



ALPS M2 SDK Release Notes

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INTRODUCTION

The Alps M2 SDK is used to developing radar applications using Calterah mmWave sensors. It offers reference source code, tools and documents to facilitate users to focus on their own radar applications.

1.1 Components

Category	Component	Version	Commit ID	Compared with Last Release(Ver1.2.2)
Firmware	Radar Sensor SDK	Ver1.2.3	fde8aaaab	Updated
	Bootloader	Ver1.4.0	665366a2a	Unchanged
FPGA	DCK	Ver2.1.0	7a78bcd6b	Unchanged
Tool	Application GUI	Ver1.9b	2d8922a1f	Unchanged
	Downloader	Ver2.9.0	e67a1f04b	Unchanged

1.2 Environment Requirements

Software:

- ✧ mw_devkit_arc_Q_2020_06_win_install.exe
- ✧ arc_gnu_2018.09_ide_win_install.exe
- ✧ python-3.8.6-amd64.exe

Hardware:

- ✧ DCK: ALPS-DCK-ZYNO-V2(CAL0060)
- ✧ RDP: RDP-77S244-AEM-VENUS-1.1(CAL0093-2)
- ✧ Host PC Running Windows 10

RELEASE INFORMATION

The Release Information list in this chapter below is based on the previous release version of "ALPS_MP_SOFTWARE_RELEASE_Ver_1_2_2_2021_11_02."

Calterah strongly recommend all the "Bug Fix" list in this Chapter below to be merged into user's own project. Some of the items list in "New Features and Improvement" also suggested to be merged since it can have performance improvement.

Please note that if you have updated any one of the Firmware/FPGA/Tool(including Application GUI and Downloader) in this Ver1.2.2 release package, you have to make sure all the other components listed in this release package is also updated.

For any further questions, please contact Calterah FAE.

2.1 New Features and Improvements

- ✧ Support command line input multi macros, users can add -macro MACR01 MACRO2 to enable certain functions in the source code.
- ✧ Add no calib, one-point calib and two-point calibration for temp sensor according to trimming data.
- ✧ Add auxadc internal test point path into auxadc1 and auxadc2 functions, updated functions calling auxadc.
- ✧ Modify function safety items on off ctrl by macro, example: if you want to open SM1, add build cmd "SAFETY_FEATURE_SM1=1",if not, it's closed default.
- ✧ Add two log " FEI start! " and " FEI end! " for funciton safety auto test.

2.2 Bug Fix

Bug ID	Category	Description
bug1929	Can	Fix the issue that modify can driver,solve the problem that interrupt was locked when can send request failed in sync mode.
Bug1959	Power-save	Fix the issue that turn off rx, lo, adc when fmcw_en equals false to avoid abnormal current during scanning period. Clear only BB_DONE irq bit in BB_DONE isr.
Bug1973	Power-save	Fix the issue that decouple power-save mode with functional safety SM1. Keep baseband SAM_DONE even when power-save mode is disabled.
Bug1983	Radio	Fix the issue that change ldo monitor fmcw mmd voltage baseline from 1.2V to 1.15V and change ldo monitor threshold from plus-minus 7.5% to plus-minus 15%.
Bug1967	Can	1.add can rx_dfs,tx_dfs configuration in can_set_config function. 2.add can mode switch to can_fd mode test case in tm08_can.c.
Bug1991	Version	Fix the issue that fix a compile error when cascade mode and change the location of version.mk to get the correct info under cascade mode.
Bug1982	Fusa	Fix the issue that solved can module will be reset when opened function safety item sm101,the primary reason is it need store and restore irq en status about bb,the dmU reg is 32 bit width,but the code use a 8 bit variable to store.

2.3 Known issues

No known issues in this release.

2.4 Limitation

ID	Description
1	DMA is not supported.
2	SPI slave read process is limited to 32 Bytes for one time read.
3	To ensure ROM boot success under 2 stage XIP mode, the max value of "qspi_speed0"

	parameters defined in "flash_header.c" is 1000000(1M).
4	To ensure ROM boot success under 2 stage XIP mode, the max value of "XIP_CONFIG_BAUD" parameters used in "flash_header.c" is 0x10 which means the lowest baud-rate is 25M.
5	To ensure ROM boot success, the max value of "qspi_speed1" parameters defined in "flash_header.c" is 4000000(4M).
6	Alps CAN/CAN-FD hardware support FIFO mode, but the software implementation on Tx FIFO mode is not ready, RX FIFO mode source code is ready but lack of stress testing.
7	Alps CAN-FD support (max) 24 bytes length data receive.

2.5 Regression

No known regressions in this release.

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