Autotune Processing

## Release ? items

Project TFS path: $/Firmware-SVI II AP FF/Firmware/task/control/

Bug: 28298 - Project changeset version: 59661

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | def\_PIDData | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 288-303: Update def\_PIDData structure for replacing magic numbers | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static const variable of type PIDData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | modeguard | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type modeguard\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_SetControlMode** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  static bool\_t **mode\_IsCompatible**  (devmode\_t mode, devsubmode\_t submode,  ctlmode\_t ctlmode)  devmode\_t **mode\_GetEffectiveMode**(devmode\_t mode)  devmode\_t **mode\_GetMode**(void)  devsubmode\_t **mode\_GetSubmode**(void)  **STRUCT\_CLOSE (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static modeguard\_t modeguard; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | m\_n4PositionScaled | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s32 Atomic\_ | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetPosition** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static s32 Atomic\_ m\_n4PositionScaled; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultman.c | Review Date | Reviewer |
| Function or data | | **error\_IsFault** | 7/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3  Information from PST\_Processing.docx | | |
| Resolution | |  | | |
| Function Calls | | static attribmask\_t **fsAttrib**(faultcode\_fast\_t fbitnum)  static bool\_t **GetFaultCodeBit**(faultcode\_fast\_t fbitnum) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultman.c | Review Date | Reviewer |
| Function or data | | **error\_IsAnyFaultWithAttributes** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3  Information from PST\_Processing.docx | | |
| Resolution | |  | | |
| Function Calls | | **error\_GetFaultCategoryMap (Macro)**  const void \***TypeUnsafe\_error\_GetFaultCategoryMap**  (void \*dst) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_SetRamPIDData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header parameters and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Copy (Macro)** | | |
| Data Required | | static const PIDData\_t def\_PIDData | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | wrk\_ctlset | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type PIDData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_pPosErr | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static const pointer variable of type PosErr\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | bSingleActing | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bool\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_PIDData | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static array variable of type PIDData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  pidselect.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_posctl\_GetCtlset** | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **tune\_SetCurrentPIDData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **tune\_SetRamPIDData**  (const PIDData\_t \*pPIDData,  PIDData\_t \*dst) | | |
| Data Required | | static PIDData\_t wrk\_ctlset; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_tune\_SetPIDData** | 8/5/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters  Line 1676-1690, 1767-1775, 1778-1786: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **tune\_SetRamPIDData**  (const PIDData\_t \*pPIDData,  PIDData\_t \*dst)  **oswrap\_IsOSRunning (Macro)**  **posctl\_GetCtlset (Macro)**  const void \***TypeUnsafe\_posctl\_GetCtlset**(void \*dst)  ErrorCode\_t **tune\_SetCurrentPIDData**(const PIDData\_t \*src)  **MN\_DBG\_ASSERT (Macro)**  ErrorCode\_t **ram2nvramAtomic**(nvramId\_fast\_t id) | | |
| Data Required | | static PIDData\_t m\_PIDData[NUM\_POSCTL\_PARAMSETS] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/interface/ui/  uimain.c | Review Date | Reviewer |
| Function or data | | **ui\_setNext** | 8/5/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **ui\_clearLine3**(void)  **MN\_ASSERT (Macro)**  **MN\_ENTER\_CRITICAL (Macro)**  **storeMemberU16 (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetPosErr** | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static PIDData\_t m\_PIDData[NUM\_POSCTL\_PARAMSETS] | | |

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| Containing file | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | **TypeUnsafe\_tune\_GetPIDData** | 7/29/2019 | DLH |
|  | | | |
| TFS wit | No Comment | | |
| Impact |  | | |
| Additional | Carried over from R3 | | |
| Resolution |  | | |
| Function Calls | **STRUCT\_TESTGET** | | |
| Data Required | static PIDData\_t m\_PIDData[NUM\_POSCTL\_PARAMSETS] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  pidselect.c | Review Date | Reviewer |
| Function or data | | **posctl\_GetCtlSetIndex** | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **posctl\_GetCtlset (Macro)**  const void \***TypeUnsafe\_posctl\_GetCtlset**(void \*dst) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  process.c | Review Date | Reviewer |
| Function or data | | **process\_WaitForTimeExt** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Use information from PST\_Process.docx from this point | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | tick\_t **timer\_GetTicksSince**(tick\_t basetime)  static void **process\_MopupSrv**(void)  static tick\_t **ComputeDelay**  (tick\_t nDelay, tick\_t lastContribution)  void **syswd\_TickleWatchdog**(taskid\_t taskid)  void **timer\_WaitTicks**(tick\_t ticks)  tick\_t **timer\_GetTicks**(void)  static u8\_least **process\_CheckCancelProcess**(void) | | |
| Data Required | | static tick\_t Atomic\_ actver\_timestamp;  static tick\_t actver\_runlength  static ProcData\_t procdata | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  process.c | Review Date | Reviewer |
| Function or data | | **process\_WaitForTime** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8\_least **process\_WaitForTimeExt**  (tick\_t nDelay, u8\_least brk\_mask) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **control\_GetBiasChangeFlag** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static ControlState\_t cstate; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  valveutils.c | Review Date | Reviewer |
| Function or data | | **util\_WaitForPos** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 211: Multiple variables on a single line | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ASSERT (Macro)**  void **control\_GetSetpointPosition**  (s32\* pn4Setpoint, s32\* pn4Position)  tune\_GetPIDData (Macro)  void \***TypeUnsafe\_tune\_GetPIDData**  (u8\_least index, void \*dst)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  **mn\_abs (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_LimitPID** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 2415: Add function header  Line 2417: Remove initialized parts of comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **CLAMP (Macro)**  MIN (Macro) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Change10Pct** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header.  Move 2303-2307 to the new function header.  Line 2302: Remove initialized comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Change20Pct** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header.  Move 2400-2404 to the new function header.  Line 2399: Remove initialized comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **CheckStable** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for using \brief statement  Line 2337, 2341, 2345-2346, 2348-2349, 2353-2354, 2358, 2368-2370: Remove/update initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid)  ErrorCode\_t **tune\_SetCurrentPIDData**(const PIDData\_t \*src)  **MN\_DBG\_ASSERT (Macro)**  **u8 control\_GetBiasChangeFlag(void)**  bool\_t **process\_WaitForTime**(tick\_t nDelay)  bool\_t **util\_WaitForPos**  (u16 nTime, HardPos\_t nNoiseDB , bool\_t cFlag) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **CheckPosStablize** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static bool\_t **CheckStable** (u8\_least index, PIDData\_t \*pid)  **ABS (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | cstate | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type ControlState\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | tickCounter | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile variable of type u64 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | **timer\_GetTicksSince** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile u64 tickCounter | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | m\_systemCounters | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type systemCounters\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | **bios\_GetTimer0Ticker** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static systemCounters\_t m\_systemCounters | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | **timer\_GetTicks** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile u64 tickCounter | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  oswrap.h | Review Date | Reviewer |
| Function or data | | OSTCBCur | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Global pointer variable of type OS\_TCB | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  osport/oswrap.c | Review Date | Reviewer |
| Function or data | | **oswrap\_GetTaskStamp** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_DBG\_ASSERT (Macro)** | | |
| Data Required | | OS\_TCB \*OSTCBCur; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **oswrap\_IsContext** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | OS\_TCB \*OSTCBCur; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | mutex\_stamp | 8/14/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static const void \* Atomic\_ function variable; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  crc.c | Review Date | Reviewer |
| Function or data | | **hcrc\_step** | 8/14/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  crc.c | Review Date | Reviewer |
| Function or data | | **hCrcChsum16** | 8/14/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for \brief description | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE u32 **hcrc\_step**(u32 crc, u16\_least val) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | FRAM\_ReadOperation | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type bool\_t | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StartReadRetry | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StartWriteRetry | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StartRead | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StartWrite | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StopRead | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StopWrite | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StopReadRetry | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_StopWriteRetry | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_Restart | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ErrorCounter\_FRAMWrite | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_ErrorCounterHandler** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static bool\_t FRAM\_ReadOperation;  static u32 ErrorCounter\_StartRead;  static u32 ErrorCounter\_StartWrite;  static u32 ErrorCounter\_StopRead;  static u32 ErrorCounter\_StopWrite;  static u32 ErrorCounter\_StopReadRetry;  static u32 ErrorCounter\_StartReadRetry;  static u32 ErrorCounter\_StopWriteRetry;  static u32 ErrorCounter\_StartWriteRetry;  static u32 ErrorCounter\_Restart; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **gpio\_BitState** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **i2c\_Initialize\_internal** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | bool\_t **gpio\_I2C\_SDAState**(void)  void **gpio\_I2C\_SetI2cClk** (bool\_t which) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | ReInitCounter | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u32 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **i2c\_InitializeFromOperation** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **i2c\_Initialize\_internal**(void) | | |
| Data Required | | static u32 ReInitCounter | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **gpio\_I2C\_SDAState** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE bool\_t **gpio\_BitState**(u32 pin) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/gpio\_key.c | Review Date | Reviewer |
| Function or data | | **gpio\_I2C\_SetI2cClk** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Lines 1101-1102: Remove commented out lines. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_MakeStartCondition** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static void **I2C\_ErrorCounterHandler** (u32 WhatError)  static ErrorCode\_t **i2c\_InitializeFromOperation**(void) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_AddrOnly** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_Addr** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static u32 **I2C\_AddrOnly** (u8 adr) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_Start** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **I2C\_MakeStartCondition**  (bool\_t RestartEnabled)  static u32 **I2C\_Addr** (u8 adr) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_WriteDiagnostic** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static bool\_t FRAM\_ReadOperation  static u32 ErrorCounter\_FRAMWrite | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_TransferOut** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_Stop** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static void **I2C\_ErrorCounterHandler** (u32 WhatError)  static ErrorCode\_t **i2c\_InitializeFromOperation**(void) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/i2c.c | Review Date | Reviewer |
| Function or data | | **I2C\_PutByte** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/  nvram/Project\_FFAP/nvramtable.c | Review Date | Reviewer |
| Function or data | | nvram\_map | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static array variable of type nvramMap\_t | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  confchanged.c | Review Date | Reviewer |
| Function or data | | m\_ConfigurationChanged | 8/3/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type ConfigurationChanged\_t | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  stm\_flash.c | Review Date | Reviewer |
| Function or data | | **flash\_GetRunningPartitionID** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/  nvram/project\_FFAP/Nvram\_xtable.c | Review Date | Reviewer |
| Function or data | | nvmem\_banks | 8/3/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | const variable array of type nvramDumpVolMap\_t | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/gpio\_key.c | Review Date | Reviewer |
| Function or data | | **gpio\_BitSet** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/gpio\_key.c | Review Date | Reviewer |
| Function or data | | **gpio\_BitReset** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/gpio\_key.c | Review Date | Reviewer |
| Function or data | | **FRAM\_Write\_Enable** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add/update function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE void **gpio\_BitReset**(u32 pin) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/fram.c | Review Date | Reviewer |
| Function or data | | **FRAM\_Address** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | ErrorCode\_t **I2C\_Start** (u8 slaveaddr)  void **I2C\_PutByte** (u8 byte) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/  nvram/project\_FFAP/Nvram\_xtable.c | Review Date | Reviewer |
| Function or data | | fram\_IsOKtoAccess | 8/3/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **oswrap\_IsOSRunning (Macro)**  **MN\_ASSERT (Macro)**  TaskStamp\_t **oswrap\_GetTaskStamp**(void) | | |
| Data Required | | static const void \* Atomic\_ mutex\_stamp | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/fram.c | Review Date | Reviewer |
| Function or data | | FRAM\_Available | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bool\_t | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/fram.c | Review Date | Reviewer |
| Function or data | | **FRAM\_Write\_Disable** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE void **gpio\_BitSet**(u32 pin) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  Project\_FFAP/fram.c | Review Date | Reviewer |
| Function or data | | **fram\_WriteExt** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  **MN\_ASSERT (Macro)**  **MN\_EXIT\_CRITICAL (Macro)**  void **fram\_IsOKtoAccess**(void)  void **I2C\_WriteDiagnostic**(void)  void **FRAM\_Write\_Enable**(void)  static ErrorCode\_t **FRAM\_Address**  (u32 address, u32 length, u8\_least unit)  void **I2C\_TransferOut** (const u8 \*data, u32 length)  ErrorCode\_t **I2C\_Stop** (void)  void **FRAM\_Write\_Disable**(void) | | |
| Data Required | | static bool\_t FRAM\_Available | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  clonenvram.c | Review Date | Reviewer |
| Function or data | | **nvmem\_FindDstOffset** | 8/3/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8 **flash\_GetRunningPartitionID**(void) | | |
| Data Required | | const nvramDumpVolMap\_t nvmem\_banks  [NVMEM\_MAX\_VOLID+1][NVMEM\_NUMBANKS] | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  clonenvram.c | Review Date | Reviewer |
| Function or data | | **nvmem\_GetVolumeBase** | 8/3/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE u16\_least **nvmem\_FindDstOffset**  (u8 vol, bool\_t thisbank)  **MN\_DBG\_ASSERT (Macro)** | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **nvmem\_WriteVol** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | ErrorCode\_t **fram\_WriteExt**  (const u8 \*data, u32 addr, u32 length,  u8\_least unit)  u8 **nvmem\_GetPhysicalVol**(u8\_least volid) | | |
| Data Required | | const nvramDumpVolMap\_t nvmem\_banks  [NVMEM\_MAX\_VOLID+1][NVMEM\_NUMBANKS] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **nv\_WriteExt** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_NVMEM\_LOCK (Macro)**  ErrorCode\_t **nvmem\_WriteVol**  (const void \*data, u32 addr, u32 length,  u8\_least vol)  **MN\_NVMEM\_UNLOCK (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  clonenvram.c | Review Date | Reviewer |
| Function or data | | **nvmem\_GetPhysicalVol** | 8/2/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8 **flash\_GetRunningPartitionID**(void) | | |
| Data Required | | const nvramDumpVolMap\_t nvmem\_banks  [NVMEM\_MAX\_VOLID+1][NVMEM\_NUMBANKS] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **ram2nvram\_raw** | 8/3/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters and return values  Information from PST\_Processing.docx | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8 **nvmem\_GetPhysicalVol**(u8\_least volid)  u32 **hCrcChsum16**(u16 seed, const void \*addr, u32 len)  MN\_NORETURN void **mn\_assert**(const void \*message, s32 line)  static ErrorCode\_t **nv\_WriteExt**  (const u8 \*data, u32 addr, u32 length, u8 volid,  bool\_t get\_mutex)  void **error\_SetFault**(faultcode\_fast\_t ErrorCode) | | |
| Data Required | | const nvramMap\_t nvram\_map[NVRAM\_ENTRIES] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **ram2nvram\_prechecked** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **nv\_WriteExt**  (const u8 \*data, u32 addr, u32 length, u8 volid,  bool\_t get\_mutex)  static ErrorCode\_t **ram2nvram\_raw**  (nvramId\_fast\_t id, u8\_least cpmask, bool\_t get\_mutex) | | |
| Data Required | | static ConfigurationChanged\_t m\_ConfigurationChanged; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  confchanged.c | Review Date | Reviewer |
| Function or data | | **nvram\_GetConfigurationChanged** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static ConfigurationChanged\_t m\_ConfigurationChanged; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  confchanged.c | Review Date | Reviewer |
| Function or data | | **nvram\_SetFRAMConfigurationChanged** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters and a return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | const void \***nvram\_GetConfigurationChanged**(void \*dst)  **Struct\_Copy (Macro)**  ErrorCode\_t **ram2nvram\_prechecked**  (nvramId\_fast\_t id, u8\_least cpmask,  bool\_t get\_mutex) | | |
| Data Required | | static ConfigurationChanged\_t m\_ConfigurationChanged; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **ram2nvramExt** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_DBG\_ASSERT (Macro)**  bool\_t **oswrap\_IsContext**(taskid\_t taskid)  **oswrap\_IsOSRunning (Macro)**  bool\_t **error\_IsFault**(faultcode\_fast\_t ErrorCode)  **power\_OKtoWriteFRAM (Macro)**  ErrorCode\_t **nvram\_SetFRAMConfigurationChanged**  (bool\_t state, bool\_t whichMast,  bool\_t get\_mutex)  ErrorCode\_t **ram2nvram\_prechecked**  (nvramId\_fast\_t id, u8\_least cpmask,  bool\_t get\_mutex) | | |
| Data Required | | const nvramMap\_t nvram\_map[NVRAM\_ENTRIES] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **ram2nvramAtomicExt** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **oswrap\_IsOSRunning (Macro)**  **MN\_NVMEM\_LOCK (Macro)**  ErrorCode\_t **ram2nvramExt**  (nvramId\_fast\_t id, u8\_least cpmask,  bool\_t get\_mutex)  **MN\_NVMEM\_UNLOCK (Macro)** | | |
| Data Required | | const nvramMap\_t nvram\_map[NVRAM\_ENTRIES] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/nvram/  nvram.c | Review Date | Reviewer |
| Function or data | | **ram2nvramAtomic** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **oswrap\_IsOSRunning (Macro)**  **MN\_NVMEM\_LOCK (Macro)**  ErrorCode\_t **ram2nvramAtomicExt**  (nvramId\_fast\_t id, u8\_least cpmask)  **MN\_NVMEM\_UNLOCK (Macro)** | | |
| Data Required | | const nvramMap\_t nvram\_map[NVRAM\_ENTRIES] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  lcd.c | Review Date | Reviewer |
| Function or data | | **bios\_LcdWriteNumber** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Use processing of the PST\_Processing.docx | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MIN (Macro)**  void **ut\_bin2asc**(s32 num, p8 \*asc, s32 dec)  **MN\_ENTER\_CRITICAL (Macro)**  **mn\_memcpy (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static lcd\_information\_t LcdInfo; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/interface/ui/  uishow.c | Review Date | Reviewer |
| Function or data | | **ui\_DebugWriteNumber** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for using \brief statement | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **bios\_LcdWriteNumber**(s32 lcd\_number, u8 frac\_digits) | | |
| Data Required | | static ControlState\_t cstate; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_AdjustPoscomp** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header  Line 629, 631: Remove initialized comments. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MIN (Macro)  MAX (Macro) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_ComputePoscomp** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header  Line 611-612: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | ABS (Macro)  MAX (Macro) | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **vpos\_GetScaledPosition** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static PosState\_t m\_PosState; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetControlOutput** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters  Line 1676-1690, 1767-1775, 1778-1786: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **tune\_SetRamPIDData**  (const PIDData\_t \*pPIDData,  PIDData\_t \*dst)  **oswrap\_IsOSRunning (Macro)**  **posctl\_GetCtlset (Macro)**  const void \***TypeUnsafe\_posctl\_GetCtlset**(void \*dst)  ErrorCode\_t **tune\_SetCurrentPIDData**(const PIDData\_t \*src)  **MN\_DBG\_ASSERT (Macro)**  ErrorCode\_t **ram2nvramAtomic**(nvramId\_fast\_t id) | | |
| Data Required | | static PIDData\_t m\_PIDData[NUM\_POSCTL\_PARAMSETS] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_Stabilize** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  static bool\_t **CheckStable**(u8\_least index, PIDData\_t \*pid)  **ABS (Macro)** | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_RampingTest** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input and return parameters  Line 1079-1093, 1111, 1119-1124, 1159, 1215, 1217, 1252-1260: Remove commented out code.  Line 1109, 1114, 1143, 1155, 1167, 1194-1195, 1198-1200, 1203-1206, 1225-1228, 1246: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static s8 **tune\_Stabilize**(u8\_least index, PIDData\_t \*pid)  ErrorCode\_t **tune\_SetCurrentPIDData**(const PIDData\_t \*src)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  s16 **control\_GetPosition**(void)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  u16 **control\_GetControlOutput**(void)  pos\_t **vpos\_GetScaledPosition**(void)  **ABS (Macro)**  static s16 **tune\_ComputePoscomp**  (pos\_t posdiff, s16\_least biasdiff)  static s16 **tune\_AdjustPoscomp**  (bool\_t SingleActing, s16 poscomp)  **MIN (Macro)**  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static bool\_t bSingleActing  static const PosErr\_t\* m\_pPosErr; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **StepTest** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 1488-1490, 1537, 1541, 1544-1545, 1570-1575, 1576, 1579, 1616-1618: Remove commented out code.  Line 1498, 1512, 1514, 1524, 1535, 1597, 1637: Remove initialized comment sections. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static bool\_t **CheckStable** (u8\_least index, PIDData\_t \*pid)  **ABS (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **SizeLeft** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **IncrementCounter** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **DecrementCounter** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buff\_stuff** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STORE\_ENTER\_CRITICAL (Macro)**  static u16\_least **SizeLeft**(u8\_least bufnum, u16\_least end)  static u16\_least **IncrementCounter**(u16\_least n)  **PRE\_STORE16 (Macro)**  static u16\_least **DecrementCounter**(u16\_least n)  **STORE\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_InitializeXDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  **MN\_EXIT\_CRITICAL (Macro)**  **Struct\_Copy (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_GetXDiagnosticBuffer** | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  **MN\_EXIT\_CRITICAL (Macro)**  **Struct\_Copy (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_AddXDiagnosticData1** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static bool\_t **buff\_stuff**  (u8\_least bufnum, u8\_least items, diag\_t item1,  diag\_t item2) | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_InitializeDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 253-255, 279-293, 352, 355, 377-396: Remove commented out code.  Line 322: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **buffer\_InitializeXDiagnosticBuffer**(u8\_least bufnum) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_GetDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 253-255, 279-293, 352, 355, 377-396: Remove commented out code.  Line 322: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **buffer\_GetXDiagnosticBuffer** (u8\_least bufnum) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_AddDiagnosticData1** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | bool\_t **buffer\_AddXDiagnosticData1**  (u8\_least bufnum, diag\_t data) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  pwm.c | Review Date | Reviewer |
| Function or data | | **pwm\_SetEnableIP** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  sysiolopower.c | Review Date | Reviewer |
| Function or data | | **sysio\_GetPWMHightLimit** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static u16 m\_n2PWMHighLimit | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  sysio.c | Review Date | Reviewer |
| Function or data | | **sysio\_CtlOut2PWMdomain** | 8/7/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **pwmcomp\_TempComp (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  pwm.c | Review Date | Reviewer |
| Function or data | | **bios\_WritePwm** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static void **pwm\_SetEnableIP**(bool\_t on) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  sysio.c | Review Date | Reviewer |
| Function or data | | **sysio\_WritePwm** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_DBG\_ASSERT (Macro)**  u16 **sysio\_GetPWMHightLimit**(void)  s32 **sysio\_CtlOut2PWMdomain**(const s32 ctlOut)  **CLAMP (Macro)**  void **bios\_WritePwm**(u16 value) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetPointerOptionConfigDashVersion** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ASSERT (Macro)** | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | m\_OptionConfig | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type OptionConfig\_t | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetOptionConfigDashVersion** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)**  u8\_least **cnfg\_GetPointerOptionConfigDashVersion**  (const OptionConfig\_t\* pOptionConfig) | | |
| Data Required | | static OptionConfig\_t m\_OptionConfig; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  pneumatics.c | Review Date | Reviewer |
| Function or data | | PneumaticParams | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type PneumaticParams\_t | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  pneumatics.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_pneu\_GetParams** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static PneumaticParams\_t PneumaticParams; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  pneumatics.h | Review Date | Reviewer |
| Function or data | | **pneu\_IsSingleActing** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **pneu\_GetParams (Macro)**  const void \***TypeUnsafe\_pneu\_GetParams**(void \*dst) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetBias** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **CLAMP (Macro)** | | |
| Data Required | | static ControlState\_t cstate; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_ResetBiasChangeFlag** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value  Lines 565-567: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **storeMemberInt (Macro)**  **storeModeBool (Macro)** | | |
| Data Required | | static ControlState\_t cstate;  static InControlTest\_t ictest; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | m\_n2Err\_p | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_ComputedConfigurationData | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type ComputedConfigurationData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | m\_pComputedConfigurationData | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type ComputedConfigurationData\_t | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | Reason | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nOvershoot\_p | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nOvershoot | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nOvershoot2 | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | case\_c | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s8 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | case\_p | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s8 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nT\_90 | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nT\_90\_p | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nSCount | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nY\_last | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | bD\_Large | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_TuneData | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type TuneData\_t | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nTuneArray | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static array variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_pDiagBuffer | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static const variable pointer of type diag\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nTau\_m | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nTau\_avg | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nY\_min | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nY\_max | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nT\_min | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nT\_max | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nDY\_min | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nDY\_max | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nT\_DY\_min | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nT\_DY\_max | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_bForAutotune | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type bool\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_nSpeed | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_nStartPosition | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_nEndPosition | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_SampleRate | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u16 | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  numutils.h | Review Date | Reviewer |
| Function or data | | **float2ieee** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  numutils.c | Review Date | Reviewer |
| Function or data | | **limit** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  numutils.c | Review Date | Reviewer |
| Function or data | | **Lsl64** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  numutils.c | Review Date | Reviewer |
| Function or data | | **f2i\_Scaled** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE ieee754\_t **float2ieee**(float32 arg)  static s32 **limit** (s32 val, s32 lolim, s32 hilim)  static u32 **lsl64** (u64 val, u32 shift) | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  conversion.c | Review Date | Reviewer |
| Function or data | | **convert\_FPositionToStdPosition** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s32 **f2i\_Scaled** (float32 f\_, s32 lolim, s32 hilim, u32 scale) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetComputedConfigurationData** | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)** | | |
| Data Required | | static ComputedConfigurationData\_t  m\_ComputedConfigurationData | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **calculateBoost** | 8/15/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **ABS (Macro)** | | |
| Data Required | | static s16 m\_n2Err\_p | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_EstimatePara** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 1488-1490, 1537, 1541, 1544-1545, 1570-1575, 1576, 1579, 1616-1618: Remove commented out code.  Line 1498, 1512, 1514, 1524, 1535, 1597, 1637: Remove initialized comment sections. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static bool\_t **CheckStable** (u8\_least index, PIDData\_t \*pid)  **ABS (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **equiv** | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_pos\_GetPositionConf** | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static PositionConf\_t m\_PositionConf; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnosticUniversal.c | Review Date | Reviewer |
| Function or data | | accel\_calc | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type accel\_time\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnosticUniversal.c | Review Date | Reviewer |
| Function or data | | Bias\_Change\_Rate; | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bias\_change\_rate\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnosticUniversal.c | Review Date | Reviewer |
| Function or data | | **setUserIpRate** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static accel\_time\_t accel\_calc  static bias\_change\_rate\_t Bias\_Change\_Rate; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  reset.c | Review Date | Reviewer |
| Function or data | | **reset\_GetBoardPresentValue** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)** | | |
| Data Required | | periphBoardInfo | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetDiagnosticsLevelLocal** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ASSERT (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetDiagnosticsLevel** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)**  static u8\_least **cnfg\_GetDiagnosticsLevelLocal**  (const OptionConfig\_t\* pOptionConfig) | | |
| Data Required | | static OptionConfig\_t m\_OptionConfig; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **util\_GetBit** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetFlagFromOptionConfig** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters  Line 343: Update initialized comments  Question: Struct\_Test before the m\_OptionConfig is processed? | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ASSERT (Macro)**  MN\_INLINE bool\_t **util\_GetBit**  (u8\_least bitNumber, const u8\* bitArray,  u8\_least length) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetOptionConfigFlag** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)**  static bool\_t **cnfg\_GetFlagFromOptionConfig**  (u8\_least OptionConfigCode,  const OptionConfig\_t\* pOptionConfig) | | |
| Data Required | | static OptionConfig\_t m\_OptionConfig; | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | m\_ComputedPositionStop | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type ComputedPositionStop\_t | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetComputedPositionStop** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static ComputedPositionStop\_t m\_ComputedPositionStop | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | mycnfg | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type PositionStop\_t | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetPositionStop** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static PositionStop\_t mycnfg; | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | **convert\_ConvertPositionToStd** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header  Line 127: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | m\_Protect | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Global variable of type ProtectTest\_t | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  inhouse\Diagctl\_UnitTest\main.c | Review Date | Reviewer |
| Function or data | | **cnfg\_TestProtectLimits** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | ProtectTest\_t m\_Protect | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  sysio\position.c | Review Date | Reviewer |
| Function or data | | m\_ComputedPositionConf | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type ComputedPositionConf\_t | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  sysio\position.c | Review Date | Reviewer |
| Function or data | | **pos\_GetComputedPositionConf** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static ComputedPositionConf\_t m\_ComputedPositionConf | | |

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| Containing file | | C:\Projects\Core-FF-SVI2AP\FIRMWARE\  Diagnostics\diagctl.c | Review Date | Reviewer |
| Function or data | | **diag\_IPIncreasing** | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | const ComputedPositionConf\_t \***pos\_GetComputedPositionConf**  (ComputedPositionConf\_t \*dst) | | |
| Data Required | | Static s16 m\_nStartPosition  Static s16 m\_nEndPosition | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_Type | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u8 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_bParametersAreValid | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bool\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_Flag | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u8 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_bIncreaseIP | 8/19/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bool\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | **diag\_SetDiagnosticParameters** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function headers parameters  Lines 547-548: Split variables onto individual lines.  Lines 555-563, 726-728: Remove commented out lines. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **convert\_FPositionToStdPosition** (float32 fPosition)  ext\_test\_type\_t **setUserIpRate**(ip\_count\_input\_t rate)  u8\_least **cnfg\_GetDiagnosticsLevel**(void)  bool\_t **cnfg\_GetOptionConfigFlag**(u8\_least OptionConfigCode)  const ComputedPositionStop\_t \***cnfg\_GetComputedPositionStop**  (void)  const PositionStop\_t \***cnfg\_GetPositionStop**(void)  const ComputedConfigurationData\_t  \***cnfg\_GetComputedConfigurationData**(void)  s32 **convert\_ConvertPositionToStd**  (s16 ui2Pos, const ComputedPositionStop\_t\* pPositionStop,  bool\_t bATO)  ProtectTest\_t **cnfg\_TestProtectLimits**  (bool\_t bAllowTightShutoff)  static bool\_t **diag\_IPIncreasing**(void) | | |
| Data Required | | static u8 m\_Type;  static u16 m\_nSpeed;  static u16 m\_SampleRate;  static bool\_t m\_bParametersAreValid;  static bool\_t m\_bForAutotune;  static s32 m\_nStartPosition;  static s32 m\_nEndPosition;  static u8 m\_Flag;  static bool\_t m\_bIncreaseIP; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | **diag\_Perform\_StepTest** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Lines 2308-2310: Split variables onto individual lines.  Line 2373, 2379: Remove initialized comments  Line 2419: Remove commented out code | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE void **buffer\_InitializeDiagnosticBuffer**(void)  MN\_INLINE bool\_t **buffer\_AddDiagnosticData1** (diag\_t n2Data)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  bool\_t **util\_WaitForPos**  (u16 nTime, HardPos\_t nNoiseDB, bool\_t cFlag)  u32 **bios\_GetTimer0Ticker**(void)  bool\_t **error\_IsFault** (u32 ErrorCode);  s16 **control\_GetPosition**(void); | | |
| Data Required | | static bool\_t m\_bForAutotune;  static s32 m\_nStartPosition;  static s32 m\_nEndPosition;  static u16 m\_nSpeed  static u16 m\_SampleRate | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Data\_Processing** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter and return values  Lines 2112-2114: Split variables onto independent lines  Line 2115, 2178, 2187, 2217: Remove commented out code.  Line 2122-2123, 2184, 2196-2197, 2231-2233: Remove/adjust initialized comments  Line 2214-2215: Question of whether this is a real condition.  Lines 2143-2144: Is the condition check correct. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **ABS (Macro)**  **MAX (Macro)**  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint)) | | |
| Data Required | | static const diag\_t\* m\_pDiagBuffer;  static s16 nTau\_avg  static s16 nT\_min  static s16 nT\_90  static s16 nT\_90\_p  static s16 nTuneArray[70] | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Para\_Adjust** | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 1807: Split variables onto individual lines.  Lines 1790-1793, 1812, 1835: Remove/adjust initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MAX (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static s16 **Change10Pct** (s16 nValue, bool\_t bIncrease) | | |
| Data Required | | static TuneData\_t m\_TuneData;  static bool\_t bSingleActing;  static s16 nSCount  static s16 Reason | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_CloseLoop** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values  Line 1661-1662: Split variables onto multiple lines.  Lines 1707-1708: Remove initialized sections of commented lines.  Line 1676-1690, 1767-1775, 1778-1786: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static void **tune\_LimitPID**(PIDData\_t \*pid)  ErrorCode\_t **tune\_SetCurrentPIDData**(const PIDData\_t \*src)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  MN\_INLINE bool\_t **equiv**(bool\_t a, bool\_t b)  **pos\_GetPositionConf (Macro)**  const void \***TypeUnsafe\_pos\_GetPositionConf** (void \*dst)  **INT\_PERCENT\_OF\_RANGE (Macro)**  ErrorCode\_t **diag\_SetDiagnosticParameters**  (u8\_least Type, u16\_least nSpeed,  pos\_t StartPosition, pos\_t EndPosition,  u16\_least SampleRate)  bool\_t **diag\_Perform\_StepTest**(void)  static void **Data\_Processing**  (const PIDData\_t \*pid, StepData\_t \*tune\_xchange)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  static TuneCase\_t **Para\_Adjust**  (PIDData\_t \*pid, StepData\_t \*tune\_xchange,  TuneCase\_t case\_c) | | |
| Data Required | | static s16 Reason; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_Tune\_Function** | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | Add parameter information to function header  Line 653, 660, 730, 733, 777, 779, 803-804, 831-834, 862, 903: Remove initialized part of comment.  Line 657, 661: Split variable declarations onto multiple lines.  Line 665-673, 723-725, 783-789, 881-889: Commented out under control of OPTIONAL\_TUNE\_DIAG  Line 676-678: Commented out under control of AK\_TEST  Line 693, 770, 835-854, 901: Remove commented out lines | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | const s16\* **buffer\_GetDiagnosticBuffer**(void)  static void **tune\_LimitPID**(PIDData\_t \*pid)  **tune\_SetCurrentPIDData**  **u8 control\_GetBiasChangeFlag(void)**  void **control\_ResetBiasChangeFlag**(void)  void **mode\_SetControlMode**(ctlmode\_t ctlmode, s32 setpoint)  static s8 **tune\_Stabilize**(u8\_least index, PIDData\_t \*pid)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  bool\_t **process\_WaitForTime**(tick\_t nDelay)  MN\_INLINE bool\_t **pneu\_IsSingleActing**(void)  u16 **control\_GetBias**(void)  u8\_least c**nfg\_GetOptionConfigDashVersion**(void)  s16 **control\_GetPosition**(void)  s8 **CheckPosStablize**(u8\_least index, PIDData\_t \*pid)  static s16 **StepTest**(s8 iDir, s16 nOutInc, u16 nBiasSave,  s16 nSpeed[Xends], s16 nGain[Xends],  s16 nTau[Xends], s16 poscomp[Xends])  static void **tune\_EstimatePara**(PIDData\_t \*pid,  const s16 nGain[Xends],  s16 nTau[Xends])  ABS (Macro) | | |
| Data Required | | static s16 Reason;  static const PosErr\_t\* m\_pPosErr;  static PIDData\_t m\_PIDData;  static const ComputedConfigurationData\_t  \*m\_pComputedConfigurationData;  static const diag\_t\* m\_pDiagBuffer; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | tune\_Run\_Selftune | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header to include parameter and return values.  Lines 490-510, 589-591: OPTIONAL\_TUNE\_DIAG is set to 0 – code removed  Lines 516-518, 540, 543-545: AK\_test is set to 0 – code removed  Lines 516-518, 540: Code commented out. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8 **posctl\_GetCtlSetIndex**(void)  tune\_GetPIDData (Macro)  void \***TypeUnsafe\_tune\_GetPIDData**  (u8\_least index, void \*dst)  PosErr\_t\* **control\_GetPosErr**(void)  void **ui\_setNext**(s16\_least node\_id)  s32 **tune\_Tune\_Function**(u8\_least index, PIDData\_t \*pid)  static s32 **tune\_RampingTest**(void)  s32 **tune\_CloseLoop**(u8\_least index, PIDData\_t \*pid)  tune\_SetPIDData (Macro)  ErrorCode\_t **TypeUnsafe\_tune\_SetPIDData**  (u8\_least index, const void \*src)  bool\_t **error\_IsFault**(faultcode\_fast\_t ErrorCode) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr;  static s16 Reason; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | COMP\_CONST | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 178: Code commented out | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | AK\_test | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 1: Added a definition | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | AK\_extract | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 2: Added a definition | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | #include "sysio.h" | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 48: Added include file | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | static s16 StepTest  (s8 iDir, s16 nOutInc,  u16 nBiasSave, s16 nSpeed[Xends],  s16 nGain[Xends],  s16 nTau[Xends],  s16 poscomp[Xends]); | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 261: Update function prototype | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | tune\_OutputRampTau | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header  Line 1281, 1295-1296, 1307-1308, 1304, 1318-1319, 1322-1324, 1329: Remove initialized comments.  Line 1297-1298: There is a question of whether the if statement should be a and instead of an or – David is investigating – current code is acceptable, remove comment on line 1297  Line 1320: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  tick\_t **timer\_GetTicks**(void)  u8 **sysio\_WritePwm**  (const s32 value, const enumPWMNORM\_t enPWMcorr)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  tick\_t **timer\_GetTicksSince**(tick\_t basetime)  MN\_INLINE void **buffer\_InitializeDiagnosticBuffer**(void)  MIN (Macro)  ABS (Macro) | | |
| Data Required | | static bool\_t bSingleActing; | | |