

bq20z90-V110 to bq20z90-V150 Change List

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ABSTRACT

This document describes the design considerations required to change a bq20z90-V110 design to a bq20z90-V150 solution. Find the latest ordering information and data sheet on the World Wide Web at: <http://power.ti.com>.

Introduction

The bq20z90-V150 firmware upgrade has been released to enable several feature additions and corrections.

New orderable part numbers have been released to support this firmware upgraded device.

- bq20z90DBT-V150
- bq20z90DBTR-V150

The latest version of the evaluation software is required to be able to read and write all the data flash configuration locations.

To upgrade a previous version of the bq20z90, use the evaluation software available on power.ti.com and find the latest encrypted program in the web folders. For details on how to update the firmware, see *Updating Firmware With the bq20zxx and EVM (SLUA336)* application note.

Change Details

CHANGE	bq0z90-V150	bq20z90-V110	COMMENTS
Added new feature for cell-based shutdown.	Shutdown can be configured to be either pack-based or cell-based depending on the setting of <i>DF:Operation Cfg C [SHUTV]</i> .	Shutdown was based on the pack voltage only.	Allow better customization
Certain values of <i>SBS:RemainingCapacity</i> caused RSOC to report 100% before charge termination was reached.	Prevents RSOC from reporting 100% until after a charge termination is reached. Fixes all cases in which the reporting was incorrect.	Does not contain fix.	Improves capacity display accuracy. Does not affect gauging accuracy.
Increased the size of Manufacturer Info and allowed read access in Sealed mode.	Manufacturer Info is 31 bytes and is R/W in Full Access and Unsealed modes and Read Only in Sealed mode.	Manufacturer Info is 8 bytes and R/W in Full Access and Unsealed modes.	Allow better customization
Added new qualifier for cell imbalance feature.	Cell imbalance can only occur when the minimum cell voltage is greater than <i>DF:Min CIM-check voltage</i> .	Voltage qualifier does not exist.	Improves robustness of cell imbalance detection
After charging a battery and stopping in the flat region of the battery voltage curve, an accuracy error can be introduced if sufficient rest time is not allowed before the next charge or discharge period begins. A qualifier determines whether this situation has occurred and disables OCV updates.	Qualifier disables OCV updates from occurring in the battery voltage flat region after a charge cycle.	OCV updates allowed in the battery voltage flat region.	Improved gauging accuracy in voltage flat region

Summary

Recommended configuration file changes for existing applications include:

- Configuring the new *DF:Operation Cfg C [SHUTV]* and *DF:* feature
- Configuring the new *DF:Cell Shutdown Voltage and DF:Cell Shutdown Time* feature
- Configuring the new *DF:Min CIM-check voltage* feature

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