

bq20z75-v160 to bq20z75-v180 Change Document

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Introduction

The bq20z75-V180 contains a firmware upgrade to enable several feature additions and corrections. The device contains firmware V181 even though the device orderable is v180.

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

- bq20z75DBT-V180
- bq20z75DBTR-V180

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 bq20z75, 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

What changed from V160 to V180 / V181?

- Code Standardization in V170: Firmware updated to standardize the unit used to represent temperature. Temperature measurement robustness increased especially at higher temperatures.
- Transient Modeling Feature Add-on in V180: Cell resistance increases at cold temperatures which causes higher IR drop resulting in lower cell voltage. Without transient modeling of this low temperature effect, the IT algorithm will report a larger drop than actual in the beginning. In V170, the IT algorithm was updated to include the transient model so that the cell voltage that is reported closely matches the actual value. Voltage without transient modeling is too low initially. With transient modeling, voltage coincides better with expected data.
- Low Temperature Improvement in V181: Low temperature accuracy was improved in V181 by updating the resistance when discharge is exited at the end of discharge as well as by increasing the frequency at which data is recorded for resistance calculation.

Summary

No dataflash configurations are associated with the specific changes for bq20z75-V160.

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