



LinkIt 2523 HDK Power Measurement Guide

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Document Revision History

Revision	Date	Description
1.0	1st April 2016	Initial release.
1.1	13 January 2017	Updated the steps of measuring the current for LinkIt 2523 HDK v1.1.

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1. Introduction

LinkIt 2523 HDK provides a low quiescent current development platform to design, prototype, evaluate and implement Internet of Things (IoT) projects. This document equips you with the necessary knowledge on how to measure the LinkIt 2523 HDK's power consumption. The guide covers the MT2523G and the MT2523D integrated chipsets. Both chipsets share the same features and pin assignments, except the MT2523D does not support GNSS functionality.

2. Hardware Description

The power source connection diagram of the LinkIt 2523 HDK is shown in Figure 1. The voltage range at the **VBAT_CONN**, battery voltage of the external power source, connection point is in a range from 3V to 4.8V. J2001 should short at the right side (pins 1 and 2). The power consumption of the development board is the total current running through **VBAT_CONN**.

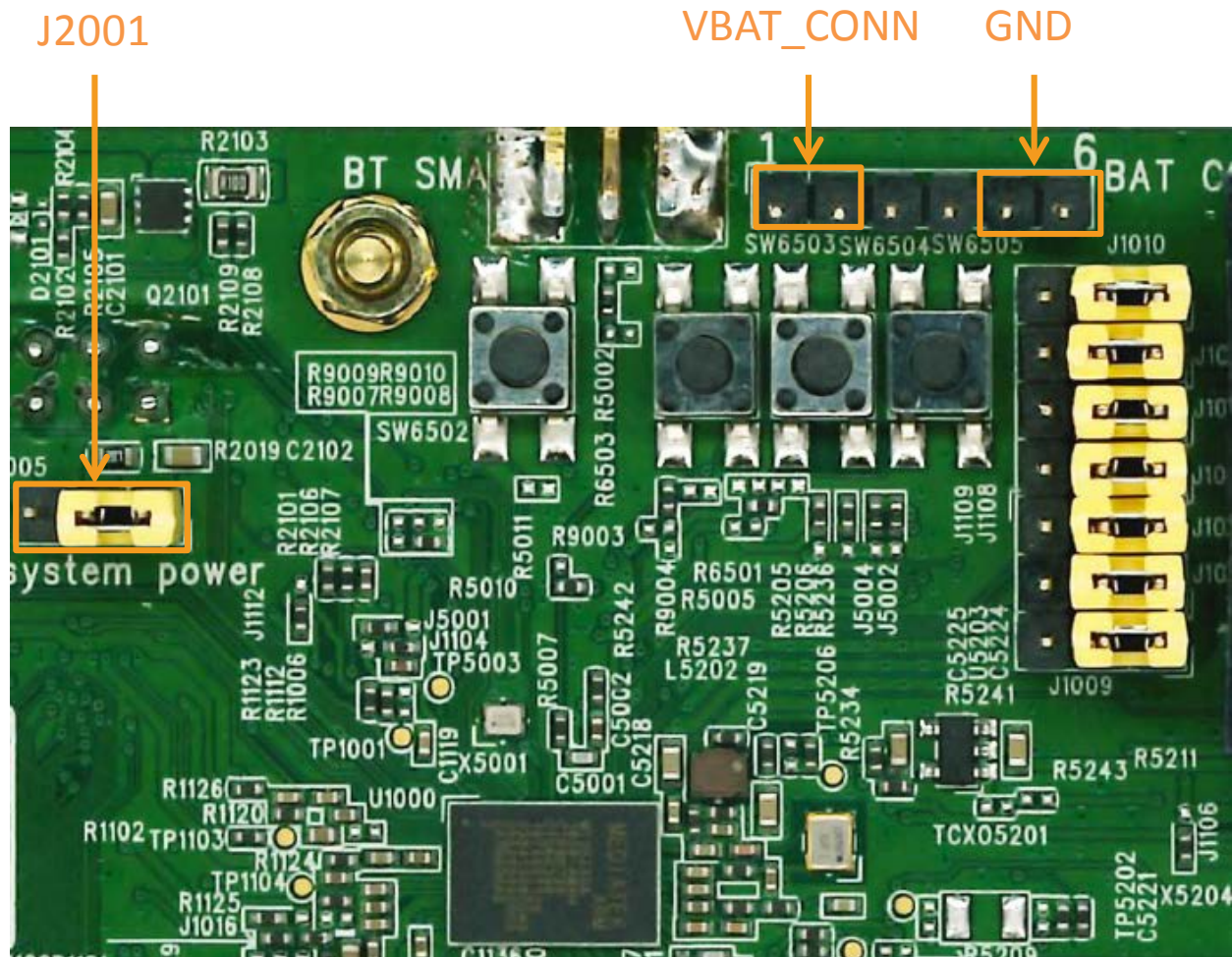


Figure 1. Power source connection, J2001 should short at the right side

2.1. Power consumption measurement

There is a method to measure the total current consumption of the LinkIt 2523 HDK. Before commencing the measurement, prepare the HDK. The steps in section 2.1.1, "Steps of measuring the current" will disable the Cortex Microcontroller Interface Standard Debug Access Point (CMSIS-DAP), LED indicators, headphone plug-in detection and system reset.

2.1.1. Steps of measuring the current

Follow these steps to measure the current on the board. The position of the resistors mentioned below is shown in Figure 2, Figure 3 and Figure 4.

- 1) Remove the resistors R1135, R9211, and R9209. These resistors are at the front side of the HDK.
- 2) Remove the resistors R6620, R6621, R6622, R6623 and R6625. These resistors are at the back side of the HDK.
- 3) Remove the bead BEAD6001, located above the **Audio Jack**.
- 4) Attach a jumper wire to the **VBAT_CONN** to measure the current using a current probe. A current meter can also be used for this measurement.

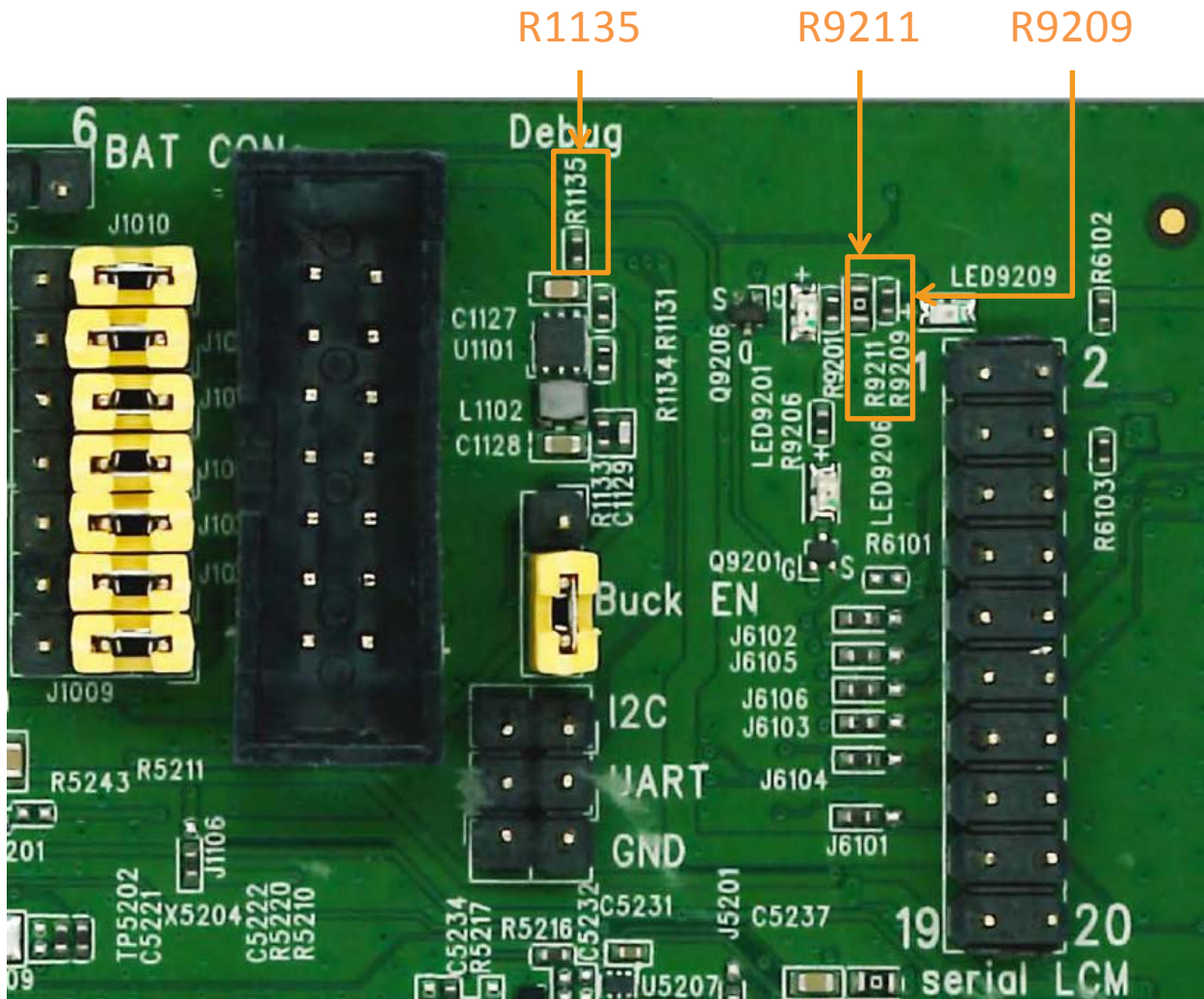


Figure 2. Location of the resistors R1135, R9211 and R9209

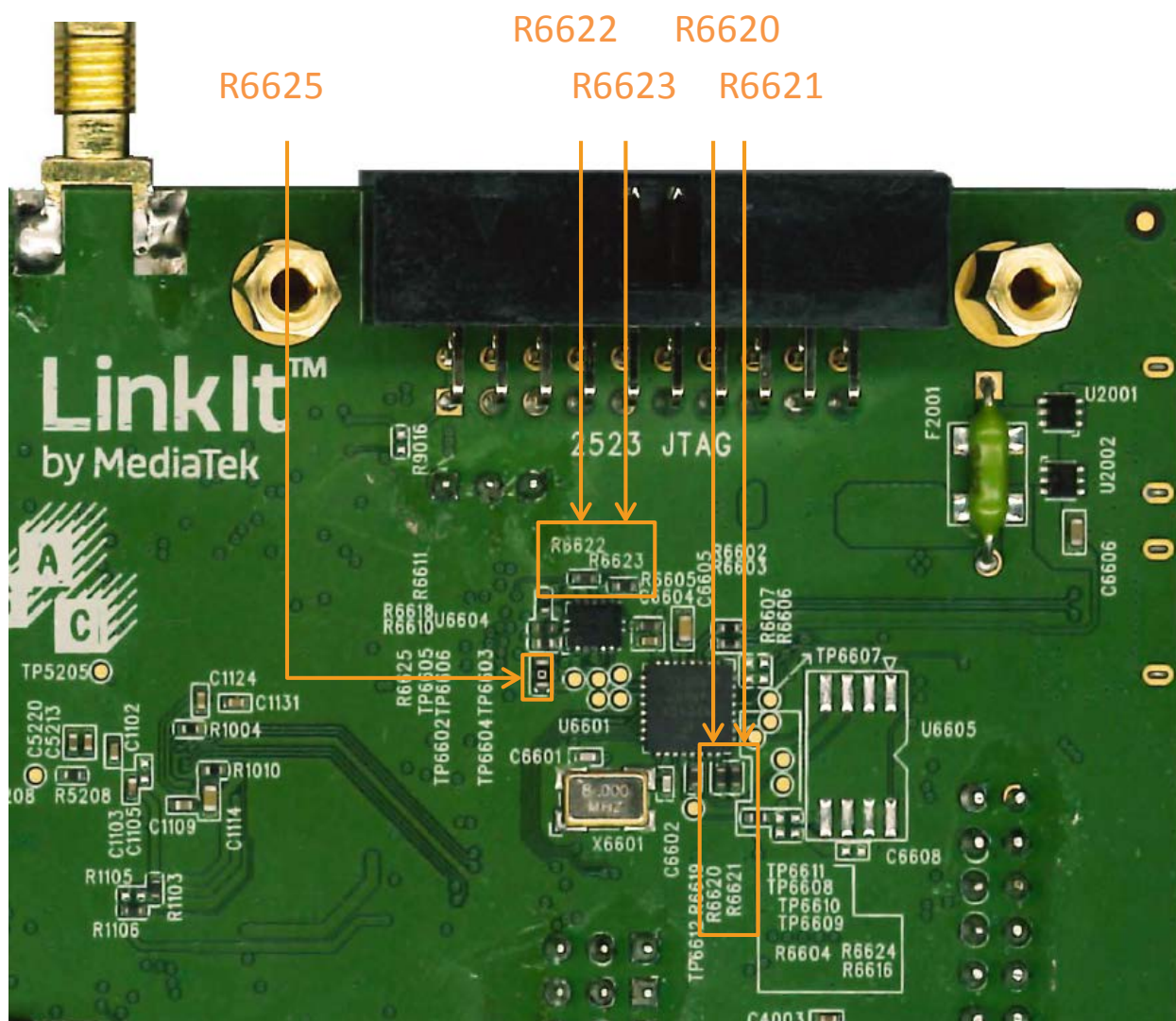


Figure 3. Location of the resistors R6620, R6621, R6622, R6623 and R6625

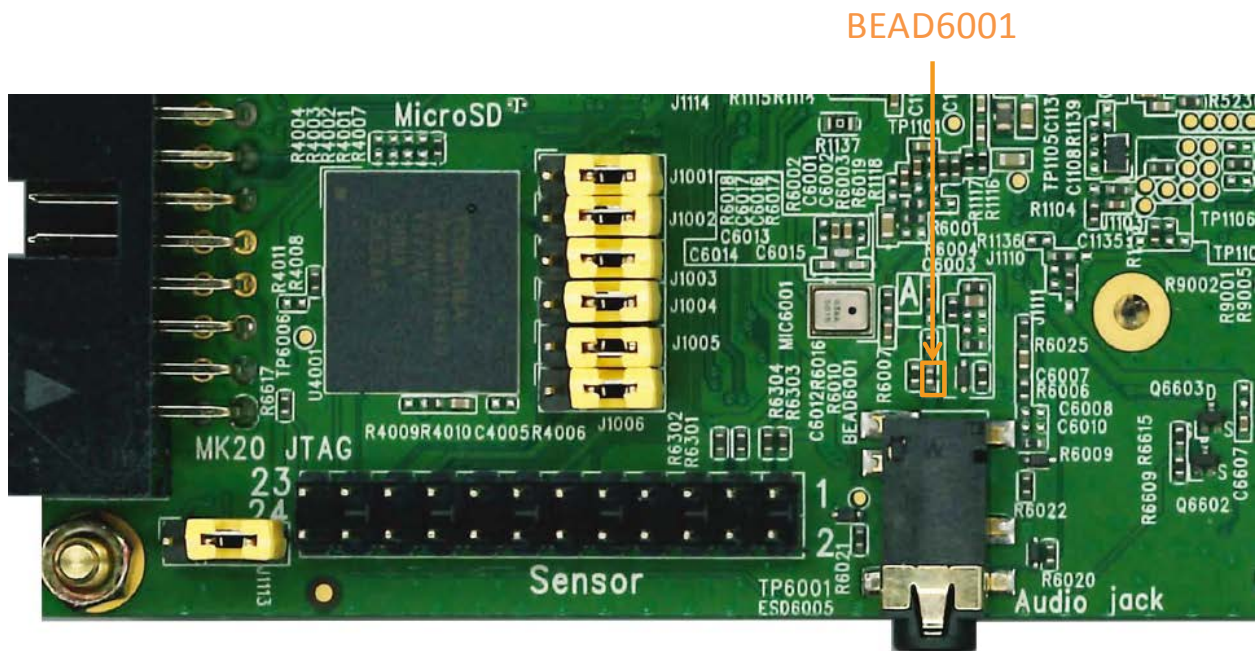


Figure 4. Location of the bead BEAD6001