlidx>
Туре	uint32	
Description	Configuration value	of FrIfGdStaticSlot.
Verification method	The array member is 'FrIfCluster/FrIfGdSt	generated as numeric value which is configured in parameter aticSlot'.
Example(s)	Action	Generated output
	• Set	0x00000032U, /* FrIfGdStaticSlot */
1.2.7.10	FrIfGdStaticSlot as 50	
Table 89	FrlfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Con	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[9] IfigShortName>_CCConfigArray_<frifctrlidx>[9] ShortName>_CCConfigArray_<frifctrlidx>[9]</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>
1.2.7.10 Table 89 Name Type	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Config	Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[9] InfigShortName >_CCConfigArray_<frifctrlldx>[9]</frifctrlldx></frifctrlldx></configshortname>
Table 89	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Config uint32	Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[9] InfigShortName >_CCConfigArray_<frifctrlldx>[9]</frifctrlldx></frifctrlldx></configshortname>
Table 89 Name Type Description Verification	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Config uint32 Configuration value	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[9] IfigShortName>_CCConfigArray_<frifctrlidx>[9] ShortName>_CCConfigArray_<frifctrlidx>[9] of FrIfgdWakeupRxWindow. I generated as numeric value which is configured in parameter 'FrIfCluster/</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>
Table 89 Name Type	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Config uint32 Configuration value The array member is	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[9] IfigShortName>_CCConfigArray_<frifctrlidx>[9] ShortName>_CCConfigArray_<frifctrlidx>[9] of FrIfgdWakeupRxWindow. I generated as numeric value which is configured in parameter 'FrIfCluster/</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>
Table 89 Name Type Description Verification method	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Config uint32 Configuration value The array member is FrIfgdWakeupRxWin	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[9] IfigShortName>_CCConfigArray_<frifctrlidx>[9] ShortName>_CCConfigArray_<frifctrlidx>[9] of FrIfgdWakeupRxWindow. If generated as numeric value which is configured in parameter 'FrIfCluster/dow'. Generated output 0x0000004cU, /* FrIfgdWakeupRxWindow */</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>
Table 89 Name Type Description Verification method	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWine Action Set FrIfgdWakeupRxWine Action Set FrIfgdWakeupRxWine Action	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[9] IfigShortName>_CCConfigArray_<frifctrlidx>[9] ShortName>_CCConfigArray_<frifctrlidx>[9] of FrIfgdWakeupRxWindow. If generated as numeric value which is configured in parameter 'FrIfCluster/dow'. Generated output 0x0000004cU, /* FrIfgdWakeupRxWindow */</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>
Table 89 Name Type Description Verification method Example(s)	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWindAction Set FrIfgdWakeupRxWindAction FrIfgdWakeupRxWindAction Member: Fr_17_E	Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[9] InfigShortName>_CCConfigArray_<frifctrlidx>[9] InfigShortName>_CCConfigArray_<frifctrlidx>[9] InfigShortName>_CCConfigArray_<frifctrlidx>[9] InfigdWakeupRxWindow. InfigdW</frifctrlidx></frifctrlidx></frifctrlidx></frifctrlidx></configshortname>
Table 89 Name Type Description Verification method Example(s)	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWind Action Set FrIfgdWakeupRxWind Action Set FrIfgdWakeupRxWind Action Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWind Action Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWind Action	Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<infigured 'frifcluster="" dow'.="" in="" infiggwakeuprxwindow="" infiggwakeuprxwindow.="" infigure<="" infigured="" parameter="" th=""></infigured></frifctrlldx></frifctrlldx></frifctrlldx></frifctrlldx></frifctrlldx></frifctrlldx></configshortname>
Table 89 Name Type Description Verification method Example(s) 1.2.7.11 Table 90	FrIfGdStaticSlot as 50 Member: Fr_17_E Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWind Action Set FrIfgdWakeupRxWind Action Set FrIfgdWakeupRxWind Action Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWind Action Fr_17_Eray_< Configuration value of the array member is FrIfgdWakeupRxWind Action	Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[9] InfigShortName>_CCConfigArray_<frifctrlldx>[9] ShortName>_CCConfigArray_<frifctrlldx>[9] of FrIfgdWakeupRxWindow. I generated as numeric value which is configured in parameter 'FrIfCluster/dow'. Generated output Ox0000004cU, /* FrIfgdWakeupRxWindow */ Vind Eray_<configshortname>_CCConfigArray_<frifctrlldx>[10] InfigShortName>_CCConfigArray_<frifctrlldx>[10]</frifctrlldx></frifctrlldx></configshortname></frifctrlldx></frifctrlldx></frifctrlldx></configshortname>

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	=	generated as numeric value which is configured in parameter
method	'FrController/FrPKey	SlotId'.
Example(s)	Action	Generated output
	• Set FrPKeySlotId as 3	0x0000003U, /* FrPKeySlotId */
1.2.7.12	Member: Fr_17_E	ray_ <configshortname>_CCConfigArray_<frifctrlidx>[11]</frifctrlidx></configshortname>
Table 91	Fr_17_Eray_< Con	figShortName >_CCConfigArray_ <frifctrlidx>[11]</frifctrlidx>
Name	Fr_17_Eray_< Config	ShortName>_CCConfigArray_ <frifctrlldx>[11]</frifctrlldx>
Туре	uint32	
Description	Configuration value	of FrPLatestTx.
Verification	The array member is	generated as numeric value which is configured in parameter
method	'FrController/FrPLate	estTx'.
Example(s)	Action	Generated output
	Set FrPLatestTx	0x0000003fU, /* FrPLatestTx */
	as 63	
1.2.7.13	Member: Fr_17_E	ray_ <configshortname>_CCConfigArray_<frifctrlidx>[12]</frifctrlidx></configshortname>
Table 92	Fr 17 Erav < Con	figShortName >_CCConfigArray_ <frifctrlidx>[12]</frifctrlidx>
Name		ShortName >_CCConfigArray_ <frifctrlidx>[12]</frifctrlidx>
Туре	uint32	
Description		of FrPOffsetCorrectionOut.
-	<u> </u>	
Verification method	The array member is 'FrController/FrPOffs	generated as numeric value which is configured in parameter
Example(s)	Action	Generated output
Lxample(3)		
	 Set FrPOffsetCorrecti 	0x00000032U, /* FrPOffsetCorrectionOut */
	ut as 50	
1.2.7.14	Member: Fr 17 E	ray_ <configshortname>_CCConfigArray_<frifctrlidx>[13]</frifctrlidx></configshortname>
		,_
Table 93	1	figShortName >_CCConfigArray_ <frifctrlidx>[13]</frifctrlidx>
Name	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[13]</frifctrlidx>
Туре	uint32	
Description	Configuration value	of FrPOffsetCorrectionStart.
Verification	The array member is	generated as numeric value which is configured in parameter
method	'FrController/FrPOffs	•
Example(s)	Action	Generated output
Configuration Da	ata Reference	66 of 89 Version 5.0

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FI_1/_Elay u	river	
	Set FrPOffsetCorrectio tart as 916	nS 0x00000394U, /* FrPOffsetCorrectionStart */
1.2.7.15	Member: Fr_17_Er	ray_ <configshortname>_CCConfigArray_<frifctrlldx>[14]</frifctrlldx></configshortname>
Table 94	Fr_17_Eray_< Conf	igShortName >_CCConfigArray_ <frifctrlldx>[14]</frifctrlldx>
Name	Fr_17_Eray_< ConfigS	hortName >_CCConfigArray_ <frifctrlidx>[14]</frifctrlidx>
Туре	uint32	
Description	Configuration value o	f FrPRateCorrectionOut.
Verification method	The array member is g 'FrController/FrPRate	generated as numeric value which is configured in parameter CorrectionOut'.
Example(s)	Action	Generated output
	• Set FrPRateCorrection Out as 210	0x00000d2U, /* FrPRateCorrectionOut */
1.2.7.16		ray_ <configshortname>_CCConfigArray_<frifctrlldx>[15]</frifctrlldx></configshortname>
Table 95		igShortName >_CCConfigArray_ <frifctrlldx>[15] hortName >_CCConfigArray_<frifctrlldx>[15]</frifctrlldx></frifctrlldx>
Name		mortivalne >_cccomigArray_ <rmctitidx>[15]</rmctitidx>
Туре	uint32	50 JV J. ID
Description	Configuration value o	r Second Reyslot ID.
Verification method	The array member is g	generated as numeric value 0.
method	Note: Array i	member is not configurable by user
Example(s)	Action	Generated output
	Generate configuration.	0x0000000U, /* Second Keyslot ID */
1.2.7.17	Member: Fr_17_Er	ay_ <configshortname>_CCConfigArray_<frifctrlidx>[16]</frifctrlidx></configshortname>
Table 96	Fr_17_Eray_< Conf	igShortName >_CCConfigArray_ <frifctrlldx>[16]</frifctrlldx>
Name	Fr_17_Eray_< ConfigS	hortName >_CCConfigArray_ <frifctrlidx>[16]</frifctrlidx>
Туре	uint32	
Description	Configuration value o	f FrPdAcceptedStartupRange.
Verification method	The array member is a	generated as numeric value which is configured in parameter eptedStartupRange'.
		a= 4aa

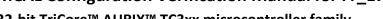
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Example(s)	Action	Generated output
	• Set	0x00000081U, /* FrPdAcceptedStartupRange */
	FrPdAcceptedStartu	
	nge as 129	
2.7.18	Member: Fr_17_Era	y_ <configshortname>_CCConfigArray_<frifctrlldx>[17]</frifctrlldx></configshortname>
Table 97	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlldx>[17]</frifctrlldx>
Name	Fr_17_Eray_< ConfigSho	ortName >_CCConfigArray_ <frifctrlidx>[17]</frifctrlidx>
Туре	uint32	
Description	Configuration value of F	rIfGColdStartAttempts.
	,	nerated as numeric value which is configured in parameter
method	'FrIfCluster/FrIfGColdSta	artAttempts'.
Example(s)	Action	Generated output
	• FrIfGColdStartAttem = 31	ox0000001fU, /* FrIfGColdStartAttempts */
1 2 7 10		
	Mamhar Er 17 Erai	/ <cantiashartnama> CCCantiaArray <eritctrlldv> 19 </eritctrlldv></cantiashartnama>
1.2.7.19	Member: Fr_17_Eray	y_ <configshortname>_CCConfigArray_<frifctrlldx>[18]</frifctrlldx></configshortname>
1.2.7.19 Table 98		y_ <configshortname>_CCConfigArray_<frifctrlldx>[18] ShortName>_CCConfigArray_<frifctrlldx>[18]</frifctrlldx></frifctrlldx></configshortname>
	Fr_17_Eray_< Config	
Table 98	Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlldx>[18]</frifctrlldx>
Table 98 Name	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18]</frifctrlidx></frifctrlidx>
Table 98 Name Type Description	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18]</frifctrlidx></frifctrlidx>
Table 98 Name Type Description	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] rIfGCycleCountMax. nerated as numeric value which is configured in parameter</frifctrlidx></frifctrlidx>
Table 98 Name Type Description Verification	Fr_17_Eray_< ConfigShouint32 Configuration value of F The array member is get 'FrlfCluster/FrlfGCycleConfigConfigConfigConfiguration value of F	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] rIfGCycleCountMax. nerated as numeric value which is configured in parameter</frifctrlidx></frifctrlidx>
Table 98 Name Type Description Verification method	Fr_17_Eray_< ConfigShouint32 Configuration value of F The array member is get 'FrlfCluster/FrlfGCycleConfigConfigConfigConfiguration value of F	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] rIfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output</frifctrlidx></frifctrlidx>
Table 98 Name Type Description Verification method	Fr_17_Eray_< ConfigShouint32 Configuration value of F The array member is get 'FrIfCluster/FrIfGCycleContent of F Action	ShortName >_CCConfigArray_ <frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] rlfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'.</frifctrlldx></frifctrlldx>
Table 98 Name Type Description Verification method	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is get 'FrIfCluster/FrIfGCycleCon Action • Set	ShortName >_CCConfigArray_ <frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] rlfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output</frifctrlldx></frifctrlldx>
Table 98 Name Type Description Verification method	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is get 'FrIfCluster/FrIfGCycleCo Action • Set FrIfGCycleCountM ax as 63	ShortName >_CCConfigArray_ <frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] rlfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output</frifctrlldx></frifctrlldx>
Table 98 Name Type Description Verification method Example(s)	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is get 'FrIfCluster/FrIfGCycleCo Action • Set FrIfGCycleCountM ax as 63 Member: Fr_17_Eray	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] rIfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output 0x0000003fU, /* FrIfGCycleCountMax */</frifctrlidx></frifctrlidx>
Table 98 Name Type Description Verification method Example(s)	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is get 'FrlfCluster/FrlfGCycleCol Action • Set FrlfGCycleCountM ax as 63 Member: Fr_17_Eray Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] rIfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output 0x0000003fU, /* FrIfGCycleCountMax */ y_<configshortname>_CCConfigArray_<frifctrlidx>[19]</frifctrlidx></configshortname></frifctrlidx></frifctrlidx>
Table 98 Name Type Description Verification method Example(s) 1.2.7.20 Table 99	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is get 'FrlfCluster/FrlfGCycleCol Action • Set FrlfGCycleCountM ax as 63 Member: Fr_17_Eray Fr_17_Eray_< Config	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] rlfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output 0x0000003fU, /* FrIfGCycleCountMax */ y_<configshortname>_CCConfigArray_<frifctrlidx>[19] ShortName >_CCConfigArray_<frifctrlidx>[19]</frifctrlidx></frifctrlidx></configshortname></frifctrlidx></frifctrlidx>
Table 98 Name Type Description Verification method Example(s) 1.2.7.20 Table 99 Name	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is ger 'FrIfCluster/FrIfGCycleCon • Set FrIfGCycleCountM ax as 63 Member: Fr_17_Eray Fr_17_Eray_< ConfigSho Fr_17_Eray_< ConfigSho	ShortName >_CCConfigArray_ <frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] ortName >_CCConfigArray_<frifgtrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[19] ortName >_CCConfigArray_<frifctrlldx>[19] ortName >_CCConfigArray_<frifctrlldx>[19]</frifctrlldx></frifctrlldx></frifctrlldx></frifgtrlldx></frifctrlldx></frifctrlldx></frifctrlldx>
Table 98 Name Type Description Verification method Example(s) 1.2.7.20 Table 99 Name Type	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is ger 'FrIfCluster/FrIfGCycleCon • Set FrIfGCycleCountM ax as 63 Member: Fr_17_Eray Fr_17_Eray_< ConfigSho uint32 Configuration value of F	ShortName >_CCConfigArray_ <frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[18] ortName >_CCConfigArray_<frifgtrlldx>[18] ortName >_CCConfigArray_<frifctrlldx>[19] ortName >_CCConfigArray_<frifctrlldx>[19] ortName >_CCConfigArray_<frifctrlldx>[19]</frifctrlldx></frifctrlldx></frifctrlldx></frifgtrlldx></frifctrlldx></frifctrlldx></frifctrlldx>
Table 98 Name Type Description Werification method Example(s) 1.2.7.20 Table 99 Name Type Description	Fr_17_Eray_< Config Fr_17_Eray_< ConfigSho uint32 Configuration value of F The array member is ger 'FrIfCluster/FrIfGCycleCon • Set FrIfGCycleCountM ax as 63 Member: Fr_17_Eray Fr_17_Eray_< ConfigSho uint32 Configuration value of F	ShortName >_CCConfigArray_ <frifctrlidx>[18] ortName >_CCConfigArray_<frifctrlidx>[18] ortIfGCycleCountMax. nerated as numeric value which is configured in parameter ountMax'. Generated output 0x0000003fU, /* FrIfGCycleCountMax */ y_<configshortname>_CCConfigArray_<frifctrlidx>[19] ortName >_CCConfigArray_<frifctrlidx>[19] ortName >_CCConfigArray_<frifctrlidx>[19] ortName >_CCConfigArray_<frifctrlidx>[19]</frifctrlidx></frifctrlidx></frifctrlidx></frifctrlidx></configshortname></frifctrlidx></frifctrlidx>

MCAL Configuration Verification Manual for Fr_17_Eray





Fr_17_Eray driver



•	Set FrlfGListenNoise	0x0000010U, /*FrlfGListenNoise */
	as 16	

1.2.7.21 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[20]

Table 100 Fr_17_Eray_< ConfigShortName > _CCConfigArray_<FrIfCtrlldx>[20]

11_11_Liuy_ \ Connigonor citame \	_cccomgaray_ irrications [20]
Fr_17_Eray_< ConfigShortName >_ConfigShortName >_ConfigShortName	CConfigArray_ <frifctrlidx>[20]</frifctrlidx>
uint32	
Configuration value of FrIfGMaxWitho	outClockCorrectFatal.
The array member is generated as nu 'FrIfCluster/FrIfGMaxWithoutClockCo	umeric value which is configured in parameter orrectFatal'.
(s) Action Generated output	
Set FrIfGMaxWithoutClockCorrectFa tal as 1	0x0000001U, /* FrIfGMaxWithoutClockCorrectFatal */
	Fr_17_Eray_< ConfigShortName >_C uint32 Configuration value of FrIfGMaxWithe The array member is generated as nu 'FrIfCluster/FrIfGMaxWithoutClockCo Action Set FrIfGMaxWithoutClockCorrectFa

1.2.7.22 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[21]

Table 101 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[21]

Name	Fr_17_Eray_< ConfigShortName >_CC	ConfigArray_ <frifctrlidx>[21]</frifctrlidx>
Туре	uint32	
Description	Configuration value of FrIfGMaxWitho	utClockCorrectPassive.
Verification method	The array member is generated as nur 'FrIfCluster/FrIfGMaxWithoutClockCor	meric value which is configured in parameter rectPassive'.
Example(s)	Action	Generated output
	Set FrIfGMaxWithoutClockCorrectPas sive as 1	0x00000001U, /* FrIfGMaxWithoutClockCorrectPassive */

1.2.7.23 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[22]

Table 102 Fr_17_Eray_< ConfigShortName > _CCConfigArray_<FrIfCtrlldx>[22]

Name	Fr_17_Eray_< ConfigShortName >_CCCo	nfigArray_ <frifctrlidx>[22]</frifctrlidx>
Туре	uint32	
Description	Configuration value of FrIfGNetworkMan	agementVectorLength.
Verification method	The array member is generated as numer 'FrIfCluster/FrIfGNetworkManagementVe	ric value which is configured in parameter ectorLength'.
Example(s)	Action	Generated output
	• Set	0x0000002U,/*

MCAL Configuration Verification Manual for Fr_17_Eray





FI_1/_Elay u	rivei		
	FrlfGNetworkManagen gth as 2	nentVectorLen FrlfGNetworkManagementVectorLength */	
1.2.7.24	Member: Fr_17_Eray_	<pre><configshortname>_CCConfigArray_<frifctrlidx>[23]</frifctrlidx></configshortname></pre>	
Table 103	Fr_17_Eray_< ConfigSh	nortName >_CCConfigArray_ <frifctrlldx>[23]</frifctrlldx>	
Name	Fr_17_Eray_< ConfigShort	:Name >_CCConfigArray_ <frifctrlidx>[23]</frifctrlidx>	
Туре	uint32		
Description	Configuration value of Fri	GPayloadLengthStatic.	
Verification method	The array member is gene 'FrIfCluster/FrIfGPayloadL	rated as numeric value which is configured in parameter engthStatic'.	
Example(s)	Action	Generated output	
	• Set		
1.2.7.25	Member: Fr_17_Eray_	<configshortname>_CCConfigArray_<frifctrlidx>[24]</frifctrlidx></configshortname>	
Table 104	Fr_17_Eray_< ConfigSh	nortName >_CCConfigArray_ <frifctrlidx>[24]</frifctrlidx>	
Name	Fr_17_Eray_< ConfigShort	:Name >_CCConfigArray_ <frifctrlidx>[24]</frifctrlidx>	
Туре	uint32		
Description	Configuration value of Fri	GSyncFrameIDCountMax.	
Verification method	The array member is gene 'FrIfCluster/FrIfGSyncFran	rated as numeric value which is configured in parameter neIDCountMax'.	
Example(s)	Action	Generated output	
	Set FrIfGSyncFrameIDCour Max as 4	0x00000004U, /* FrIfGSyncFrameIDCountMax maps to FrIfGSyncNodeMax FR Pr 2.1 */	
1.2.7.26	Member: Fr_17_Eray_	<configshortname>_CCConfigArray_<frifctrlidx>[25]</frifctrlidx></configshortname>	
Table 105	Fr_17_Eray_< ConfigSh	nortName >_CCConfigArray_ <frifctrlidx>[25]</frifctrlidx>	
Name	Fr_17_Eray_< ConfigShort	:Name >_CCConfigArray_ <frifctrlidx>[25]</frifctrlidx>	
Туре	uint32		
Description	Configuration value of Fri	fgdActionPointOffset.	
Verification method	The array member is gene 'FrIfCluster/FrIfgdActionPo	rated as numeric value which is configured in parameter ointOffset'.	
Example(s)	Action	Generated output	
	Set FrlfgdActionPointOffs	0x0000008U, /* FrIfgdActionPointOffset */	

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	et as 8		
1.2.7.27	Member: Fr_17_Eray	_ <co< th=""><th>nfigShortName>_CCConfigArray_<frifctrlldx>[26]</frifctrlldx></th></co<>	nfigShortName>_CCConfigArray_ <frifctrlldx>[26]</frifctrlldx>
Table 106	Fr_17_Eray_< ConfigS	ShortI	Name >_CCConfigArray_ <frifctrlidx>[26]</frifctrlidx>
Name	Fr_17_Eray_< ConfigSho	rtNan	ne >_CCConfigArray_ <frifctrlidx>[26]</frifctrlidx>
Туре	uint32		
Description	Configuration value of Fr	'IfGdB	it.
Verification method	Array member is generat	ed as	numeric value 0.
	Note: Array me	mber	is not configurable to user
Example(s)	Action	Gener	ated output
	Generate configuration)x0000	00000U, /* FrIfGdBit */
1.2.7.28	Member: Fr_17_Eray	_ <co< td=""><td>nfigShortName>_CCConfigArray_<frifctrlldx>[27]</frifctrlldx></td></co<>	nfigShortName>_CCConfigArray_ <frifctrlldx>[27]</frifctrlldx>
Table 107	Er 17 Erzy < Configs	Short	Name >_CCConfigArray_ <frifctrlldx>[27]</frifctrlldx>
Name			ne >_CCConfigArray_ <frifctrlldx>[27]</frifctrlldx>
Туре	uint32		
Description	Configuration value of Fi	rlfGdC	asRxLowMax.
	The array member is gen	erate	d as numeric value which is configured in parameter
method	'FrIfCluster/FrIfGdCasRx		
Example(s)	Action	Gen	erated output
	• Set FrlfGdCasRxLowMax as 0x61	0x00	0000061U, /* FrIfGdCasRxLowMax */
1.2.7.29	Member: Fr_17_Eray	_ <co< td=""><td>nfigShortName>_CCConfigArray_<frifctrlldx>[28]</frifctrlldx></td></co<>	nfigShortName>_CCConfigArray_ <frifctrlldx>[28]</frifctrlldx>
Table 108	Fr_17_Eray_< ConfigS	Shorti	Name >_CCConfigArray_ <frifctrlidx>[28]</frifctrlidx>
Name	Fr_17_Eray_< ConfigSho	rtNan	ne >_CCConfigArray_ <frifctrlidx>[28]</frifctrlidx>
Туре	uint32		
Description	Configuration value of Fi	ſlfgdD	ynamicSlotIdlePhase.
Verification method	The array member is ger 'FrlfCluster/FrlfgdDynam		d as numeric value which is configured in parameter tidlePhase'.
Example(s)	Action		Generated output
	• Set		0x00000001U, /* FrIfgdDynamicSlotIdlePhase */

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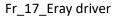




	ase as 1		
1.2.7.30	Member: Fr_17_Era	y_ <confi< th=""><th>gShortName>_CCConfigArray_<frifctrlldx>[29]</frifctrlldx></th></confi<>	gShortName>_CCConfigArray_ <frifctrlldx>[29]</frifctrlldx>
Table 109	Fr_17_Eray_< Config	ShortNan	ne >_CCConfigArray_ <frifctrlldx>[29]</frifctrlldx>
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[29]</frifctrlldx>		
Туре	uint32		
Description	Configuration value of F	rlfgdMinis	lotActionPointOffset.
Verification method	The array member is ge 'FrIfCluster/FrIfgdMinisl		numeric value which is configured in parameter ointOffset'.
Example(s)	Action		Generated output
	Set FrIfgdMinislotAction fset as 3	PointOf	0x00000003U, /* FrIfgdMinislotActionPointOffset */
1.2.7.31	Member: Fr_17_Era	y_ <confi< td=""><td>gShortName>_CCConfigArray_<frifctrlidx>[30]</frifctrlidx></td></confi<>	gShortName>_CCConfigArray_ <frifctrlidx>[30]</frifctrlidx>
Table 110	Fr_17_Eray_< Config	ShortNan	ne >_CCConfigArray_ <frifctrlldx>[30]</frifctrlldx>
Name	Fr_17_Eray_< ConfigSh	ortName >	_CCConfigArray_ <frifctrlidx>[30]</frifctrlidx>
Туре	uint32		
Description	Configuration value of F	rlfGdMinis	slot.
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/FrIfGdMinislot'.		
Example(s)	Action	Genera	ted output
	Set FrIfGdMinislot as 4	0x0000	00004U, /* FrIfGdMinislot */
1.2.7.32	Member: Fr_17_Era	y_ <confi< td=""><td>gShortName>_CCConfigArray_<frifctrlidx>[31]</frifctrlidx></td></confi<>	gShortName>_CCConfigArray_ <frifctrlidx>[31]</frifctrlidx>
Table 111	Fr 17 Erav < Config	ShortNan	ne >_CCConfigArray_ <frifctrlidx>[31]</frifctrlidx>
Name			CCCConfigArray_ <frifctrlidx>[31]</frifctrlidx>
Туре	uint32		
Description	Configuration value of 0	for speed	10 Mbps.
Verification method	Array member is genera	ted as nur	neric value 0.
	Note: Array me	ember is no	ot configurable to user
Example(s)	Action	Generate	d output
	Generate	0x0000000	00U, /* 0 - T12_5NS -> 10 Mbps */

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1.2.7.33 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[32]

Table 112 Fr 17 Eray	< ConfigShortName >	CCConfigArray	<frifctrlldx>[</frifctrlldx>	321
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Name	Fr_17_Eray_< ConfigShortName > _CCConfigArray_ <frifctrlidx>[32]</frifctrlidx>	
Туре	uint32	
Description	Configuration value of FrIfGdSymbolWindow.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/FrIfGdSymbolWindow'.	
Example(s)	Action	Generated output
	Set FrIfGdSymbolWindo w as 0	0x0000000U, /* FrIfGdSymbolWindow */

1.2.7.34 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[33]

Table 113 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[33]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[33]</frifctrlldx>		
Туре	uint32		
Description	Configuration value of FrIfgdActionPointOffset.		
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/ FrIfgdActionPointOffset'.		
Example(s)	Action	Generated output	
	Set FrIfgdActionPointOffs et as 8	0x0000008U, /* FrIfgdActionPointOffset */	

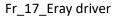
1.2.7.35 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[34]

Table 114 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[34]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[34]</frifctrlidx>	
Туре	uint32	
Description	Configuration value of FrIfGdTSSTransmitter.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/FrIfGdTSSTransmitter'.	
Example(s)	Action	Generated output
	Set FrlfGdTSSTransmitte r as 10	0x000000aU, /* FrlfGdTSSTransmitter */

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1.2.7.36 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[35]

Table 115 TI_II_ETay_ \ Collingshorthame \ _CccollingArray_ \ Thetriax [55	Table 115	Fr_17_Eray_< Config	gShortName >_CCConfi	gArray_ <frifctrlldx>[35]</frifctrlldx>
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Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[35]</frifctrlldx>	
Туре	uint32	
Description	Configuration value of FrIfgdWakeupRxIdle.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/FrIfgdWakeupRxIdle'.	
Example(s)	Action	Generated output
	Set FrifgdWakeupRxidle as 18	0x0000012U, /* FrIfgdWakeupRxIdle */

1.2.7.37 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[36]

Table 116 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[36]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[36]</frifctrlidx>	
Туре	uint32	
Description	Configuration value of FrIfgdWakeupRxLow.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/FrIfgdWakeupRxLow'.	
Example(s)	Action	Generated output
	Set FrlfgdWakeupRxLow as 18	0x0000012U, /* FrlfgdWakeupRxLow */

1.2.7.38 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[37]

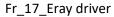
Table 117 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[37]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[37]</frifctrlidx>		
Туре	uint32		
Description	Configuration value of FrIfGdWakeupTxActive.		
Verification method	The array member is generated as numeric value which is configured in parameter 'FrIfCluster/FrIfGdWakeupTxActive'.		
Example(s)	Action	Generated output	
	Set FrIfGdWakeupTxActiv e as 0x3c	0x0000003cU, /* FrIfGdWakeupTxActive */	

Version 5.0

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Example(s)

Action

• Set FrPChannels as



1.2.7.39 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[38]

Name	Fr_17_Eray_< ConfigShor	tName >_CCConfigArray_ <frifctrlidx>[38]</frifctrlidx>	
Туре	uint32		
Description	Configuration value of FrI	fGdWakeupTxIdle.	
Verification method	The array member is gene 'FrIfCluster/FrIfGdWakeup	erated as numeric value which is configured in parameter oTxIdle'.	
Example(s)	Action	Generated output	
	Set FrlfGdWakeupTxIdle as 0xb4	0x000000b4U, /* FrIfGdWakeupTxIdle */	
1.2.7.40	Member: Fr_17_Eray	_ <configshortname>_CCConfigArray_<frifctrlldx>[39]</frifctrlldx></configshortname>	
Table 119	Er 17 Fray < ConfigSi	hortName >_CCConfigArray_ <frifctrlldx>[39]</frifctrlldx>	
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[39]</frifctrlldx>		
Туре	uint32		
Description			
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPAllowPassiveToActive'.		
Example(s)	Action Generated output		
	Set FrPAllowPassiveToAc tive as 7	0x0000007U, /* FrPAllowPassiveToActive */	
1.2.7.41	Member: Fr_17_Eray	<configshortname>_CCConfigArray_<frifctrlldx>[40]</frifctrlldx></configshortname>	
Table 120	Fr 17 Fray < ConfigS	hortName > CCConfigArray <frifctrlidx>[40]</frifctrlidx>	
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[40] Fr_17_Eray_< ConfigShortName >_CCConfigArray_<frifctrlldx>[40]</frifctrlldx></frifctrlldx>		
Tyne	Liint37		
Type Description	uint32 Configuration value of FrF	PChannels.	
	Configuration value of FrF The array member is general follows:	PChannels. Perated as numeric value based on 'FrController/FrPChannels' as red as FR_CHANNEL_AB then value is generated as 2	

0x0000002U, /* FrPChannels */

If FrPChannels is configured as FR_CHANNEL_A then value is generated as 0

Generated output

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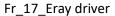


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, ,		
	FR_CHANNEL_AB	
1.2.7.42	Member: Fr_17_Eray	_ <configshortname>_CCConfigArray_<frifctrlldx>[41]</frifctrlldx></configshortname>
Table 121	Fr_17_Eray_< ConfigSI	hortName >_CCConfigArray_ <frifctrlldx>[41]</frifctrlldx>
Name	Fr_17_Eray_< ConfigShor	tName >_CCConfigArray_ <frifctrlidx>[41]</frifctrlidx>
Туре	uint32	
Description	Configuration value of Fr	PClusterDriftDamping.
Verification method	The array member is gene 'FrController/FrPClusterD	erated as numeric value which is configured in parameter priftDamping'.
Example(s)	Action	Generated output
	Set FrPClusterDriftDampi ng as 1	0x0000001U, /* FrPClusterDriftDamping */
1.2.7.43	Member: Fr_17_Eray	_ <configshortname>_CCConfigArray_<frifctrlidx>[42]</frifctrlidx></configshortname>
Table 122	Fr_17_Eray_< ConfigS	hortName >_CCConfigArray_ <frifctrlldx>[42]</frifctrlldx>
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frlfctrlidx>[42]</frlfctrlidx>	
Туре	uint32	
Description	Configuration value of FrPDecodingCorrection.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPDecodingCorrection'.	
Example(s)	Action Generated output	
	Set FrPDecodingCorrecti on as 0x34	0x00000034U, /* FrPDecodingCorrection */
1.2.7.44	Member: Fr_17_Eray	- <configshortname>_CCConfigArray_<frifctrlidx>[43]</frifctrlidx></configshortname>
Table 123	Fr 17 Erav < ConfigSI	hortName >_CCConfigArray_ <frifctrlidx>[43]</frifctrlidx>
Name		tName >_CCConfigArray_ <frifctrlldx>[43]</frifctrlldx>
Туре	uint32	
Description		
Verification method	The array member is gene 'FrController/FrPDelayCo	erated as numeric value which is configured in parameter mpensationA'.
Example(s)	Action	Generated output
	Set FrPDelayCompensati onA as 4	0x0000004U, /* FrPDelayCompensationA */

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1.2.7.45 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[44]

Table 124 F	Fr_17_Eray_< ConfigShortName >_	CCConfigArray	<frifctrlldx>[4</frifctrlldx>	44]
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Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[44]</frifctrlidx>	
Туре	uint32	
Description	Configuration value of FrPDelayCompensationB.	
Verification method	The array member is gene 'FrController/FrPDelayCo	erated as numeric value which is configured in parameter mpensationB'.
Example(s)	Action	Generated output
	Set FrPDelayCompensati onB as 4	0x0000004U, /* FrPDelayCompensationB */

1.2.7.46 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[45]

Table 125 Fr_17_Eray_< ConfigShortName >_CCConfigArray_<FrIfCtrlldx>[45]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[45]</frifctrlidx>	
Туре	uint32	
Description	Configuration value of FrPMacroInitialOffsetA.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPMacroInitialOffsetA'.	
Example(s)	Action	Generated output
	Set FrPMacroInitialOffset A as 10	0x000000aU, /* FrPMacroInitialOffsetA */

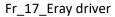
1.2.7.47 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[46]

Table 126 Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[46]

	',_ '	
Name	Fr_17_Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[46]</frifctrlldx></configshortname>	
Туре	uint32	
Description	Configuration value of FrPMacroInitialOffsetB.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPMacroInitialOffsetB'.	
Example(s)	Action	Generated output
	Set FrPMacroInitialOffset B as 10	0x000000aU, /* FrPMacroInitialOffsetB */

MCAL Configuration Verification Manual for Fr_17_Eray







Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[47] 1.2.7.48

Table 127	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[47]</frifctrlldx>	
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[47]</frifctrlidx>	
Туре	uint32	
Description	Configuration value of FrPMicroInitialOffsetA.	
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPMicroInitialOffsetA'.	
Example(s)	Action Generated output	
	Set FrPMicroInitialOffset A as 0x18	0x00000018U, /* FrPMicroInitialOffsetA */
1.2.7.49	Member: Fr_17_Eray	_ <configshortname>_CCConfigArray_<frifctrlidx>[48]</frifctrlidx></configshortname>
Table 128	Fr 17 Eray < ConfigS	hortName >_CCConfigArray_ <frifctrlidx>[48]</frifctrlidx>

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[48]</frifctrlidx>		
Туре	uint32		
Description	Configuration value of FrPMicroInitialOffsetB.		
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPMicroInitialOffsetB'.		
Example(s)	Action	Action Generated output	
	Set FrPMicroInitialOffset B as 0x18	0x00000018U, /* FrPMicroInitialOffsetB */	

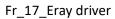
Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlIdx>[49] 1.2.7.50

Table 129 Fr_17_Eray_< ConfigShortName > _CCConfigArray_<FrIfCtrlldx>[49]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[49]</frifctrlidx>		
Туре	uint32		
Description	Configuration value of FrPPayloadLengthDynMax.		
Verification method	The array member is generated as numeric value which is configured in parameter 'FrController/FrPPayloadLengthDynMax'.		
Example(s)	Action	Generated output	
	Set FrPPayloadLengthDyn Max as 0x7F	0x0000007fU, /* FrPPayloadLengthDynMax */	

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1.2.7.51 Member: Fr_17_Eray_<ConfigShortName>_CCConfigArray_<FrIfCtrlldx>[50]

Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[50]</frifctrlldx>		
Туре	uint32	DC	
Description	Configuration value of FrPSamplesPerMicrotick which is fixed as N2 samples, as the baudrate supported is 10Mbit/s.		
Verification	Array member is generated as numeric value 1.		
method			
	Note: Array me	mber is not configurable by user	
Example(s)	Action	Generated output	
	• Generate 0	x00000001U, /* 1 - N2SAMPLES - Fixed at N2 samples as the baudrate	
	configuration _S	upported is 10Mbit/s */	
1.2.7.52	Member: Fr_17_Eray	_ <configshortname>_CCConfigArray_<frifctrlldx>[51]</frifctrlldx></configshortname>	
Table 131		hortName >_CCConfigArray_ <frifctrlldx>[51]</frifctrlldx>	
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[51]</frifctrlidx>		
Туре	uint32		
Description	Configuration value of FrPWakeupChannel.		
Verification	The array member is gen	erated as numeric value which depends on configuration parameter	
method	'FrController/FrPWakeupChannel'.		
	If FrPWakeupChannel is configured as FR_CHANNEL_A then value is generated as 0U		
	If FrPWakeupChannel is	configured as FR_CHANNEL_B then value is generated as delete 1U	
Example(s)	Action	Generated output	
Example(s)	Action • Set	•	
Example(s)		0x0000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */	
Example(s)	• Set	0x0000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */	
Example(s)	Set FrPWakeupChannel a	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */	
Example(s)	Set FrPWakeupChannel a FR_CHANNEL_A	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */ 0x00000001U, /* FrPWakeupChannel -> 1 - FR_CHANNEL_B */	
Example(s)	Set FrPWakeupChannel a FR_CHANNEL_ASet	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */ 0x00000001U, /* FrPWakeupChannel -> 1 - FR_CHANNEL_B */	
Example(s) 1.2.7.53	 Set FrPWakeupChannel a FR_CHANNEL_A Set FrPWakeupChannel a FR_CHANNEL_B 	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */ 0x00000001U, /* FrPWakeupChannel -> 1 - FR_CHANNEL_B */	
1.2.7.53	 Set FrPWakeupChannel a FR_CHANNEL_A Set FrPWakeupChannel a FR_CHANNEL_B Member: Fr_17_Eray 	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */ 0x00000001U, /* FrPWakeupChannel -> 1 - FR_CHANNEL_B */ c_ <configshortname>_CCConfigArray_<frifctrlldx>[52]</frifctrlldx></configshortname>	
	 Set FrPWakeupChannel a FR_CHANNEL_A Set FrPWakeupChannel a FR_CHANNEL_B Member: Fr_17_Eray Fr_17_Eray_< ConfigS 	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */ 0x00000001U, /* FrPWakeupChannel -> 1 - FR_CHANNEL_B */ s	
1.2.7.53 Table 132	 Set FrPWakeupChannel a FR_CHANNEL_A Set FrPWakeupChannel a FR_CHANNEL_B Member: Fr_17_Eray Fr_17_Eray_< ConfigS 	0x00000000U, /* FrPWakeupChannel -> 0 - FR_CHANNEL_A */ 0x00000001U, /* FrPWakeupChannel -> 1 - FR_CHANNEL_B */ c_ <configshortname>_CCConfigArray_<frifctrlldx>[52] ShortName>_CCConfigArray_<frifctrlldx>[52]</frifctrlldx></frifctrlldx></configshortname>	

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	-	enerated as numeric value which is configured in parameter			
method	'FrController/FrPWake				
Example(s)	Action	Generated output			
	Set FrPWakeupPatt	ern 0x0000002U, /* FrPWakeupPattern */			
	as 2				
1.2.7.54	Member: Fr_17_Eray_ <configshortname>_CCConfigArray_<frifctrlidx>[53]</frifctrlidx></configshortname>				
Table 133	Fr_17_Eray_< Config	gShortName >_CCConfigArray_ <frifctrlldx>[53]</frifctrlldx>			
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[53]</frifctrlidx>				
Туре	uint32				
Description	Configuration value of FrPdMicrotick which is fixed value 1 (T25NS).				
	Array member is gener	ated as numeric value 1.			
method	Mata. Array and	nambar ia nat aanfigurahla bu ugar			
	Note: Array m	nember is not configurable by user			
	Action	Generated output			
Example(s)	71011	•			
Example(s)	Generate configuration	0x0000001U, /* FrPdMicrotick -> 1 - T25NS */			
	Generate configuration	0x0000001U, /* FrPdMicrotick -> 1 - T25NS */			
1.2.7.55	Generate configuration Member: Fr_17_Era	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54]</frifctrlldx></configshortname>			
1.2.7.55	Generate configuration Member: Fr_17_Era Fr_17_Eray_< Configuration	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName >_CCConfigArray_<frifctrlldx>[54]</frifctrlldx></frifctrlldx></configshortname>			
1.2.7.55 Table 134	Generate configuration Member: Fr_17_Era Fr_17_Eray_< Configuration	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54]</frifctrlldx></configshortname>			
1.2.7.55 Table 134 Name	Generate configuration Member: Fr_17_Era Fr_17_Eray_< Configuration	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName >_CCConfigArray_<frifctrlldx>[54]</frifctrlldx></frifctrlldx></configshortname>			
1.2.7.55 Table 134 Name Type	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName >_CCConfigArray_<frifctrlldx>[54]</frifctrlldx></frifctrlldx></configshortname>			
1.2.7.55 Table 134 Name Type Description	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlidx>[54] gShortName>_CCConfigArray_<frifctrlidx>[54] nortName>_CCConfigArray_<frifctrlidx>[54]</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>			
1.2.7.55 Table 134 Name Type Description	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is generation.	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlidx>[54] gShortName>_CCConfigArray_<frifctrlidx>[54] nortName>_CCConfigArray_<frifctrlidx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0.</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is generation.	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlidx>[54] gShortName>_CCConfigArray_<frifctrlidx>[54] nortName>_CCConfigArray_<frifctrlidx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is generation.	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlidx>[54] gShortName>_CCConfigArray_<frifctrlidx>[54] nortName>_CCConfigArray_<frifctrlidx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0.</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is general Note: Array member is general Note: Array member is general Note: Array member is general Note: Array member is general Note: Array member is general Note: Array member is general Note: Array member is general Note: Array member is general Note:	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName>_CCConfigArray_<frifctrlldx>[54] nortName>_CCConfigArray_<frifctrlldx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0. nember is not configurable by user</frifctrlldx></frifctrlldx></frifctrlldx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is gener Note: Array m Action	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName>_CCConfigArray_<frifctrlldx>[54] nortName>_CCConfigArray_<frifctrlldx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0. member is not configurable by user Generated output</frifctrlldx></frifctrlldx></frifctrlldx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method Example(s)	Generate configuration Member: Fr_17_Era Fr_17_Eray_< Config Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is gener Note: Array m Action Generate configuration	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName>_CCConfigArray_<frifctrlldx>[54] nortName>_CCConfigArray_<frifctrlldx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0. member is not configurable by user Generated output</frifctrlldx></frifctrlldx></frifctrlldx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method Example(s)	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is gener Note: Array m Action Generate configuration Member: Fr_17_Era	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlidx>[54] gShortName>_CCConfigArray_<frifctrlidx>[54] nortName>_CCConfigArray_<frifctrlidx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0. member is not configurable by user Generated output 0x00000000U, /* FrIfGdIgnoreAfterTx - Set to 0 for FR Pr 2.1 */ ay_<configshortname>_CCConfigArray_<frifctrlidx>[55]</frifctrlidx></configshortname></frifctrlidx></frifctrlidx></frifctrlidx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is gener Note: Array m Action Generate configuration Member: Fr_17_Era Fr_17_Eray_< Config	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlidx>[54] gShortName>_CCConfigArray_<frifctrlidx>[54] nortName>_CCConfigArray_<frifctrlidx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0. member is not configurable by user Generated output 0x00000000U, /* FrIfGdIgnoreAfterTx - Set to 0 for FR Pr 2.1 */</frifctrlidx></frifctrlidx></frifctrlidx></configshortname>			
1.2.7.55 Table 134 Name Type Description Verification method Example(s) 1.2.7.56 Table 135	Generate configuration Member: Fr_17_Era Fr_17_Eray_< ConfigSh uint32 Configuration value of specification 2.1 Array member is gener Note: Array m Action Generate configuration Member: Fr_17_Era Fr_17_Eray_< Config	0x00000001U, /* FrPdMicrotick -> 1 - T25NS */ ay_ <configshortname>_CCConfigArray_<frifctrlldx>[54] gShortName>_CCConfigArray_<frifctrlldx>[54] nortName>_CCConfigArray_<frifctrlldx>[54] FrIfGdIgnoreAfterTx which is fixed value 0 to support FR protocol ated as numeric value 0. nember is not configurable by user Generated output 0x00000000U, /* FrIfGdIgnoreAfterTx - Set to 0 for FR Pr 2.1 */ ay_<configshortname>_CCConfigArray_<frifctrlldx>[55] gShortName>_CCConfigArray_<frifctrlldx>[55]</frifctrlldx></frifctrlldx></configshortname></frifctrlldx></frifctrlldx></frifctrlldx></configshortname>			

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,_,			
Description	Configuration value of FrPA	AllowHaltDueToClock.	
Verification method	The array member is generated as numeric value which is depends on configuration of parameter 'FrController/FrPAllowHaltDueToClock'.		
	If FrPAllowHaltDueToClock generated as 0U.	is configured as 'True' then array index is generated as 1U else it is	
Example(s)	Action	Generated output	
	Set FrPAllowHaltDueToClo ck as True	0x0000001U, /* FrPAllowHaltDueToClock */	
	Set FrPAllowHaltDueToClo ck as False	0x0000000U, /* FrPAllowHaltDueToClock */	
1.2.7.57	Member: Fr_17_Eray_<	ConfigShortName>_CCConfigArray_ <frifctrlidx>[56]</frifctrlidx>	
Table 136	Fr_17_Eray_< ConfigSho	ortName >_CCConfigArray_ <frifctrlldx>[56]</frifctrlldx>	
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[56]</frifctrlldx>		
Туре	uint32		
Description	Configuration value of FrPExternalSync which is fixed value 0 to support FR protocol specification 2.1		
	Array member is generated	as numeric value 0.	
method	Note: Array member is not configurable by user		
Example(s)	Action	Generated output	
	Generate configuration	0x00000000U, /* FrPExternalSync - Set to 0 for FR Pr 2.1 */	
1.2.7.58	Member: Fr_17_Eray_<	ConfigShortName>_CCConfigArray_ <frifctrlidx>[57]</frifctrlidx>	
Table 137		ortName > CCConfigArray <frifctrlidy>[57]</frifctrlidy>	
Ianie isi	Fr 1/ Eray < ConfigSno	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[57] Fr_17_Eray_< ConfigShortName >_CCConfigArray_<frifctrlldx>[57]</frifctrlldx></frifctrlldx>	
Name			
Name			
	Fr_17_Eray_< ConfigShort uint32		
Name Type	Fr_17_Eray_< ConfigShort uint32 Configuration value of FrP	Name >_CCConfigArray_ <frifctrlidx>[57] FallBackInternal which is fixed value 0 to support FR protocol</frifctrlidx>	

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Example(s)	Action	Generated output	
	Generate configuration	0x00000000U, /* FrPFallBackInternal - Set to 0 for FR Pr 2.1 */	
10750		C. C.C. III. III. C.C. C.A. C. T. A. C. C. C. T. A. C. C. C. T. A. C. C. C. T. A. C. C. T. A. C. C. C. T. A. C.	
1.2.7.59	Member: Fr_17_Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[58]</frifctrlldx></configshortname>		
Table 138	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[58]</frifctrlidx>		
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[58]</frifctrlldx>		
Туре	uint32		
Description	Configuration value of FrPKeySlotOnlyEnabled.		
Verification method	The array member is generated as numeric value which depends on configuration of paramete 'FrController/FrPKeySlotOnlyEnabled'. If FrPKeySlotOnlyEnabled is configured as 'True' then array index is generated as 1U else it is generated as 0U.		
Example(s)	Action	Generated output	
	Set FrPKeySlotOnlyEnabl ed as True	0x0000001U, /* FrPKeySlotOnlyEnabled */	
	Set FrPKeySlotOnlyEnabl ed as False	0x0000000U, /* FrPKeySlotOnlyEnabled */	
1.2.7.60	Member: Fr_17_Eray_ <configshortname>_CCConfigArray_<frifctrlldx>[59]</frifctrlldx></configshortname>		
Table 139	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[59]</frifctrlidx>		
Name	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[59]</frifctrlldx>		
Туре	uint32		
Description	Configuration value of FrPKeySlotUsedForStartup.		
Verification	The array member is generated as numeric value which depends on configuration of paramete 'FrController/FrPKeySlotUsedForStartup'.		
method	-	sedForStartup'.	
method	'FrController/FrPKeySlotU	sedForStartup'. cup is configured as 'True' then array index is generated as 1U else it i	
	'FrController/FrPKeySlotU If FrPKeySlotUsedForStart		
method Example(s)	'FrController/FrPKeySlotU If FrPKeySlotUsedForStart generated as 0U.	Generated output 0x00000001U, /* FrPKeySlotUsedForStartup */	

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Fr_17_Eray u	livei		
	tup as False		
1.2.7.61	Member: Fr_17_Eray_<	<pre><configshortname>_CCConfigArray_<frifctrlldx>[60]</frifctrlldx></configshortname></pre>	
able 140	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlldx>[60]</frifctrlldx>		
lame	Fr_17_Eray_< ConfigShortName >_CCConfigArray_ <frifctrlidx>[60]</frifctrlidx>		
уре	uint32		
escription	Configuration value of FrPKeySlotUsedForSync.		
erification nethod	The array member is generated as numeric value which depends on configuration of paramete 'FrController/ FrPKeySlotUsedForSync'.		
	If FrPKeySlotUsedForSync generated as 0U.	is configured as 'True' then array index is generated as 1U else it is	
xample(s)	Action	Generated output	
	Set FrPKeySlotUsedForSy nc as True	0x00000001U, /* FrPKeySlotUsedForSync */	
	 Set FrPKeySlotUsedForSy nc as False 	0x0000000U, /* FrPKeySlotUsedForSync */	
2.7.62	Member: Fr_17_Eray_<	<configshortname>_CCConfigArray_<frifctrlldx>[61]</frifctrlldx></configshortname>	
Table 141	Fr_17_Eray_< ConfigSho	ortName >_CCConfigArray_ <frifctrlldx>[61]</frifctrlldx>	
lame	Fr_17_Eray_< ConfigShort	:Name >_CCConfigArray_ <frifctrlidx>[61]</frifctrlidx>	
уре	uint32		
Description	Configuration value of FrP specification 2.1	NmVectorEarlyUpdate which is fixed value 0 to support FR protocol	
erification	Array member is generated as numeric value 0. Note: Array member is not configurable by user		
xample(s)	Action	Generated output	
	Generate configuration	0x00000000U, /* FrPNmVectorEarlyUpdate - Set to 0 for FR Pr 2.1 */	
1.2.7.63	Member: Fr_17_Eray_<	ConfigShortName>_CCConfigArray_ <frifctrlldx>[62]</frifctrlldx>	
Γable 142	Fr_17_Eray_< ConfigSho	ortName >_CCConfigArray_ <frifctrlldx>[62]</frifctrlldx>	
lame		Name >_CCConfigArray_ <frifctrlidx>[62]</frifctrlidx>	
Гуре	uint32		
`onfiguration Da	ata Reference	83 of 89 Version 5	

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with 9 LPdus and set

FrCtrlldx as 0
Set Name as
FrMultipleCo
nfiguration
None of the
configured



Fr 17 Eray driver

Fr_17_Eray d	river		
Description	Configuration value of FrPTwoKeySlotMode which is fixed value 0 to support FR protocol specification 2.1		
Verification method	Array member is generated as numeric value 0.		
	Note: Array member is not configurable by user		
Example(s)	Action	Generated output	
	Generate configu	ox00000000U /* FrPTwoKeySlotMode - Set to 0 for FR Pr 2.1 */	
1.2.8 Table 143	· ·	Eray_< ame>_LPduIdx2MsgBuff_ <frifctrlidx>[<lpducount>] nfigShortName >_LPduIdx2MsgBuff_<frifctrlidx>[<lpducount>]</lpducount></frifctrlidx></lpducount></frifctrlidx>	
Name	Fr_17_Eray_< Conf	igShortName >_LPduIdx2MsgBuff_ <frifctrlidx>[<lpducount>]</lpducount></frifctrlidx>	
Туре	uint8		
Description	LPdu to message buffer index mapping for individual FR controller.		
Verification method	The array is generated as Fr_17_Eray_< ConfigShortName>_LPduIdx2MsgBuff_ <frifctrlidx>[<lpducount>] for Individual F</lpducount></frifctrlidx>		
	< ConfigShortNam	e> is string configured in parameter 'FrMultipleConfiguration/Name'.	
	<pre><frctrlidx> is FR index configured for individual FR controller in 'FrController/FrCtrlIdx'.</frctrlidx></pre>		
	<lpducount> is number of LPdus configured for FR controller.</lpducount>		
	Array member is generated as the message buffer index value from the 'FrIf/FrIfCluster/FrIfController/FrIfFrameTriggering/Index' in case LPdu is not configured as FIFO.		
	If LPdu is configured as FIFO then message buffer index is generates as 255U.		
Example(s)	Action	Generated output	
		static const uint8 Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_0[= {0U, 1U, 2U, 3U, 4U, 5U, 6U, 7U, 8U};	

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Fr_17_Eray driver

LPdus match the receive FIFO filter criteria	
Configure 1 FR controller with 9 LPdus and set FrCtrlldx as 0	static const uint8 Fr_17_Eray_FrMultipleConfiguration_LPduIdx2MsgBuff_0[9] = {0U, 1U, 2U, 3U, 4U, 5U, 6U, 255U, 7U};
 Set Name as FrMultipleCo nfiguration 	
 The LPdu with index 7 matches the FIFO criteria. 	

1.2.9 Array: Fr_17_Eray_< ConfigShortName>_DataPointerOffset_<FrIfCtrlldx>[LPduCount]

Table 144	Fr 17 Eray	- ConfigShortNames	Data Daintar Officet	<frifctrlidx>[PduCount]</frifctrlidx>
Table 144	Fr I/ Frav	< ContignortName >	DataPointerOffset	<frit(triiax>ii Paii(aiinti</frit(triiax>

		6		
Name	Fr_17_Eray_< ConfigShortName >_DataPointerOffset_ <frifctrlidx>[LPduCount]</frifctrlidx>			
Туре	uint16			
Description	Array of data pointer offsets of the message buffers within the message RAM.			
Verification method	The array is gener Fr_17_Eray_ <con controller.<="" fr="" th=""><th>ated as figShortName>_LPduIdx2MsgBuff_<frifctrlidx>[<lpducount>] for individual</lpducount></frifctrlidx></th></con>	ated as figShortName>_LPduIdx2MsgBuff_ <frifctrlidx>[<lpducount>] for individual</lpducount></frifctrlidx>		
	<frctrlldx> is FR in</frctrlldx>	ne> is string configured in parameter 'FrMultipleConfiguration/Name'. ndex configured for individual FR controller in 'FrController/FrCtrlIdx'. umber of LPdus configured for FR controller.		
	Array member is generated value using parameter 'FrIfController/FrIfFrameTriggering/FrIfLSduLength' configured for LPdu. First array member is generated as size of header information (Number of LPdu * 4). Further array members are generated based on length configured for LPdus.			
Example(s)	Action	Generated output		

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Configure 1 FR controller with 9 LPdus.	static const uint16 Fr_17_Eray_FrMultipleConfiguration_DataPointerOffset_0[9] = {36U, 37U, 38U, 39U, 40U, 41U, 42U, 43U, 44U};
(FrIfLPdu_0	
to	
FrIfLPdu_8)	
Set FrCtrlldx as 0	
Set Name as FrMultipleCo nfiguration	
FrIfLSduLengt h as 4 for all configured LPdus.	
	FR controller with 9 LPdus. (FrIfLPdu_0 to FrIfLPdu_8) Set FrCtrlIdx as 0 Set Name as FrMultipleCo nfiguration Set FrIfLSduLengt h as 4 for all configured

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1.3 File: Fr_17_Eray[_<variant>]_PBcfg.h

The generated header file contains the declaration of the root configuration structure. Post-build time configuration mechanism allows configurable functionality of FR driver that is deployed as object code. The file is generated in 'inc' folder.

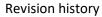
1.3.1 Structure: Fr_17_Eray_Config[_<variant>]

Table 145 Fr_17_Eray_Config[_<varaint>]

Name	Fr_17_Eray_Config[_ <variant>]</variant>		
Туре	Fr_17_Eray_ConfigType		
Description	Declaration of root configuration structure of FR driver which will be used during initialization.		
Verification method	The generated structure is present in Fr_17_Eray[_ <variant>]_PBcfg.h file. The <variant> indicates the name of the post-build variant. For a variant-aware configuration the structure name is appended with the variant name. For variant-unaware configuration <variant> is ignored.</variant></variant></variant>		
Example(s)	Action	Generated output	
	Configure and generate FR driver (variant-unaware).	extern const Fr_17_Eray_ConfigType Fr_17_Eray_Config;	
	Configure and generate FR driver (variant-aware, variant name is 'Petrol').	extern const Fr_17_Eray_ConfigType Fr_17_Eray_Config_Petrol;	

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Revision history

Major changes since the last revision

Date	Version	Description	
2023-05-24	V5.0	Document moved to Released state	
2023-05-22	V4.1	Documentation updated to change DEM to Productions error where applicable in section: 1.2.3.10	
2020-11-09	V4.0	Document moved to Released state	
2020-10-29	V3.1	Fr_17_Eray driver chapter moved from MC- ISAR_TC3xx_Config_Verification_Manual_COM-E.pdf to this document	
		 Added the macros FR_17_ERAY_RUNTIME_ERROR_DETECT and FR_17_ERAY_EXTENDED_LPDU_REPORTING. 	
		Updated CUST1 register settings	
2019-07-11	V3.0	Document moved to Released state.	
2019-07-11	V2.1	Added the macro: FR_17_ERAY_TX_CONFLICT_DETECTION.	
2019-02-28	V1.10.0_2.0	Added PBcfg.h file. Added Instance ID.	
2019-02-27	V1.10.0_1.0	Released.	
2019-02-27	V1.10.0_0.3	Review comments fixed.	
2019-02-27	V1.10.0_0.2	Initial review comments fixed.	
2019-02-25	V1.10.0_0.1	Initial Draft	

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