

DA1468x

Software Release Notes for DSPS application

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1.0 Introduction

1.1 Scope

This document authorizes the official software release of the DA1468x Serial Port Service reference application from Dialog Semiconductor.

1.2 Terms and abbreviations

BLE Bluetooth Low Energy
 DSPS Dialog Serial Port Service

1.3 Release Data

PROJECT BLE DSPS Reference Design
 RELEASE DATE 27 February 2018
 VERSION NR. v1.160.2.0 (based on SDK v1.0.12)
 RELEASE TYPE¹ FULL
 RELEASE MASTER Yongchang He

1.4 License

Licenses covering this release are listed in the licensing.txt file in the doc folder.

1.5 History

VERSION	RELEASE MASTER	DATE
1.160.2.0	Yongchang He	27 Feb 2018

¹ Releases can be of the following types: FULL, RELEASE CANDIDATE, ENGINEERING, PATCH or BINARY

2.0 Release Description

2.1 Major Changes

#	DESCRIPTION
FEATURES	
1	<p>This is the first Full (LA) release of the software of the DA1468x Serial Port Service reference application. The most important features of this initial version are listed below:</p> <p>Bluetooth</p> <ul style="list-style-type: none"> • Two projects for the GAP Central/Peripheral role • GATT-based bidirectional serial link • Write without Response/Notification methods for data streaming. • Bluetooth flow control supported. • Data length extension feature supported • Single point-to-point connection • Automatic reconnection in case of link loss <p>UART</p> <ul style="list-style-type: none"> • Hardware and Software flow control are supported. • Binary data transfer supported in hardware flow control mode • UART baud rates: 921600, 460800, 230400, 115200, 57600, 38400, 19200, 9600, 4800, 2400 <p>System</p> <ul style="list-style-type: none"> • Compatible with the existing DSPS iOS/ Android application. • Extended sleep mode and external GPIO or CTS wakeup • Maximum 80 Kbyte/s data throughput between two Pro DA1468x DKs • SEGGER RTT Viewer is used to print logs through JTAG • Peripheral application supports software update over the air (SUOTA)
BUG FIXES	
1	
Documentation	
1	UM-B-084 DA1468x Serial Port Service reference application_v1.0.pdf

2.2 Known Issues or Limitations

#	DESCRIPTION
Software	
1	<p>UART read under SW flow control sees data loss under high baud rate:</p> <p>Without the "auto flow control" mechanism used by HW flow control, data loss is seen for UART baud rate larger than 115200 when sending a file from terminal to 68x device. The larger the baud rate is, the more the data loss is. This is only seen when HW flow control is not used.</p>
2	<p>RX queue full assertion:</p> <p>Each time after SPS flow off, certain number of on-the-fly packets will still come. This number can be 5-30 depends on the UART speed. This causes RX queue full assertion in several corner cases. It is suggested to increase RX queue size or reduce high-water-mark.</p>
3	<p>Full-duplex transmission (CPU = 16MHz) causes memory shortage:</p> <p>Because of insufficient CPU processing speed for packets and messages, assertion of OS or BLE stack memory allocation failed could happen. Reducing BLE and UART speed or increasing CPU speed will help.</p>
4	<p>PC UART terminal prevents sleep mode:</p> <p>Many PC UART terminal always asserts RTS when running. In this case, the 68x device cannot enter sleep mode because of the sleep check implementation. User needs to find proper terminal software or write own terminal RTS/CTS control software.</p>
5	<p>DSPS mobile APP to 68x data transfer has low throughput:</p> <p>Delay is added when sending data block from APP to 68x device for safety reason, which lowers the throughput. Decreasing or removing the delay is possible, but there is risk to crash the smartphone BLE stack.</p>
6	<p>MTU size should be larger than 131 bytes:</p>

	Due to the data block fragmentation mechanism in the current DSPS APP (version 3.220), transferring file from mobile to 68x may not work properly when MTU size is smaller than 131 bytes.
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2.3 MAJOR Release Files

File Name	Description
DA1468x_DSPS_v_1.160.2.0.zip	RELEASE FILE
DA1468x_Software_Release_Notes_DSPS_1.160.2.0.pdf	RELEASE NOTES

Appendix I: Versioning Rules

Each software version number string consists of 4 numbers. MAJOR.BRANCH.MINOR. BUILD

Versioning rules:

#MAJOR: It is increased by 1 only if the project undergoes a major modification, e.g. ROM changes. It practically changes only when the project sources undergo major restructuring affecting most of the repository. It is initialized at 1.

#BRANCH: Should be used in the case of concurrent projects that for special reasons need to be spun off the major repository. It corresponds to different versions of the repository code that have to be supported concurrently. In this case each branch number corresponds to a different GIT branch. The basic project has BRANCH id 0. The branch number for Smart tag reference design is 20.

#MINOR: Odd numbers indicate Engineering (or Patch) versions, even numbers indicate Full release versions. Each release increases this number by one. After the release, the number is increased by 1 again. Therefore, Project releases correspond to release numbers like 2.0.1.xxx, 2.0.2.xxx. etc. The #MINOR number is initialized at 1.

#BUILD: The # BUILD number increases by 1 at every repository update and thus indicates the total number of changes since repository initialization. The BUILD number is initialized at 1.