LinkIt 7687 HDK Power Consumption Measurement Guide

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Document Revision History

Revision	Date	Description
1.0	7 March 2016	Initial version.
1.1	2 May 2016	Refine the output binary file name.

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Lists of tables and figures

1. Introduction

LinkIt 7687 development board based on MT7687F is a low-cost and easy to use IoT (Internet of Things) development platform for RTOS to design, prototype, evaluate and implement IoT projects. This application notes provide required knowledge on how to measure the LinkIt 7687 HDK's power consumption.

2. Hardware Description

It needs two power rails for MT7687F, as shown in Figure 1. The voltage range at PMU and RF connectors supporting up to 3.3V is 2.97~3.63V. The voltage range at the RTC3V3 connector is 1.6~3.63V.

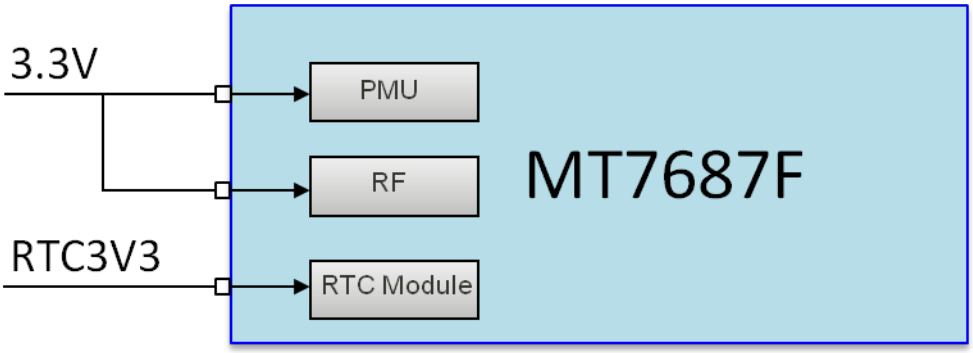

Figure 1. MT7687F chip's power block diagram

2.1. Measure MT7687F chip's power consumption

To measure the current of the MT7687F, use the 3.3V connection point on the jumper isolation block (**J30**). The current measured through jumper J30 includes only the MT7687F 3.3V current and no external blocks.

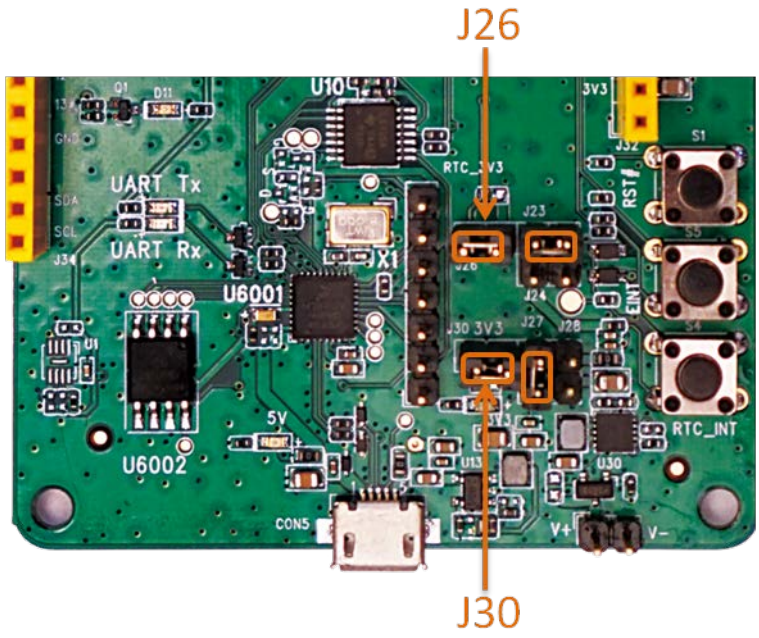

Figure 2. Jumpers for MT7687F power consumption measurement

2.1.1. Measuring the active power

Follow these steps to measure the active power on the board.

1) Remove the 3.3V jumper (**J30**).

2) Attach a jump wire to **J30** to measure the current using a current prob. A current meter can also be used for this measurement.

2.1.2. Measuring the current in the RTC mode

Follow these steps to measure the current in the Real-time Clock (RTC) mode.

1) Remove the RTC3V3 jumper (**J26**). Attach a current meter cross this jumper.

2) Boot up the system and set the device to RTC mode. For the detail of RTC mode, please refer to the RTC module of the API reference manual to enable RTC mode.

3) Measure the current.