Data Path: PWM HW to Control Output

Project TFS path: $/FW SVI FF Releases/Release1/FIRMWARE

Project changeset version: 34879

Starting point: PWM hardware interface

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| Containing file | | | FIRMWARE\framework\bios\project\_FFAP\gpio\_key.c | Review Date | Reviewer |
| Function or data | | | gpio\_BitSet | 14-02-26 | AK |
|  | | | | | |
| TFS wit |  | | NO FINDINGS | | |
| Impact | | |  | | |
| Resolution | | |  | | |
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| Function or data | | | gpio\_BitReset | 14-02-26 | AK |
|  | | | | | |
| TFS wit | |  | NO FINDINGS | | |
| Impact | | |  | | |
| Resolution | | |  | | |
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| Function or data | | | bios\_SetEnableIP | 14-02-26 | AK |
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| TFS wit | |  | NO FINDINGS | | |
| Impact | | |  | | |
| Resolution | | |  | | |
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| Containing file | | FIRMWARE\framework\bios\stm\_timer.c | Review Date | Reviewer |
| Function or data | | WritePWM | 14-02-26 | AK |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Function or data | | set3 | 14-02-26 | AK |
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| TFS wit |  | NO SIGNIFICANT FINDINGS | | |
| Impact | |  | | |
| Resolution | | |= in TIM3->CR1 |= (u16)CEN; is a small waste since previous value is known | | |
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| Function or data | | bios\_InitPWM | 14-02-26 | AK |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Function or data | | bios\_WritePWM | 14-02-26 | AK |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Function or data | | lastVal, pwm\_GetValue | 14-02-26 | AK |
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| TFS wit |  | NO SIGNIFICANT FINDINGS | | |
| Impact | |  | | |
| Resolution | | Not protected by a checksum; RAM stuck or, on warm reset, a glitch would cause valve movement. Looks redundant (cf. wsValue) | | |
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| Containing file | | FIRMWARE\framework\sysio\sysio.c | Review Date | Reviewer |
| Function or data | | wsSignature | 14-02-26 | AK |
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| TFS wit |  | NO SIGNIFICANT FINDINGS | | |
| Impact | |  | | |
| Resolution | | Relying on 16-bit signature to detect warm start is somewhat weak; relying on mnassert mechanism would be much more robust. (Although we haven’t been burned by this yet.) | | |
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| Function or data | | pwm\_DoWarmstart, wsValue | 14-02-26 | AK |
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| TFS wit |  | NO SIGNIFICANT FINDINGS | | |
| Impact | |  | | |
| Resolution | | wsValue is not checksum-protected, it should be, along with wsSignature | | |
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| Function or data | | isWarmstart | 14-02-26 | AK |
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| TFS wit |  | NO SIGNIFICANT FINDINGS | | |
| Impact | |  | | |
| Resolution | | isWarmstart is not checksum-protected, it should be. | | |
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| Function or data | | sysio\_InitPwm | 14-02-26 | AK |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Function or data | | sysio\_CtlOut2PWMdomain | 14-02-26 | AK |
|  | | | | |
| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Function or data | | sysio\_WritePwm | 14-02-26 | AK |
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| TFS wit |  | (Newly introduced bug) line 180: Comparison for flag setting must be to highPWMlimit, not to MAX\_DA\_VALUE | | |
| Impact | | This project is not directly affected but where PWM limiting is used, it may cause integral windup | | |
| Resolution | |  | | |
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| Containing file | | FIRMWARE\framework\services\sysiolopwr.c | Review Date | Reviewer |
| Function or data | | sysio\_GetPWMHightLimit, m\_n2PWMHighLimit, sysio\_Handle\_LowPowerLimiting | 14-02-26 | AK |
|  | | | | |
| TFS wit |  | NO SIGNIFICANT FINDINGS | | |
| Impact | |  | | |
| Resolution | | m\_n2PWMHighLimit is not checksum-protected. sysio\_Handle\_LowPowerLimiting could be empty, and sysio\_GetPWMHightLimit could return a constant | | |
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| Containing file | | FIRMWARE\framework\tasks\control\fullthrottle.c | Review Date | Reviewer |
| Function or data | | full\_FullThrottle | 14-02-26 | AK |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Containing file | | FIRMWARE\framework\tasks\control\control.c | Review Date | Reviewer |
| Function or data | | IPCurrent\_StoreAndOutput | 14-02-26 | AK |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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