Project:	**Cor_IF + 4-wire**
Subsystem under Review:	**Modbus**
Revision:	**01.00.00**
Review Date:	**15.06.2016**

Review-Participant:

Dept.	*Name*	
IIGF	Georg Horst	Developer

Decision of the Review:

Decision	*next steps*
❑ Inspection passed *without restrictions*	Phase finished
x Inspection passed *with restrictions*	some changes must be done
❑ Inspection *not* passed	Inspection must be repeated

Changes are proved: The Reviewer confirms that all changes are done:

proved Rev:	Date:	Reviewer:
	02.11.2016	G. Horst

Check list:

		yes	no
1.	Review the code for conformance with the coding guideline. **(based on Coding Convention for embedded Software V.2.6.docx)**		**x**
2.	Check that erroneous data inputs are covered correctly.	x	
3.	Check that parameter passing by reference is correctly used.	X	
4.	Check that all specified outputs are produced.	x	
5.	Check that all functions are clear too understood.		**x**
6.	Check that the program sequencing is proper.	x	
7.	Check that all type casts are correct.	X	
8.	Check that conditional compile is correctly used.	x	
9.	Check that the module test has passed successful and covered the implementation.	X	
10.	Check that the code is successful checked by a lint-tool (passed warning level 2 for SIL2)		**x**
11.	Check that all related safety measures based on the safety analysis are covered.		
12.	Check that known problems and limitations of compiler, linker and operating system are considered by the developer.	x	
13.	Are all open issues transferred to the defects table?	X	

Defects

No..	Checkpoint	Description	Major Defect	done Date
| 1 | 1 | Creation Date of Functions is behind the module test date, please check or do module test again. It seems that the function was changed, but the module test was not repeated.<br><br>Please update the environment to (in case you are doing the retest): 4WCTW; IAR RX210 IAR Version V2.4.<br><br>Example:<br><br>```
//------------------------------------------------------------
/*!
  \brief   Checks if the number of bytes in a message is correct
  \author  GL
  \date    29/07/08
  \param   [in] pModbusCommandDescriptor - Reference to the message command structure
  \param   [in] pMessage - Reference to the message content
  \param   [in] length - The length of the received message
  \return  OK if the number of received bytes is correct
  \warning
  \test
  date: 2005-08-23
  \n by: GL
  \n environment: IAR Embedded Workbench V3.10A
  \n intention: 100% code coverage
  \n result module test: Pass, 100% code coverage
  \n result Lint Level 3:
  \bug
*/
//------------------------------------------------------------
TUSIGN16 CheckLengthModbus_Commands_Helper(const TModbusCommandDescriptor *pModbusCommandDescriptor,
                                           TUSIGN8 *pMessage,
```<br><br>Such issues found in:<br>Modbus_command_handlers_private.c  ->ln 58;179<br>Modbus_command_handlers_public.c<br>     -> ln 100;254;409;452;500;546;<br>Modbus_commands_helper.c -> ln 57;117;149;183;<br>Modbus_data_handlers_generic.c -> ln 47;113; | x | 2016-10-09 |

2	1	Module test is missing. It is very important that the test area is filled out. The Module Test documentation shall be part of the Module header description like in :	x	2016-10-27

```
//-------------------------------------------------------------------------
/*
\brief    Calculation of a hascode based on CRC16 calculation - no Table used.
\author   G. Horst
\date     30.04.2013
\param    TUSIGN8* startAddress
\param    TUSIGN32 len - number of bytes to be used for calculation
\return   TUSIGN16 hashCodeValue
\test
\n test-date:         11.05.2016
\n by:                G. Horst
\n environment:       4WCTW, coriolis project, HEW, Renesas E1
\n intention:         complete code coverage;
\n result module test: passed
\n result Lint check:  passed
*/
//-------------------------------------------------------------------------
```

Missing module test in:
Modbus_crc.c -> ln 83;130;

	Software Code Review (Modbus)		SCR	
ABB				

Responsibility:	Date:	Language:	Filing system :	Revision:	Page:
APR/IIGF	15.06.2016	en	TFS	0.2	4/5

Issued by:	Approved:	Released:	Area of validity:
G. Horst	-	-	APR/IIGF

		Description of function do not match to the declaration: Like:		2016-10-27
		``
//---
/*!
\brief   Reads objects in little endian format and loads the results into the passed message buffer
\author GL
\date   20/08/08
\param   [in] pModbusCommandDescriptor - Reference to the message command structure
\param   [in] pModbusRegisterTable - Reference to the register table where the objects reside
\param   [in] objectCount - Number of objects to read
\param   [in[pMessage - Reference to the buffer holding the coils to be written
\param   [in] arraryIndex - Array index of the initial object
\param   [out] pLength - Reference to a counter holding the number of bytes added to the buffer
\return OK if all of the objects are read successfully
\warning
\test
date: 2005-08-23
\n by: GL
\n environment: IAR Embedded Workbench V3.10A
\n intention: 100% code coverage
\n result module test: Pass, 100% code coverage
\n result Lint Level 3:
\bug
*/
//---
TUSIGN16 ReadObjectsModbus_Data_Handlers_Generic(const TModbusRegisterTable *pModbusRegisterTable,
                                                 TModbusHardwareLayer *pModbusHardwareLayer,
                                                 TModbusRegisterTableRequestDetails *pModbusRequestDetails,
                                                 TModbusRegisterTableRequestLink *pModbusRegisterTableRequestLink,
                                                 TUSIGN8 *pMessage)
{
```

Such issues found in:

Modbus_command_handlers_private.c -> ln 53; 171;
Modbus_command_handlers_public.c -> ln 95; 249;404;447;496;
Modbus_commands_helper.c -> 176;
Modbus_crc.c -> ln 126
Modbus_data_handlers_generic.c -> ln 38;105; | | |
		A lot of Lint Messages – see also file: Lint_Results_Modbus.txt	x	2016-10-27

		Partially the brief of the function is not understandable. Please extend the brief description of the functions. As this is nearly the case in all files. Please check all brief descriptions. Example:		2016-10-27

```
//------------------------------------------------------------
/*!
\brief   Generic handler for register based operations.
\author  GL
\date    29/07/08
\param   [in] pModbusCommandDescriptor - Reference to the message command structure
\param   [in] pMessage - Reference to the buffer holding the message
\param   [in/out] pLength - Reference to a counter holding the number of bytes added to the buffer
\return  The modbus exception after the message has been processed
\warning
\test
date: 2005-08-23
\n by: GL
\n environment: IAR Embedded Workbench V3.10A
\n intention: 100% code coverage
\n result module test: Pass, 100% code coverage
\n result Lint Level 3:
\bug
*/
//------------------------------------------------------------
TModbusExceptionType PrivateHandlerModbus_Command_Handlers_Private(const TModbusCommandDescriptor
                                                                   *pModbusCommandDescriptor,
                                                                   TModbusHardwareLayer
                                                                   *pModbusHardwareLayer,
                                                                   TUSIGN8 *pMessage)
{
```

		Unused Code / or Defines should not commented out. Please remove if it is not needed or described in detail the use case, necessity of this comment or code in:		2016-10-27