Description

This document shows basic guidelines to use the Qorvo's Graphic User Interface software (GUI) to control the ACT88430 EVK or socketed board from a Windows-based PC with a Qorvo's USB-to-I^{2}C dongle.

GUI Setup

Install the Qorvo's USB-to-I^{2}C dongle driver by following the guide on "Qorvo GUI and Dongle Driver Installation.pdf" file. Plug the Qorvo's USB-to-I^{2}C dongle into PC's USB port and I^{2}C terminal to I^{2}C connector on ACT88430 EVK or Socketed board. Power up the EVK or Socketed board with an appropriate voltage, make sure the DUT started up properly.

In the GUI folder, open the "ACT88430 GUI Rev 2.2.exe" to invoke the software. Below screen would show up, make sure the USB-to-I^{2}C dongle is recognized by PC with status as below RED circle in **Figure 1** below.
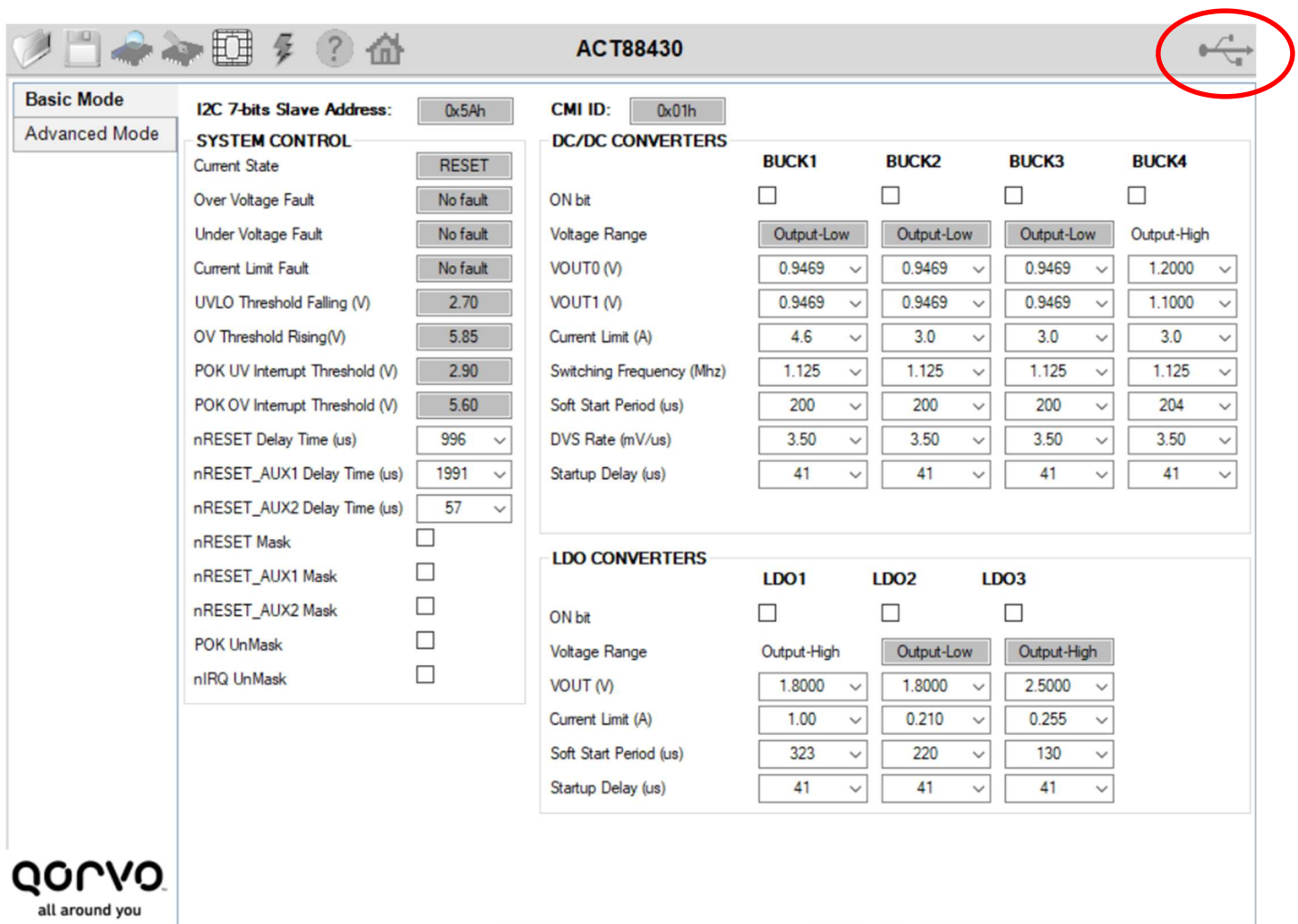

Figure 1: ACT88430 GUI

Operating Functions

The GUI has 6 functional buttons display as icons on top left corner, with order from left to right: Open, Save, Read, Write, Load and Program as below **Figure 2**.

Figure 2: Functional Buttons

Open Function

Open function allows user to open an ACT88430's register information data .iact or .xml files. The file should be provided by Qorvo.

Save Function

Save function allows user can save the ACT88430 register information to an .iact or .xml file. Qorvo recommends user to save the registers read back to an .iact file.

Read Function

Read function allows user to read all the I^{2}C registers of the ACT88430 under test (DUT) and update to the GUI. Qorvo recommend user always click "Read" after powering up the EVK or socket board.

Write Function

Write function will write all the setting on the GUI to a powered DUT. After changing value on the GUI, click "Write" button to transfer all setting to the IC via I^{2}C.

Read/Write Single Register

In Advanced mode, beside the "Write" button to write all I^{2}C registers, ACT88430 GUI also supports write or read a single register. **Figure 4** in page 4 demonstrates how to read or write to only one register, in this particular case is register 0x42. User points the mouse to the bit and right-click, a small "Read/Write" pop-up window will appear. User selects "Read" to read only this register or select "Write" to write the value of this register to the IC.

Load Function

Load function combine open and write functions, allowing user to open and write a register information data .iact or .xml to the ACT88430 under test at one click

Program Function

Program function allows user to re-program the ACT88430 IC's non-volatile memory (NVM) registers mounting on an EVK board. For programming an EVK, besides the main power supply needed to power up the ACT88430 EVK, user needs to prepare an extra power supply with capable providing adjustable output voltage up to 17.5V/100mA apply to MODE pin. User needs to make sure all the EVK setup is correct. After changing the setting on the GUI, user click "Write" button to transfer new setting to the IC. Qorvo recommend user to read the I2C registers to confirm all the setting are successfully transferred to the IC before reprogramming, and to save the data into an .iact file for future use or in case of programming failure. Clicking "Program" icon, a wizard will show up, user follow the popup instruction to complete programming the IC on EVK. After completing, turn off all power supplies then remove the external power supply at MODE pin. Finally, turn on the main power supply to confirm the NVM changes.

Basic Mode

The GUI will startup in Basic Mode screen. In Basic Mode, user can easily change the register setting using options in drop-boxes or check/uncheck checkboxes. For checkboxes, Left click to check or uncheck checkboxes. For drop-boxes, Left-click to the small arrow next to the value then a selection popup will show up to display all possible option to choose from. User may need to scroll up/down to find the target value and left click to select it.

Example in **Figure 3** below, user click in to drop-box arrow to select the option as below to choose different BUCK4 output voltage.
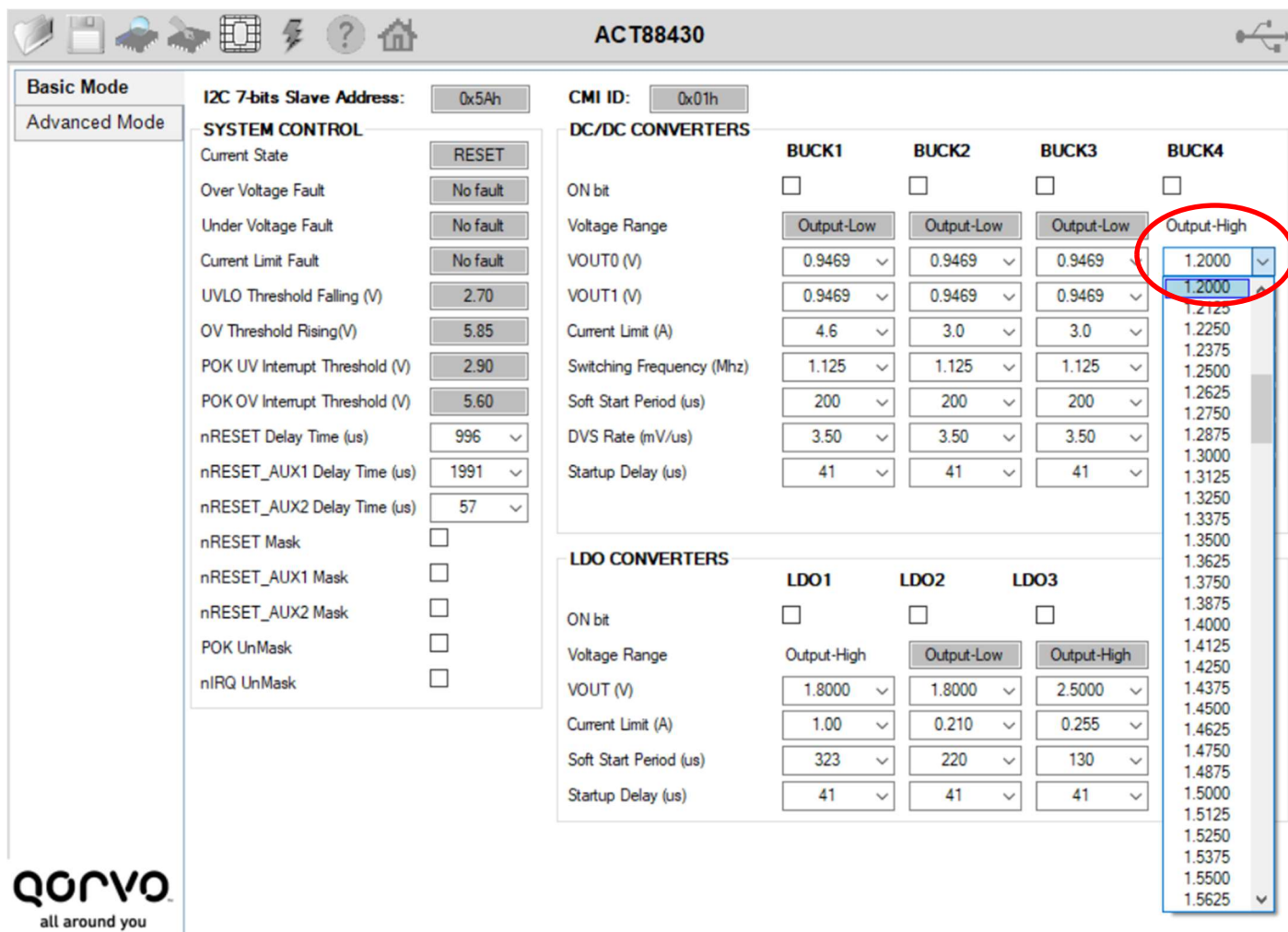

Figure 3: ACT88430 GUI Basic Mode

Advanced Mode

User can access to all I^{2}C register in bit level by selecting the "Advanced Mode" tab. In Advanced Mode screen, registers are divided into tile-based groups. To change the registers, user select the corresponding tile then left click on the "bit name" button to flip the bit value between "0" and "1". Refer to the ACT88430 datasheet for functionality of each bit. User is required to have fully understanding of each bit/register function.

Example in **Figure 4** below, user selects "Advance Mode", "Buck1", before right-clicking to write or read 0x42 register.
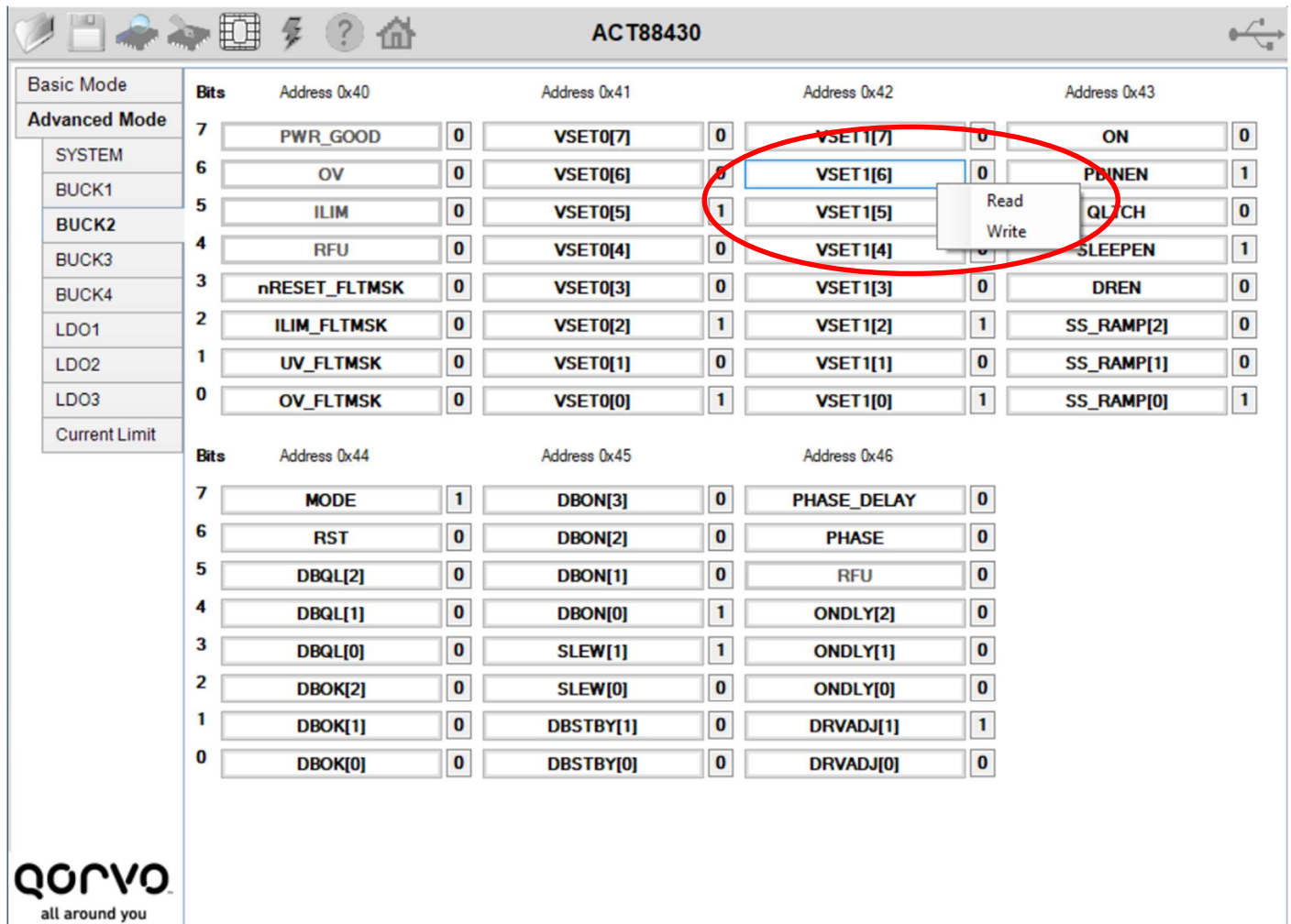

Figure 4: ACT88430 GUI in Advanced Mode

REVISION HISTORY

REVISION	DATE	DESCRIPTION
2.1	30-Jun-2020	Update Program Function
2.2	30-Dec-2020	Correct some registers name

Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:
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