

Polyspace Bug Finder

Detailed Report for Project: ds3231

Report Author: LibDriver

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by Report Author: LibDriver

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E:\Polyspace\ds3231\Module\BF_Result

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Chapter 1. Polyspace Bug Finder Summary

Table 1.1. Project Summary

	Count	Reviewed	Unreviewed	Pass/Fail
MISRA C:2012 Guidelines	721	721	0	Pass
Defects	0	0	0	Pass
Total	721	721	0	Pass

Table 1.2. Summary By File

File	Defects (Reviewed)	MISRA C:2012 Guidelines (Reviewed)
E:\Github\ds3231\example\driver_ds3231_alarm.c	0 (0)	25 (25)
E:\Github\ds3231\example\driver_ds3231_alarm.h	0 (0)	1 (1)
E:\Github\ds3231\example\driver_ds3231_basic.c	0 (0)	27 (27)
E:\Github\ds3231\example\driver_ds3231_basic.h	0 (0)	1 (1)
E:\Github\ds3231\example\driver_ds3231_output.c	0 (0)	25 (25)
E:\Github\ds3231\example\driver_ds3231_output.h	0 (0)	1 (1)
E:\Github\ds3231\interface\driver_ds3231_interface.h	0 (0)	0 (0)
E:\Github\ds3231\interface\driver_ds3231_interface_template.c	0 (0)	4 (4)
E:\Github\ds3231\src\driver_ds3231.c	0 (0)	245 (245)
E:\Github\ds3231\src\driver_ds3231.h	0 (0)	1 (1)
E:\Github\ds3231\test\driver_ds3231_alarm_test.c	0 (0)	50 (50)
E:\Github\ds3231\test\driver_ds3231_alarm_test.h	0 (0)	0 (0)
E:\Github\ds3231\test\driver_ds3231_output_test.c	0 (0)	35 (35)

E:\Github\ds3231\test\driver_ds3231_output_test.h	0 (0)	0 (0)
E:\Github\ds3231\test\driver_ds3231_readwrite_test.c	0 (0)	54 (54)
E:\Github\ds3231\test\driver_ds3231_readwrite_test.h	0 (0)	0 (0)
E:\Github\ds3231\test\driver_ds3231_register_test.c	0 (0)	252 (252)
E:\Github\ds3231\test\driver_ds3231_register_test.h	0 (0)	0 (0)

Chapter 2. MISRA C:2012 Guidelines

MISRA C:2012 Guidelines Summary - Violations by File

File	Total
E:\Github\ds3231\example\driver_ds3231_alarm.c	25
E:\Github\ds3231\example\driver_ds3231_alarm.h	1
E:\Github\ds3231\example\driver_ds3231_basic.c	27
E:\Github\ds3231\example\driver_ds3231_basic.h	1
E:\Github\ds3231\example\driver_ds3231_output.c	25
E:\Github\ds3231\example\driver_ds3231_output.h	1
E:\Github\ds3231\interface\driver_ds3231_interface_template.c	4
E:\Github\ds3231\src\driver_ds3231.c	245
E:\Github\ds3231\src\driver_ds3231.h	1
E:\Github\ds3231\test\driver_ds3231_alarm_test.c	50
E:\Github\ds3231\test\driver_ds3231_output_test.c	35
E:\Github\ds3231\test\driver_ds3231_readwrite_test.c	54
E:\Github\ds3231\test\driver_ds3231_register_test.c	252
Total	721

MISRA C:2012 Guidelines Violations

Table 2.1. E:\Github\ds3231\example\driver_ds3231_alarm.c

ID	Guideline	Message	Function	Severity	Status	Comment
425	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
628	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
415	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
486	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
422	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
405	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
625	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
244	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type short shall not be cast to the wider essential type time_t.	ds3231_alarm_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
247	21.10	The Standard Library time and date functions shall not be used.	ds3231_alarm_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
251	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category unsigned.	ds3231_alarm_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
238	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
239	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
241	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
245	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
248	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
250	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the + operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
237	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the * operator has essentially enum type while the right operand has essentially signed type.	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
249	10.1	Operands shall not be of an inappropriate essential type. The left operand of the * operator is of an inappropriate essential type category enum.	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
246	10.3	The value of an expression shall not be assigned to an object with a	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need

		narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)				this method to set or clear some bits and drivers guarantee the safety of the operation.
240	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_alarm_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
711	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_alarm_get_timestamp()	Low	Justified	(handle == NULL)checked.
242	21.10	The Standard Library time and date functions shall not be used.	ds3231_alarm_get_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
712	D4.7	If a function returns error information, then that error information shall be tested. A sensitive function returns error or state information. Check the return value before using it.	ds3231_alarm_get_timestamp()	Low	Justified	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
252	10.7	If a composite expression is used as one operand of an operator in which the usual arithmetic conversions are performed then the other operand shall not have wider essential type. The left operand of the - operator shall not have wider essential type (signed on 32 bits) than the right operand (signed on 16 bits) which is a composite expression	ds3231_alarm_get_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
713	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source.	ds3231_alarm_get_timestamp_time_zone()	Low	Justified	(handle == NULL)checked.

		Pointer may be NULL or may point to unknown memory.				
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Table 2.2. E:\Github\ds3231\example\driver_ds3231_alarm.h

ID	Guideline	Message	Function	Severity	Status	Comment
243	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (floating)	File Scope	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

Table 2.3. E:\Github\ds3231\example\driver_ds3231_basic.c

ID	Guideline	Message	Function	Severity	Status	Comment
426	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
447	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
431	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
428	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
427	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
503	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
683	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
414	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
430	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
254	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type short shall not be cast to the wider essential type time_t.	ds3231_basic_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to

						convert driver data and drivers guarantee the safety of the operation.
267	21.10	The Standard Library time and date functions shall not be used.	ds3231_basic_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
255	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category unsigned.	ds3231_basic_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
258	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
262	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
260	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
263	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
264	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
253	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the + operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
257	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the * operator has essentially enum type while the right operand has essentially signed type.	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
266	10.1	Operands shall not be of an inappropriate essential type. The left operand of the * operator is of an inappropriate essential type category enum.	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
265	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
268	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_basic_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
708	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_basic_get_timestamp()	Low	Justified	(handle == NULL)checked.
261	21.10	The Standard Library time and date functions shall not be used.	ds3231_basic_get_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the

						safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
709	D4.7	If a function returns error information, then that error information shall be tested. A sensitive function returns error or state information. Check the return value before using it.	ds3231_basic_get_timestamp()	Low	Justified	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
256	10.7	If a composite expression is used as one operand of an operator in which the usual arithmetic conversions are performed then the other operand shall not have wider essential type. The left operand of the - operator shall not have wider essential type (signed on 32 bits) than the right operand (signed on 16 bits) which is a composite expression	ds3231_basic_get_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
710	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_basic_get_timestamp_time_zone()	Low	Justified	(handle == NULL)checked.

Table 2.4. E:\Github\ds3231\example\driver_ds3231_basic.h

ID	Guideline	Message	Function	Severity	Status	Comment
259	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (floating)	File Scope	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

Table 2.5. E:\Github\ds3231\example\driver_ds3231_output.c

ID	Guideline	Message	Function	Severity	Status	Comment
483	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

670	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
417	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
567	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
564	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
484	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
643	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
288	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type short shall not be cast to the wider essential type time_t.	ds3231_output_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
297	21.10	The Standard Library time and date functions shall not be used.	ds3231_output_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
291	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category unsigned.	ds3231_output_set_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.

284	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
283	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
285	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
286	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
287	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
289	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the + operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
292	10.1	Operands shall not be of an inappropriate essential type. The left operand of the * operator is of an inappropriate essential type category enum.	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
294	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear

		category. The left operand of the * operator has essentially enum type while the right operand has essentially signed type.				some bits and drivers guarantee the safety of the operation.
290	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
293	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_output_get_timestamp()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
705	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_output_get_timestamp()	Low	Justified	(handle == NULL)checked.
295	21.10	The Standard Library time and date functions shall not be used.	ds3231_output_get_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
706	D4.7	If a function returns error information, then that error information shall be tested. A sensitive function returns error or state information. Check the return value before using it.	ds3231_output_get_timestamp()	Low	Justified	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
298	10.7	If a composite expression is used as one operand of an operator in which the usual arithmetic conversions are performed then the other operand shall not have wider essential type. The left operand of the - operator shall not have wider essential type (signed on 32 bits) than the right operand (signed on 16 bits) which is a composite expression	ds3231_output_get_timestamp()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and

						drivers guarantee the safety of the operation.
707	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_output_get_timestamp_time_zone()	Low	Justified	(handle == NULL)checked.

Table 2.6. E:\Github\ds3231\example\driver_ds3231_output.h

ID	Guideline	Message	Function	Severity	Status	Comment
296	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (floating)	File Scope	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

Table 2.7. E:\Github\ds3231\interface\driver_ds3231_interface_template.c

ID	Guideline	Message	Function	Severity	Status	Comment
281	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category enum) is assigned to an object with a different essential type category (unsigned)	ds3231_interface_receive_callback()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
469	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
282	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category enum) is assigned to an object with a different essential type category (unsigned)	ds3231_interface_receive_callback()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
476	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

Table 2.8. E:\Github\ds3231\src\driver_ds3231.c

ID	Guideline	Message	Function	Severity	Status	Comment
4	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	a_ds3231_bcd2hex()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers

						guarantee the safety of the operation.
46	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	a_ds3231_bcd2hex()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
717	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_set_time()	Low	Justified	(handle == NULL)checked.
1	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category unsigned.	ds3231_set_time()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation.We use this function to convert driver data and drivers guarantee the safety of the operation.
171	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
9	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type category enum.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
85	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially enum type.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
7	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
101	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
143	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
186	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
232	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
88	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
20	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the + operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
26	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the + operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
235	10.1	Operands shall not be of an inappropriate essential type.	ds3231_get_time()	Low	Not a defect	Embedded drivers need

		The right operand of the & operator is of an inappropriate essential type category signed.				this method to set or clear some bits and drivers guarantee the safety of the operation.
25	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
2	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_time()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
148	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
80	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_time()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
29	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
137	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
32	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_time()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
718	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_set_alarm1()	Low	Justified	(handle == NULL)checked.
38	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
31	10.1	Operands shall not be of an inappropriate essential type. The right operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
35	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
27	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
133	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
14	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers

						guarantee the safety of the operation.
164	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
79	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
201	10.1	Operands shall not be of an inappropriate essential type. The right operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
23	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
42	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
217	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
40	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

33	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category unsigned.	ds3231_set_alarm1()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
114	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
22	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
43	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
182	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
53	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
163	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

51	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type category enum.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
54	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially enum type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
200	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
17	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
116	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
5	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
11	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
36	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear

		category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.				some bits and drivers guarantee the safety of the operation.
105	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
3	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
12	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
19	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
76	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
13	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
21	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

		type category signed.				the operation.
93	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
57	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
24	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
180	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
60	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
121	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
58	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
120	10.1	Operands shall not be of an inappropriate essential type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need

		The left operand of the >> operator is of an inappropriate essential type category enum.				this method to set or clear some bits and drivers guarantee the safety of the operation.
63	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
138	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
152	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
44	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
55	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
37	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
65	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
224	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
48	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm1()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
230	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
234	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm1()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
84	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
77	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
66	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers

		type category signed.				guarantee the safety of the operation.
226	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
203	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
118	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm1()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
68	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
154	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
72	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
15	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
191	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm1()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
719	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_set_alarm2()	Low	Justified	(handle == NULL)checked.
81	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
75	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
91	10.1	Operands shall not be of an inappropriate essential type. The right operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
59	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
73	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
135	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers

		The left operand of the & operator has essentially enum type while the right operand has essentially signed type.				guarantee the safety of the operation.
206	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
86	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category unsigned.	ds3231_set_alarm2()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
131	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
52	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
141	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
89	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
71	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

		category signed.				the operation.
50	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
45	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially enum type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
69	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type category enum.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
83	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
39	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
70	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
123	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
126	10.1	Operands shall not be of an inappropriate essential type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need

		The left operand of the >> operator is of an inappropriate essential type category enum.				this method to set or clear some bits and drivers guarantee the safety of the operation.
90	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
196	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
106	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
92	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
216	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
107	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. Operands of the >= operator have different essentially enum types.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
41	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

		object with a different essential type category (unsigned)				the operation.
173	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
95	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
98	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
96	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
225	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed. The right operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
10	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
64	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
145	10.1	Operands shall not be of an inappropriate essential type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need

		The left operand of the operator is of an inappropriate essential type category signed.				this method to set or clear some bits and drivers guarantee the safety of the operation.
102	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
103	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category enum.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
99	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category enum. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
100	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially enum type while the right operand has essentially signed type.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
207	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
205	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
214	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the	ds3231_set_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

		right operand has essentially unsigned type.				the operation.
111	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
108	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
109	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
193	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm2()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
28	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
139	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm2()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
113	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers

		type category signed.				guarantee the safety of the operation.
117	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
195	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
67	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
228	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm2()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
119	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
227	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
208	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
122	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm2()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
112	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
125	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
215	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
124	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
197	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
62	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
82	10.1	Operands shall not be of an inappropriate essential type.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need

		The right operand of the = operator is of an inappropriate essential type category signed.				this method to set or clear some bits and drivers guarantee the safety of the operation.
181	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the = operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
127	10.1	Operands shall not be of an inappropriate essential type. The operand of the ! operator is of an inappropriate essential type category enum.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
165	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category Boolean.	ds3231_set_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
183	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category Boolean shall not be cast to the different essential type category enum.	ds3231_get_oscillator()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
134	10.1	Operands shall not be of an inappropriate essential type. The operand of the ! operator is of an inappropriate essential type category unsigned.	ds3231_get_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
151	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_oscillator()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
94	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear

		category. The left operand of the &= operator has essentially unsigned type while the right operand has essentially signed type.				some bits and drivers guarantee the safety of the operation.
128	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
175	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
233	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
61	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed. The right operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
130	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the = operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
192	10.1	Operands shall not be of an inappropriate essential type. The right operand of the = operator is of an inappropriate essential type category enum.	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
198	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category enum) is assigned to an object with a different essential type category (unsigned)	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
158	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum. The right operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
16	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_alarm_interrupt()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
210	10.1	Operands shall not be of an inappropriate essential type. The right operand of the >> operator is of an inappropriate essential type category enum.	ds3231_get_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
169	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_alarm_interrupt()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
87	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
136	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
178	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
34	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
56	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
78	10.1	Operands shall not be of an inappropriate essential type. The right operand of the = operator is of an inappropriate essential type category enum.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
211	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the = operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
219	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category enum) is assigned to an object with a different essential type category (unsigned)	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
140	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
132	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_pin()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the

						safety of the operation.
146	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_pin()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
129	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
144	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
176	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
150	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
160	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
147	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the = operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
149	10.1	Operands shall not be of an inappropriate essential type.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need

		The right operand of the = operator is of an inappropriate essential type category enum.				this method to set or clear some bits and drivers guarantee the safety of the operation.
153	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category enum) is assigned to an object with a different essential type category (unsigned)	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
179	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
720	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_get_square_wave()	Low	Justified	(handle == NULL)checked.
6	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category enum.	ds3231_get_square_wave()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
166	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_square_wave()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
142	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
156	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

		while the right operand has essentially signed type.				the operation.
157	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
172	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
168	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
47	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the = operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
49	10.1	Operands shall not be of an inappropriate essential type. The right operand of the = operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
159	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
199	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
161	10.8	The value of a composite expression shall not be cast to a different	ds3231_get_temperature()	Low	Not a defect	We use enumeration to

		essential type category or a wider essential type. The value of the composite expression of essential type category unsigned shall not be cast to the different essential type category signed.				define driver configuration, which is a friendly programming method and should be accepted and drivers guarantee the safety of the operation.
97	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
104	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
8	10.1	Operands shall not be of an inappropriate essential type. The left operand of the >> operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
162	10.1	Operands shall not be of an inappropriate essential type. The left operand of the & operator is of an inappropriate essential type category signed. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
187	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category unsigned) is assigned to an object with a different essential type category (signed)	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
714	D4.1	Run-time failures shall be minimized. Conversion from unsigned int16 to int16 overflows. Valid range: [-32768 .. 32767]	ds3231_get_temperature()	Low	Justified	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the

						safety of the operation.
184	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the operator has essentially signed type while the right operand has essentially unsigned type.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
221	10.1	Operands shall not be of an inappropriate essential type. The left operand of the operator is of an inappropriate essential type category signed.	ds3231_get_temperature()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
223	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_aging_offset()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
167	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category floating shall not be cast to the different essential type category signed.	ds3231_aging_offset_convert_to_register()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
689	5.1	External identifiers shall be distinct. External function ds3231_aging_offset_convert_to_data conflicts with the external identifier ds3231_aging_offset_convert_to_register (driver_ds3231.c line 1377).	File Scope	Low	Justified	distinct.
30	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_irq_handler()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
220	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category enum.	ds3231_irq_handler()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

						the operation.
110	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_irq_handler()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
155	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category enum.	ds3231_irq_handler()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
188	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_init()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
209	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_init()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
231	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_init()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
170	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_init()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
190	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_init()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
185	10.1	Operands shall not be of an inappropriate essential type.	ds3231_alarm_clear()	Low	Not a defect	Embedded drivers need

		The right operand of the &= operator is of an inappropriate essential type category signed.				this method to set or clear some bits and drivers guarantee the safety of the operation.
194	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_clear()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
212	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type while the right operand has essentially signed type.	ds3231_alarm_clear()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
174	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_alarm_clear()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
115	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed. The right operand of the << operator is of an inappropriate essential type category enum.	ds3231_alarm_clear()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
189	10.1	Operands shall not be of an inappropriate essential type. The right operand of the &= operator is of an inappropriate essential type category signed.	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
202	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
204	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the &= operator has essentially unsigned type	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of

		while the right operand has essentially signed type.				the operation.
177	10.1	Operands shall not be of an inappropriate essential type. The operand of the ~ operator is of an inappropriate essential type category signed.	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
74	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category signed.	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
218	10.1	Operands shall not be of an inappropriate essential type. The right operand of the = operator is of an inappropriate essential type category enum.	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
222	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the = operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
229	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category enum) is assigned to an object with a different essential type category (unsigned)	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
18	10.1	Operands shall not be of an inappropriate essential type. The left operand of the << operator is of an inappropriate essential type category enum.	ds3231_set_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
721	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_get_32khz_output()	Low	Justified	(handle == NULL)checked.
213	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category	ds3231_get_32khz_output()	Low	Not a defect	We use enumeration to define driver configuration, which is a friendly

		unsigned shall not be cast to the different essential type category enum.				programming method and should be accepted and drivers guarantee the safety of the operation.
236	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category signed.	ds3231_get_32khz_output()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
715	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_set_reg()	Low	Justified	(handle == NULL)checked.
716	D4.14	The validity of values received from external sources shall be checked. Dereferenced pointer is from an unsecure source. Pointer may be NULL or may point to unknown memory.	ds3231_get_reg()	Low	Justified	(handle == NULL)checked.

Table 2.9. E:\Github\ds3231\src\driver_ds3231.h

ID	Guideline	Message	Function	Severity	Status	Comment
699	5.1	External identifiers shall be distinct. External function ds3231_aging_offset_convert_to_data conflicts with the external identifier ds3231_aging_offset_convert_to_register (driver_ds3231.c line 1377).	File Scope	Low	Justified	distinct.

Table 2.10. E:\Github\ds3231\test\driver_ds3231_alarm_test.c

ID	Guideline	Message	Function	Severity	Status	Comment
466	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
593	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
459	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
453	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
577	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

432	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
454	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
620	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
618	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
475	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
471	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
437	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
590	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
641	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
433	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
449	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
409	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
448	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
274	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (floating)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
597	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
525	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
269	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
270	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
277	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
275	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
271	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
273	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
272	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
445	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
609	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
418	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

522	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
611	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
565	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
276	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category enum.	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
278	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
444	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
451	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
440	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
464	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
639	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
423	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
460	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
436	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
279	10.1	Operands shall not be of an inappropriate essential type. The right operand of the & operator is of an inappropriate essential type category enum.	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

280	10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category. The left operand of the & operator has essentially unsigned type while the right operand has essentially enum type.	ds3231_alarm_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
502	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
497	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
413	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
439	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

Table 2.11. E:\Github\ds3231\test\driver_ds3231_output_test.c

ID	Guideline	Message	Function	Severity	Status	Comment
508	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
408	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
446	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
528	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
691	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
551	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
621	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
424	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
498	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

491	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
504	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
527	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
496	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
603	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
595	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
511	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
634	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
606	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
299	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (floating)	ds3231_output_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
456	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
500	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
421	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
507	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
702	D4.14	The validity of values received from external sources shall be checked. Loop is controlled by a value from an unsecure source. Loop may be infinite.	ds3231_output_test()	Low	Justified	Loop can't be infinite.

681	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
485	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
624	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
574	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
684	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
519	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
631	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
542	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
512	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
506	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
629	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

Table 2.12. E:\Github\ds3231\test\driver_ds3231_readwrite_test.c

ID	Guideline	Message	Function	Severity	Status	Comment
526	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
672	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
636	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
533	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

557	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
547	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
523	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
560	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
657	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
482	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
499	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
539	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
535	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
654	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
521	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
493	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
583	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
612	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
301	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (floating)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
518	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
487	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
472	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
302	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
308	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
703	2.2	There shall be no dead code. Variable 'time_in' is rewritten later without an intermediate read.	ds3231_readwrite_test()	Low	Justified	print function.
304	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
305	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
309	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
314	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
307	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

306	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
656	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
505	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
704	D4.14	The validity of values received from external sources shall be checked. Loop is controlled by a value from an unsecure source. Loop may be infinite.	ds3231_readwrite_test()	Low	Justified	Loop can't be infinite.
514	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
515	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
608	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
310	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
311	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
313	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
315	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
300	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category.	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some

		The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)				bits and drivers guarantee the safety of the operation.
303	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
312	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_readwrite_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
585	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
513	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
663	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
573	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
538	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
687	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
570	2.2	There shall be no dead code. The call to function ds3231_interface_delay_ms has no effect.	File Scope	Low	Justified	delay function.
481	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
632	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
671	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

Table 2.13. E:\Github\ds3231\test\driver_ds3231_register_test.c

ID	Guideline	Message	Function	Severity	Status	Comment
664	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
531	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
680	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
645	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
638	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
650	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
692	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
658	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
693	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
604	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
682	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
622	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
630	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
336	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
322	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

701	2.2	There shall be no dead code. Variable 'time_in' is rewritten later without an intermediate read.	ds3231_register_test()	Low	Justified	print function.
327	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
344	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
330	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
338	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
335	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
323	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
617	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
674	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
591	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
661	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
351	21.16	The pointer arguments to the Standard Library function memcmp shall	ds3231_register_test()	Low	Justified	no defect.

		point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type. The first argument to the function memcmp points to type 'ds3231_time_t'.				
326	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
360	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
318	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
341	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
352	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
345	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
320	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
686	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
411	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

470	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
600	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
358	21.16	The pointer arguments to the Standard Library function memcmp shall point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type. The first argument to the function memcmp points to type 'ds3231_time_t'.	ds3231_register_test()	Low	Justified	no defect.
443	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
372	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
396	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
343	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
401	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
479	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
607	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
605	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
452	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

350	21.16	The pointer arguments to the Standard Library function memcmp shall point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type. The first argument to the function memcmp points to type 'ds3231_time_t'.	ds3231_register_test()	Low	Justified	no defect.
403	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
347	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
353	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
348	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
665	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
644	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
610	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
599	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
376	21.16	The pointer arguments to the Standard Library function memcmp shall point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type. The first argument to the function memcmp points to type 'ds3231_time_t'.	ds3231_register_test()	Low	Justified	no defect.
340	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category.	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some

		The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)				bits and drivers guarantee the safety of the operation.
333	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
377	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
355	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
319	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
614	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
520	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
529	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
642	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
510	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
389	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
363	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee

		object with a different essential type category (unsigned)				the safety of the operation.
387	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
328	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
384	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
566	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
477	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
450	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
679	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
588	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
361	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
334	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
337	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

362	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
385	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
553	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
690	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
613	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
584	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
530	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
375	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
373	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
359	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
317	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
356	10.3	The value of an expression shall not be assigned to an object with a	ds3231_register_test()	Low	Not a defect	Embedded drivers need this

		narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)				method to set or clear some bits and drivers guarantee the safety of the operation.
579	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
646	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
637	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
594	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
455	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
316	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
342	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
367	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
346	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
398	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
582	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

601	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
615	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
524	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
467	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
321	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
354	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
380	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
364	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
378	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
578	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
616	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
587	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
575	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
619	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
517	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
369	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
339	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
374	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
332	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
536	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
669	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
516	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
627	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
386	21.16	The pointer arguments to the Standard Library function memcmp shall point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type. The first argument to the function memcmp points to type 'ds3231_time_t'.	ds3231_register_test()	Low	Justified	no defect.
325	10.3	The value of an expression shall not be assigned to an object with a	ds3231_register_test()	Low	Not a defect	Embedded drivers need this

		narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)				method to set or clear some bits and drivers guarantee the safety of the operation.
397	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
391	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
329	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
580	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
420	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
586	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
494	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
349	21.16	The pointer arguments to the Standard Library function memcmp shall point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type. The first argument to the function memcmp points to type 'ds3231_time_t'.	ds3231_register_test()	Low	Justified	no defect.
370	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
393	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

392	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
400	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
435	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
698	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
461	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
501	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
685	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
331	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
390	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
379	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
399	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
626	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
478	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
465	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
438	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
576	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
381	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
382	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
383	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
388	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
662	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
653	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
561	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
652	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
678	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
394	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
395	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
324	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
402	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
474	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
541	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
554	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
694	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
410	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
371	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
365	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.

366	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
404	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type category signed) is assigned to an object with a different essential type category (unsigned)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
559	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
546	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
549	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
548	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
488	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
555	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
666	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
416	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
562	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
480	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
563	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
677	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
550	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

675	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
492	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
700	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
648	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
635	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
668	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
458	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
545	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
640	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
544	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
434	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
406	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
509	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
556	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
407	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
558	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
695	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
442	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
543	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
468	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
429	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
602	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
660	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
592	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
419	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
540	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
462	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
651	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
571	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
568	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
649	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
537	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
598	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

457	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
623	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
659	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
647	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
463	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
489	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
676	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
534	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
633	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
581	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
495	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
532	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
696	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
368	10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category. The expression (of essential type signed on 16 bits) is assigned to an object with a narrower essential type (signed on 8 bits)	ds3231_register_test()	Low	Not a defect	Embedded drivers need this method to set or clear some bits and drivers guarantee the safety of the operation.
697	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
688	2.2	There shall be no dead code.	File Scope	Low	Justified	print function.

		The call to function ds3231_interface_debug_print has no effect.				
572	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
441	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
655	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
490	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
569	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
552	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
357	10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type. The value of the composite expression of essential type category signed shall not be cast to the different essential type category floating.	ds3231_register_test()	Low	Not a defect	We use this function to convert driver data and drivers guarantee the safety of the operation. We use this function to convert driver data and drivers guarantee the safety of the operation.
667	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
473	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
589	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
596	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
412	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.
673	2.2	There shall be no dead code. The call to function ds3231_interface_debug_print has no effect.	File Scope	Low	Justified	print function.

Chapter 3. Defects

Defects

No defects were found.

Chapter 4. Appendix 1 - Configuration Settings

Polyspace Settings

Option	Value
-author	LibDriver
-bug-finder	true
-checkers	ALIGNMENT_CHANGE, ASSERT, ATOMIC_VAR_ACCESS_TWICE, ATOMIC_VAR_SEQUENCE_NOT_ATOMIC, BAD_EQUAL_EQUAL_USE, BAD_EQUAL_USE, BAD_FREE, BAD_LOCK, BAD_PTR_SCALING, BAD_UNLOCK, CHARACTER_MISUSE, CHAR_EOF_CONFUSED, CLOSED_RESOURCE_USE, CONSTANT_OBJECT_WRITE, DATA_RACE, DATA_RACE_STD_LIB, DEADLOCK, DEAD_CODE, DECL_MISMATCH, DOUBLE_DEALLOCATION, DOUBLE_LOCK, DOUBLE_RESOURCE_CLOSE, DOUBLE_RESOURCE_OPEN, DOUBLE_UNLOCK, ERRNO_MISUSE, FILE_OBJECT_MISUSE, FLEXIBLE_ARRAY_MEMBER_STRUCT_MISUSE, FLOAT_ABSORPTION, FLOAT_CONV_OVFL, FLOAT_STD_LIB, FLOAT_ZERO_DIV, FREED_PTR, FUNC_CAST, IMPROPER_ARRAY_INIT, INLINE_CONSTRAINT_NOT_RESPECTED, INT_CONV_OVFL, INT_STD_LIB, INT_ZERO_DIV, INVALID_ENV_POINTER, INVALID_MEMORY_ASSUMPTION, INVALID_VA_LIST_ARG, IO_INTERLEAVING, LOCAL_ADDR_ESCAPE, MACRO_USED_AS_OBJECT, MEMCMP_PADDING_DATA, MEMCMP_STRINGS, MEM_STD_LIB, MISSING_ERRNO_RESET, MISSING_NULL_CHAR, MISSING_RETURN, NON_INIT_PTR, NON_INIT_VAR, NON_POSITIVE_VLA_SIZE, NULL_PTR, OPERATOR_PRECEDENCE, OTHER_STD_LIB, OUT_BOUND_ARRAY, OUT_BOUND_PTR, PARTIALLY_ACCESSED_ARRAY, PRE_DIRECTIVE_MACRO_ARG, PRE_UCNAME_JOIN_TOKENS, PTR_CAST, PTR_SIZEOF_MISMATCH, PTR_TO_DIFF_ARRAY, PUTENV_AUTO_VAR, READ_ONLY_RESOURCE_WRITE, RESOURCE_LEAK, SIDE_EFFECT_IGNORED, SIG_HANDLER_CALLING_SIGNAL, SIG_HANDLER_COMP_EXCP_RETURN, SIG_HANDLER_ERRNO_MISUSE, SIG_HANDLER_SHARED_OBJECT, SIZEOF_MISUSE, STD_FUNC_ARG_MISMATCH, STREAM_WITH_SIDE_EFFECT, STRING_FORMAT, STRLIB_BUFFER_OVERFLOW, STRLIB_BUFFER_UNDERFLOW, STR_FORMAT_BUFFER_OVERFLOW, STR_STD_LIB, TEMP_OBJECT_ACCESS, TOO_MANY_VA_ARG_CALLS, TYPEDEF_MISMATCH, UINT_CONV_OVFL, UNPROTOTYPED_FUNC_CALL, UNREACHABLE, USELESS_IF, VAR_SHADOWING, VA_ARG_INCORRECT_TYPE, VA_START_INCORRECT_TYPE, VA_START_MISUSE
-compiler	iar
-D	__TID__=14, __SIZE_T_TYPE__=unsigned int, __PTRDIFF_T_TYPE__=signed int, __IAR_SYSTEMS_ICC=1
-date	11/05/2022
-dos	true
-I	E:\Github\ds3231\src,E:\Github\ds3231\interface,E:\Github\ds3231\example,E:\Github\ds3231\test
-import-comments	E:\Polyspace\ds3231\Module\BF_Result\comments_bak
-lang	C

-little-endian	true
-logical-signed-right-shift	true
-misra3	mandatory-required
-prog	ds3231
-results-dir	E:\Polyspace\ds3231\Module\BF_Result
-sfr-types	sfr8=8,sfr16=16,sfr32=32,sfr=8
-target	mcpu
-verif-version	1.0

Coding Standard Configuration

Table 4.1. MISRA C:2012 Guidelines Configuration

Guideline	Description	Mode	Comment	Enabled
D1.1	Any implementation-defined behaviour on which the output of the program depends shall be documented and understood.	required	-	yes
D2.1	All source files shall compile without any compilation errors.	required	-	yes
D3.1	All code shall be traceable to documented requirements.	required	Not enforceable	no
D4.1	Run-time failures shall be minimized.	required	-	yes
D4.2	All usage of assembly language should be documented.	advisory	Not enforceable	no
D4.3	Assembly language shall be encapsulated and isolated.	required	-	yes
D4.4	Sections of code should not be "commented out".	advisory	Not implemented	no
D4.5	Identifiers in the same name space with overlapping visibility should be typographically unambiguous.	advisory	-	no
D4.6	typedefs that indicate size and signedness should be used in place of the basic numerical types.	advisory	-	no
D4.7	If a function returns error information, then that error information shall be tested.	required	-	yes
D4.8	If a pointer to a structure or union is never dereferenced within a translation unit, then the implementation of the object should be hidden.	advisory	-	no
D4.9	A function should be used in preference to a function-like macro where they are interchangeable.	advisory	-	no
D4.10	Precautions shall be taken in order to prevent the contents of a header file being included more than once.	required	-	yes

D4.11	The validity of values passed to library functions shall be checked.	required	-	yes
D4.12	Dynamic memory allocation shall not be used.	required	-	yes
D4.13	Functions which are designed to provide operations on a resource should be called in an appropriate sequence.	advisory	-	no
D4.14	The validity of values received from external sources shall be checked.	required	-	yes
1.1	The program shall contain no violations of the standard C syntax and constraints, and shall not exceed the implementation's translation limits.	required	-	yes
1.2	Language extensions should not be used.	advisory	-	no
1.3	There shall be no occurrence of undefined or critical unspecified behaviour.	required	-	yes
2.1	A project shall not contain unreachable code.	required	-	yes
2.2	There shall be no dead code.	required	-	yes
2.3	A project should not contain unused type declarations.	advisory	-	no
2.4	A project should not contain unused tag declarations.	advisory	-	no
2.5	A project should not contain unused macro declarations.	advisory	-	no
2.6	A function should not contain unused label declarations.	advisory	-	no
2.7	There should be no unused parameters in functions.	advisory	-	no
3.1	The character sequences /* and // shall not be used within a comment.	required	-	yes
3.2	Line-splicing shall not be used in // comments.	required	-	yes
4.1	Octal and hexadecimal escape sequences shall be terminated.	required	-	yes
4.2	Trigraphs should not be used.	advisory	-	no
5.1	External identifiers shall be distinct.	required	-	yes
5.2	Identifiers declared in the same scope and name space shall be distinct.	required	-	yes
5.3	An identifier declared in an inner scope shall not hide an identifier declared in an outer scope.	required	-	yes
5.4	Macro identifiers shall be distinct.	required	-	yes
5.5	Identifiers shall be distinct from macro names.	required	-	yes
5.6	A typedef name shall be a unique identifier.	required	-	yes
5.7	A tag name shall be a unique identifier.	required	-	yes
5.8	Identifiers that define objects or functions with external linkage shall be unique.	required	-	yes

5.9	Identifiers that define objects or functions with internal linkage should be unique.	advisory	-	no
6.1	Bit-fields shall only be declared with an appropriate type.	required	-	yes
6.2	Single-bit named bit fields shall not be of a signed type.	required	-	yes
7.1	Octal constants shall not be used.	required	-	yes
7.2	A "u" or "U" suffix shall be applied to all integer constants that are represented in an unsigned type.	required	-	yes
7.3	The lowercase character "l" shall not be used in a literal suffix.	required	-	yes
7.4	A string literal shall not be assigned to an object unless the object's type is "pointer to const-qualified char".	required	-	yes
8.1	Types shall be explicitly specified.	required	-	yes
8.2	Function types shall be in prototype form with named parameters.	required	-	yes
8.3	All declarations of an object or function shall use the same names and type qualifiers.	required	-	yes
8.4	A compatible declaration shall be visible when an object or function with external linkage is defined.	required	-	yes
8.5	An external object or function shall be declared once in one and only one file.	required	-	yes
8.6	An identifier with external linkage shall have exactly one external definition.	required	-	yes
8.7	Functions and objects should not be defined with external linkage if they are referenced in only one translation unit.	advisory	-	no
8.8	The static storage class specifier shall be used in all declarations of objects and functions that have internal linkage.	required	-	yes
8.9	An object should be defined at block scope if its identifier only appears in a single function.	advisory	-	no
8.10	An inline function shall be declared with the static storage class.	required	-	yes
8.11	When an array with external linkage is declared, its size should be explicitly specified.	advisory	-	no
8.12	Within an enumerator list, the value of an implicitly-specified enumeration constant shall be unique.	required	-	yes
8.13	A pointer should point to a const-qualified type whenever possible.	advisory	-	no
8.14	The restrict type qualifier shall not be used.	required	-	yes
9.1	The value of an object with automatic storage duration shall not be read before it has been set.	mandatory	-	yes
9.2	The initializer for an aggregate or union shall be enclosed in braces.	required	-	yes
9.3	Arrays shall not be partially initialized.	required	-	yes
9.4	An element of an object shall not be initialized more than once.	required	-	yes

9.5	Where designated initializers are used to initialize an array object the size of the array shall be specified explicitly.	required	-	yes
10.1	Operands shall not be of an inappropriate essential type.	required	-	yes
10.2	Expressions of essentially character type shall not be used inappropriately in addition and subtraction operations.	required	-	yes
10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category.	required	-	yes
10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category.	required	-	yes
10.5	The value of an expression should not be cast to an inappropriate essential type.	advisory	-	no
10.6	The value of a composite expression shall not be assigned to an object with wider essential type.	required	-	yes
10.7	If a composite expression is used as one operand of an operator in which the usual arithmetic conversions are performed then the other operand shall not have wider essential type.	required	-	yes
10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type.	required	-	yes
11.1	Conversions shall not be performed between a pointer to a function and any other type.	required	-	yes
11.2	Conversions shall not be performed between a pointer to an incomplete type and any other type.	required	-	yes
11.3	A cast shall not be performed between a pointer to object type and a pointer to a different object type.	required	-	yes
11.4	A conversion should not be performed between a pointer to object and an integer type.	advisory	-	no
11.5	A conversion should not be performed from pointer to void into pointer to object.	advisory	-	no
11.6	A cast shall not be performed between pointer to void and an arithmetic type.	required	-	yes
11.7	A cast shall not be performed between pointer to object and a non-integer arithmetic type.	required	-	yes
11.8	A cast shall not remove any const or volatile qualification from the type pointed to by a pointer.	required	-	yes
11.9	The macro NULL shall be the only permitted form of integer null pointer constant.	required	-	yes
12.1	The precedence of operators within expressions should be made explicit.	advisory	-	no
12.2	The right hand operand of a shift operator shall lie in the range zero to one less than the width in bits of the essential type of the left hand operand.	required	-	yes
12.3	The comma operator should not be used	advisory	-	no
12.4	Evaluation of constant expressions should not lead to unsigned integer wrap-around.	advisory	-	no
12.5	The sizeof operator shall not have an operand which is a function parameter declared as "array of	mandatory	-	yes

	type".			
13.1	Initializer lists shall not contain persistent side effects.	required	-	yes
13.2	The value of an expression and its persistent side effects shall be the same under all permitted evaluation orders.	required	-	yes
13.3	A full expression containing an increment (++) or decrement (--) operator should have no other potential side effects other than that caused by the increment or decrement operator.	advisory	-	no
13.4	The result of an assignment operator should not be used.	advisory	-	no
13.5	The right hand operand of a logical && or operator shall not contain persistent side effects.	required	-	yes
13.6	The operand of the sizeof operator shall not contain any expression which has potential side effects.	mandatory	-	yes
14.1	A loop counter shall not have essentially floating type.	required	-	yes
14.2	A for loop shall be well-formed.	required	-	yes
14.3	Controlling expressions shall not be invariant.	required	-	yes
14.4	The controlling expression of an if statement and the controlling expression of an iteration-statement shall have essentially Boolean type.	required	-	yes
15.1	The goto statement should not be used.	advisory	-	no
15.2	The goto statement shall jump to a label declared later in the same function.	required	-	yes
15.3	Any label referenced by a goto statement shall be declared in the same block, or in any block enclosing the goto statement.	required	-	yes
15.4	There should be no more than one break or goto statement used to terminate any iteration statement.	advisory	-	no
15.5	A function should have a single point of exit at the end.	advisory	-	no
15.6	The body of an iteration-statement or a selection-statement shall be a compound-statement.	required	-	yes
15.7	All if ... else if constructs shall be terminated with an else statement.	required	-	yes
16.1	All switch statements shall be well-formed.	required	-	yes
16.2	A switch label shall only be used when the most closely-enclosing compound statement is the body of a switch statement.	required	-	yes
16.3	An unconditional break statement shall terminate every switch-clause.	required	-	yes
16.4	Every switch statement shall have a default label.	required	-	yes
16.5	A default label shall appear as either the first or the last switch label of a switch statement.	required	-	yes
16.6	Every switch statement shall have at least two switch-clauses.	required	-	yes

16.7	A switch-expression shall not have essentially Boolean type.	required	-	yes
17.1	The features of <stdarg.h> shall not be used.	required	-	yes
17.2	Functions shall not call themselves, either directly or indirectly.	required	-	yes
17.3	A function shall not be declared implicitly.	mandatory	-	yes
17.4	All exit paths from a function with non-void return type shall have an explicit return statement with an expression.	mandatory	-	yes
17.5	The function argument corresponding to a parameter declared to have an array type shall have an appropriate number of elements.	advisory	-	no
17.6	The declaration of an array parameter shall not contain the static keyword between the [].	mandatory	-	yes
17.7	The value returned by a function having non-void return type shall be used.	required	-	yes
17.8	A function parameter should not be modified.	advisory	-	no
18.1	A pointer resulting from arithmetic on a pointer operand shall address an element of the same array as that pointer operand.	required	-	yes
18.2	Subtraction between pointers shall only be applied to pointers that address elements of the same array.	required	-	yes
18.3	The relational operators >, >=, < and <= shall not be applied to objects of pointer type except where they point into the same object.	required	-	yes
18.4	The +, -, += and -= operators should not be applied to an expression of pointer type.	advisory	-	no
18.5	Declarations should contain no more than two levels of pointer nesting.	advisory	-	no
18.6	The address of an object with automatic storage shall not be copied to another object that persists after the first object has ceased to exist.	required	-	yes
18.7	Flexible array members shall not be declared.	required	-	yes
18.8	Variable-length array types shall not be used.	required	-	yes
19.1	An object shall not be assigned or copied to an overlapping object.	mandatory	-	yes
19.2	The union keyword should not be used.	advisory	-	no
20.1	#include directives should only be preceded by preprocessor directives or comments.	advisory	-	no
20.2	The ', " or \ characters and the /* or // character sequences shall not occur in a header file name.	required	-	yes
20.3	The #include directive shall be followed by either a <filename> or "filename"sequence.	required	-	yes
20.4	A macro shall not be defined with the same name as a keyword.	required	-	yes

20.5	#undef should not be used.	advisory	-	no
20.6	Tokens that look like a preprocessing directive shall not occur within a macro argument.	required	-	yes
20.7	Expressions resulting from the expansion of macro parameters shall be enclosed in parentheses.	required	-	yes
20.8	The controlling expression of a #if or #elif preprocessing directive shall evaluate to 0 or 1.	required	-	yes
20.9	All identifiers used in the controlling expression of #if or #elif preprocessing directives shall be #define'd before evaluation.	required	-	yes
20.10	The # and ## preprocessor operators should not be used.	advisory	-	no
20.11	A macro parameter immediately following a # operator shall not immediately be followed by a ## operator.	required	-	yes
20.12	A macro parameter used as an operand to the # or ## operators, which is itself subject to further macro replacement, shall only be used as an operand to these operators.	required	-	yes
20.13	A line whose first token is # shall be a valid preprocessing directive.	required	-	yes
20.14	All #else, #elif and #endif preprocessor directives shall reside in the same file as the #if, #ifdef or #ifndef directive to which they are related.	required	-	yes
21.1	#define and #undef shall not be used on a reserved identifier or reserved macro name.	required	-	yes
21.2	A reserved identifier or macro name shall not be declared.	required	-	yes
21.3	The memory allocation and deallocation functions of <stdlib.h> shall not be used.	required	-	yes
21.4	The standard header file <setjmp.h> shall not be used.	required	-	yes
21.5	The standard header file <signal.h> shall not be used.	required	-	yes
21.6	The Standard Library input/output functions shall not be used.	required	-	yes
21.7	The atof, atoi, atol, and atoll functions of <stdlib.h> shall not be used.	required	-	yes
21.8	The library functions abort, exit and system of <stdlib.h> shall not be used.	required	-	yes
21.9	The library functions bsearch and qsort of <stdlib.h> shall not be used.	required	-	yes
21.10	The Standard Library time and date functions shall not be used.	required	-	yes
21.11	The standard header file <tgmath.h> shall not be used.	required	-	yes
21.12	The exception handling features of <fenv.h> should not be used.	advisory	-	no
21.13	Any value passed to a function in <ctype.h> shall be representable as an unsigned char or be the value EOF.	mandatory	-	yes
21.14	The Standard Library function memcmp shall not be used to compare null terminated strings.	required	-	yes

21.15	The pointer arguments to the Standard Library functions memcpy, memmove and memcmp shall be pointers to qualified or unqualified versions of compatible types.	required	-	yes
21.16	The pointer arguments to the Standard Library function memcmp shall point to either a pointer type, an essentially signed type, an essentially unsigned type, an essentially Boolean type or an essentially enum type.	required	-	yes
21.17	Use of the string handling functions from <string.h> shall not result in accesses beyond the bounds of the objects referenced by their pointer parameters.	mandatory	-	yes
21.18	The size_t argument passed to any function in <string.h> shall have an appropriate value.	mandatory	-	yes
21.19	The pointers returned by the Standard Library functions localeconv, getenv, setlocale or, strerror shall only be used as if they have pointer to const-qualified type.	mandatory	-	yes
21.20	The pointer returned by the Standard Library functions asctime, ctime, gmtime, localtime, localeconv, getenv, setlocale or strerror shall not be used following a subsequent call to the same function.	mandatory	-	yes
22.1	All resources obtained dynamically by means of Standard Library functions shall be explicitly released.	required	-	yes
22.2	A block of memory shall only be freed if it was allocated by means of a Standard Library function.	mandatory	-	yes
22.3	The same file shall not be open for read and write access at the same time on different streams.	required	-	yes
22.4	There shall be no attempt to write to a stream which has been opened as read-only.	mandatory	-	yes
22.5	A pointer to a FILE object shall not be dereferenced.	mandatory	-	yes
22.6	The value of a pointer to a FILE shall not be used after the associated stream has been closed.	mandatory	-	yes
22.7	The macro EOF shall only be compared with the unmodified return value from any Standard Library function capable of returning EOF.	required	-	yes
22.8	The value of errno shall be set to zero prior to a call to an errno-setting-function.	required	-	yes
22.9	The value of errno shall be tested against zero after calling an errno-setting-function.	required	-	yes
22.10	The value of errno shall only be tested when the last function to be called was an errno-setting-function.	required	-	yes

Chapter 5. Appendix 2 - Definitions

Table 5.1. Abbreviations

Abbreviation	Definition
NA	Not Available