

ABS Code Static Analysis

We have used the open source [C/C++ Check tool for](#) static analysis. We excluded some third party libraries and header files that were used in our code. The libraries were excluded because we were performing analysis on source code of ABS only.

Code that Passed Analysis

```
Checking /Users/Public/Desktop/ABS/AD.c ...
1/7 files checked 14% done
Checking /Users/Public/Desktop/ABS/IO.c ...
2/7 files checked 28% done
Checking /Users/Public/Desktop/ABS/RTI.c ...
3/7 files checked 42% done
Checking /Users/Public/Desktop/ABS/datapage.c ...
Checking /Users/Public/Desktop/ABS/datapage.c: DG128...
Checking /Users/Public/Desktop/ABS/datapage.c: HC812A4...
Checking /Users/Public/Desktop/ABS/datapage.c: HCS12;_HCS12...
Checking /Users/Public/Desktop/ABS/datapage.c: __DPAGE__ ; __EPAGE__ ...
4/7 files checked 57% done
Checking /Users/Public/Desktop/ABS/ect.c ...
5/7 files checked 71% done
Checking /Users/Public/Desktop/ABS/main.c ...
6/7 files checked 85% done
Checking /Users/Public/Desktop/ABS/startup.c ...
Checking /Users/Public/Desktop/ABS/startup.c: FAR_DATA...
Checking /Users/Public/Desktop/ABS/startup.c:
FAR_DATA; __BANKED__ ; __LARGE__ ...
Checking /Users/Public/Desktop/ABS/startup.c:
FAR_DATA; __BANKED__ ; __LARGE__ ; __ELF_OBJECT_FILE_FORMAT__ ...
Checking /Users/Public/Desktop/ABS/startup.c: HC812A4...
Checking /Users/Public/Desktop/ABS/startup.c:
HC812A4; __BANKED__ ; __LARGE__ ; __PPAGE__ ...
Checking /Users/Public/Desktop/ABS/startup.c: HC812A4; __DPAGE__ ...
Checking /Users/Public/Desktop/ABS/startup.c: HC812A4; __EPAGE__ ...
Checking /Users/Public/Desktop/ABS/startup.c: __DO_DISABLE_COP__ ...
Checking /Users/Public/Desktop/ABS/startup.c: __DO_ENABLE_COP__ ...
Checking /Users/Public/Desktop/ABS/startup.c: __DO_FEED_COP__ ...
Checking /Users/Public/Desktop/ABS/startup.c: __HCS12_SERIALMON...
Checking /Users/Public/Desktop/ABS/startup.c: __BANKED__ ; __LARGE__ ...
Checking /Users/Public/Desktop/ABS/startup.c:
__BANKED__ ; __LARGE__ ; __ELF_OBJECT_FILE_FORMAT__ ...
Checking /Users/Public/Desktop/ABS/startup.c:
__BANKED__ ; __LARGE__ ; __InitFunctionsMayHaveOffset0__ ...
Checking /Users/Public/Desktop/ABS/startup.c:
__ELF_OBJECT_FILE_FORMAT__ ...
Checking /Users/Public/Desktop/ABS/startup.c:
__HIWARE_OBJECT_FILE_FORMAT__ ; __LARGE__ ...
Checking /Users/Public/Desktop/ABS/startup.c: __OPTIMIZE_FOR_SIZE__ ...
Checking /Users/Public/Desktop/ABS/startup.c: __SET_RESET_VECTOR__ ...
```

Code with syntax error

```
[/Users/Public/Desktop/ABS/AD.c:29]: (error) syntax error
[/Users/Public/Desktop/ABS/ect.c:36]: (error) syntax error
[/Users/Public/Desktop/ABS/main.c:40]: (error) syntax error
```

Dead Methods

```
[/Users/Public/Desktop/ABS/datapage.c:792]: (style) The function
'_FAR_COPY' is never used.
[/Users/Public/Desktop/ABS/datapage.c:148]: (style) The function
'_GET_PAGE_REG' is never used.
[/Users/Public/Desktop/ABS/datapage.c:386]: (style) The function
'_LOAD_FAR_16' is never used.
[/Users/Public/Desktop/ABS/datapage.c:438]: (style) The function
'_LOAD_FAR_24' is never used.
[/Users/Public/Desktop/ABS/datapage.c:496]: (style) The function
'_LOAD_FAR_32' is never used.
[/Users/Public/Desktop/ABS/datapage.c:333]: (style) The function
'_LOAD_FAR_8' is never used.
[/Users/Public/Desktop/ABS/datapage.c:293]: (style) The function
'_SET_PAGE' is never used.
[/Users/Public/Desktop/ABS/datapage.c:605]: (style) The function
'_STORE_FAR_16' is never used.
[/Users/Public/Desktop/ABS/datapage.c:660]: (style) The function
'_STORE_FAR_24' is never used.
[/Users/Public/Desktop/ABS/datapage.c:719]: (style) The function
'_STORE_FAR_32' is never used.
[/Users/Public/Desktop/ABS/datapage.c:551]: (style) The function
'_STORE_FAR_8' is never used.
[/Users/Public/Desktop/ABS/startup.c:293]: (style) The function '_Startup'
is never used.
(information) Cppcheck cannot find all the include files (use --check-
config for details)
7/7 files checked 100% done
```

Missing Header Files

```
Checking /Users/Public/Desktop/ABS/AD.c ...
/Users/Public/Desktop/ABS/AD.c(1): information: Include file:
<mc9s12dg128.h> not found. Please note: Cppcheck does not need standard
library headers to get proper results.
/Users/Public/Desktop/ABS/AD.c(2): information: Include file: "main.h" not
found.
/Users/Public/Desktop/ABS/AD.c(3): information: Include file: "ECT.h" not
found.
/Users/Public/Desktop/ABS/AD.c(4): information: Include file: "AD.h" not
found.
1/7 files checked 14% done
Checking /Users/Public/Desktop/ABS/IO.c ...
/Users/Public/Desktop/ABS/IO.c(1): information: Include file:
<mc9s12dg128.h> not found. Please note: Cppcheck does not need standard
library headers to get proper results.
```

Submitted By: Abbas, Fitash, Ahsan and Ali

```
/Users/Public/Desktop/ABS/IO.c(2): information: Include file: "main.h" not
found.
/Users/Public/Desktop/ABS/IO.c(3): information: Include file: "ECT.h" not
found.
/Users/Public/Desktop/ABS/IO.c(4): information: Include file: "AD.h" not
found.
/Users/Public/Desktop/ABS/IO.c(5): information: Include file: "RTI.h" not
found.
/Users/Public/Desktop/ABS/IO.c(6): information: Include file: "IO.h" not
found.
2/7 files checked 28% done
Checking /Users/Public/Desktop/ABS/RTI.c ...
/Users/Public/Desktop/ABS/RTI.c(1): information: Include file:
<mc9s12dg128.h> not found. Please note: Cppcheck does not need standard
library headers to get proper results.
/Users/Public/Desktop/ABS/RTI.c(2): information: Include file: "ECT.h" not
found.
/Users/Public/Desktop/ABS/RTI.c(3): information: Include file: "AD.h" not
found.
/Users/Public/Desktop/ABS/RTI.c(4): information: Include file: "RTI.h" not
found.
3/7 files checked 42% done
Checking /Users/Public/Desktop/ABS/datapage.c ...
/Users/Public/Desktop/ABS/datapage.c(81): information: Include file:
"hidef.h" not found.
/Users/Public/Desktop/ABS/datapage.c(82): information: Include file:
"non_bank.sgm" not found.
/Users/Public/Desktop/ABS/datapage.c(83): information: Include file:
"runtime.sgm" not found.
4/7 files checked 57% done
Checking /Users/Public/Desktop/ABS/ect.c ...
/Users/Public/Desktop/ABS/ect.c(1): information: Include file:
<mc9s12dg128.h> not found. Please note: Cppcheck does not need standard
library headers to get proper results.
/Users/Public/Desktop/ABS/ect.c(2): information: Include file: "ECT.h" not
found.
/Users/Public/Desktop/ABS/ect.c(3): information: Include file: "AD.h" not
found.
/Users/Public/Desktop/ABS/ect.c(4): information: Include file: "RTI.h" not
found.
5/7 files checked 71% done
Checking /Users/Public/Desktop/ABS/main.c ...
/Users/Public/Desktop/ABS/main.c(1): information: Include file: <hidef.h>
not found. Please note: Cppcheck does not need standard library headers to
get proper results.
/Users/Public/Desktop/ABS/main.c(2): information: Include file:
<mc9s12dg128.h> not found. Please note: Cppcheck does not need standard
library headers to get proper results.
/Users/Public/Desktop/ABS/main.c(3): information: Include file: "main.h"
not found.
/Users/Public/Desktop/ABS/main.c(4): information: Include file: "ECT.h"
not found.
/Users/Public/Desktop/ABS/main.c(5): information: Include file: "AD.h" not
found.
```

Submitted By: Abbas, Fitash, Ahsan and Ali

```
/Users/Public/Desktop/ABS/main.c(6): information: Include file: "RTI.h"
not found.
/Users/Public/Desktop/ABS/main.c(7): information: Include file: "IO.h" not
found.
6/7 files checked 85% done
Checking /Users/Public/Desktop/ABS/startup.c ...
/Users/Public/Desktop/ABS/startup.c(14): information: Include file:
"hidef.h" not found.
/Users/Public/Desktop/ABS/startup.c(15): information: Include file:
"start12.h" not found.
/Users/Public/Desktop/ABS/startup.c(42): information: Include file:
"default.sgm" not found.
/Users/Public/Desktop/ABS/startup.c(264): information: Include file:
"non_bank.sgm" not found.
/Users/Public/Desktop/ABS/startup.c(29): information: Include file:
"non_bank.sgm" not found.
7/7 files checked 100% done
```