# ALPS SDK Release Notes

**Release Date: May.20th. 2022**

**Release Version: 2.2.0**

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ONE

# INTRODUCTION

The Alps 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(Ver2.1.0) |
|---|---|---|---|---|
| Firmware | Radar Sensor SDK | Ver2.2.0 | 38573d53f | Updated |
| | Bootloader | Ver1.4.0 | 63ec37956 | Unchanged |
| FPGA | DCK | Ver2.1.0 | 10d76827b | Unchanged |
| Tool | CalterahClientSetup | Ver2.6.0 | e26eb0473 | 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-1.3(CAL0164-2)
- ✧ Host PC Running Windows 10

CHAPTER

TWO

# RELEASE INFORMATION

The Release Information list in this chapter below is based on the previous release version of "ALPS_MP_SOFTWARE_RELEASE_Ver_2_1_0_2022_03_04."

Calterah strongly recommend all the "Bug Fix" list in this Chapter below to be merged into user's own project.
The critical bugs must be taken carefully and fixed in 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 Ver2.2.0 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

| Category | Description |
|---|---|
| Radio | change power detector calculate resolution from 10 to 01, and change fitting formula, to get more accurate power result |
| BaseBand | add the secondary classification function in the source number estimation |
| BaseBand | reoptimize the method of calculating Pow1 and Pow2 |
| Fusa | correction sm12 error inject call function |
| Fusa | modify run type for function safety periodic run |
| Fusa | modify switch time of SM1 LDO monitor from 2ms to 1.2ms |

## 2.2 Bug Fix

| Bug ID | Category | Description | Severity |
|---|---|---|---|
| bug2560 | can | ignoring the chip version judgement in can internal reset function | Critical |
| bug2325 | can | Fix can_assert_reset_flag can't be distinguished by can channel issue | Normal |
| bug2141 | can | modify the retransmission scheme of the CAN module. | Normal |
| bug1902 | radio | move tx on sequence to shorten tx on time, reduce power consumption before fmcw starts | Normal |
| bug2413 | fusa | optimized sm201 execution time. | Normal |
| bug2339 | dck | modify the logic of can dck, delete set steam on enable flag at the beginning of the function | Normal |

## 2.3 Known issues

| Bug ID | Category | Description |
|---|---|---|
| bug2297 | Uart | There is a probability that "IID_RX_LINE_STATUS" will appear when sending serial commands |

## 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 | When executing HIL with RDP v1.3 board，it has the probability to fail |

## 2.5 Regression

No known regressions in this release.