



NRC7292 Standalone SDK

Release Note

(version 1.3.0)

Ultra-low power & Long-range Wi-Fi

Ver 1.0
Jul 19, 2020

NEWRACOM, Inc.

NRC7292 Standalone SDK Release Note (version 1.3.0)

Ultra-low power & Long-range Wi-Fi

© 2020 NEWRACOM, Inc.

All right reserved. No part of this document may be reproduced in any form without written permission from Newracom.

Newracom reserves the right to change in its products or product specification to improve function or design at any time without notice.

Office

Newracom, Inc.

25361 Commercentre Drive, Lake Forest, CA 92630 USA

<http://www.newracom.com>

Contents

1	Overview.....	6
2	Contents of software release package	6
3	Standalone SDK Package	7
3.1	General guide	7
3.2	Supported 3 rd party Libraries	7
4	SW Release Package Version 1.3.0	8
4.1	Features in version 1.3.0.....	8
4.2	Resolved issues	8
4.3	Changed items	8
4.4	Known issues in the release package.....	8

List of Tables

Table 2.1	Contents of NRC7292 standalone SDK package	6
Table 4.1	Known issues.....	8

List of Figures

Figure 2.1 NRC7292 standalone SDK package directory 6

1 Overview

Newracom's NRC7292 is world's first IEEE 802.11ah solution in the market. The IEEE 802.11ah is the new Wi-Fi standard targeting at various IoT applications. NRC7292 offers two different modes, a host and standalone mode. The host mode needs external host like a Raspberry Pi3 used in Newracom's EVK. In this mode, NRC7292 offers 11ah Wi-Fi connectivity. Unlike a host mode, users can write their applications with APIs provided along with a standalone package and build its binary with SDK and runs on NRC7292. By using various peripheral interfaces in NRC7292, users can read sensor data and send it to the server through 11ah network. NRC7292 also provides AT commands application in standalone mode. Users can use the AT commands to utilize the 11ah Wi-Fi.

2 Contents of software release package

The software release package contains all the necessary components including the firmware library, header files, api source codes, sample codes, downloader tool, makefile and documents to make use of the latest features. Figure 2.1 and Table 2.1 show the directory structure and contents of the package, respectively.



Figure 2.1 NRC7292 standalone SDK package directory

Table 2.1 Contents of NRC7292 standalone SDK package

Directory	Description
doc	documents for standalone guide ducoument and sdk api lists
lib	nrc7292 modem library and 3 rd party libraries.
make	makefiles and configuration files

sdk	standalone user sdk folder
inc	sdk api header files and sdk common header file.
apps	several kinds of reference sample applications. An AT command application is included.
tools	tools folder
downloader	firmware downloader

The information of the library released in this package is as follows.

- Library (including 3rd party)
 - Name : libmodem.a
 - Location : lib/modem
 - Version : 1.3.0
 - Build date : Jul 17, 2020

3 Standalone SDK Package

3.1 General guide

The developer can use the 'UG-7292-004-Standalone SDK.docx' document for general description. This document explained setup the S/W build environment, compiling standalone binary, download binary and sample applications.

Supported API list are explained in 'UG-7292-005-Standalone SDK API.docx'. The developer can use apis for NRC7292. The user can implement service related to wifi connection, peripherals. AT-Command guide document is 'UG-7292-006-AT_Command.docx'.

3.2 Supported 3rd party Libraries

Followings are 3rd party libraries included in NRC7292 standalone SDK package. 'UG-7292-005-Standalone SDK API.docx' has the description and URL for 3rd party libraries. The FreeRTOS, LwIP and MbedTLS is mandatory 3rd party libraries for standalone SDK.

- FreeRTOS
- Lwip
- Mbedtls

- MQTT
- LibCoap
- cJSON
- Mini-XML
- AWS (Amazon web service)
- TINYCBOR

4 SW Release Package Version 1.3.0

4.1 Features in version 1.3.0

Followings are features included in NRC7292 software release package version 1.3.0.

- **Build Environment**
 - Update linux based build environemnt
 - Not support eclipse environment

4.2 Resolved issues

v.1.3.0 is the initial version for github release. We will update resolve issues since v.1.3.0.

4.3 Changed items

v.1.3.0 is the initial version for github release. We will update changed items since v.1.3.0.

4.4 Known issues in the release package

Table 4.1 presents all know issues in the version 1.3.0.

Table 4.1 Known issues

Category	Description
at-cmd	Host data is stopped after receiving a SEND_IDLE event
sample apps	Sending block during multiple tcp receving and sending operations