

# BQ28Z610 to BQ28Z610-R1 Change List



Garry Elder and Eric Vos

## ABSTRACT

The BQ28Z610-R1 hardware enables several feature additions and performance improvements to the BQ28Z610 device, and this document describes the BQ28Z610-R1 additions and features. The [BQ28Z610-R1 Impedance Track™ Gas Gauge and Protection Solution for 1-Series to 2-Series Cell Li-Ion Battery Packs](#) data sheet, the latest ordering information, and the [BQ28Z610-R1 Technical Reference Manual](#) are available on [TI.com](#).

## Table of Contents

<b>1 Introduction</b> .....	1
<b>2 Change Details</b> .....	1
<b>3 Revision History</b> .....	2

### Trademarks

Impedance Track™ is a trademark of Texas Instruments.  
All trademarks are the property of their respective owners.

## 1 Introduction

The Texas Instruments BQ28Z610-R1 device is a highly integrated, accurate, 1-series to 2-series cell gas gauge and protection solution, enabling autonomous charger control and cell balancing.

## 2 Change Details

The BQ28Z610-R1 is a FW port to a new HW version. Below are the list of changes.

**Table 2-1. BQ28Z610 to BQ28Z610-R1 Change Descriptions**

Change Number	Change Description	Comment
1	FW Port to new HW	New HW required
2	Buslow timeout reset of I2C engine	Ability to reset HW
3	Remove DOD error weighting	Code Space Savings
4	Add Broadcast Mode	Restore SMB behavior
5	Remove TDELTA_V	Feature Not Available
6	Add VIMA()/VIMR()	Feature Request
7	SOH update	Feature Request
8	Fix Ra Table update	Bug Fix
9	Enable SMB Timeouts	Feature Request
10	Cell balancing timers	Improvement
11	Sleep MAC Command	Bug Fix
12	Remove "No Load Remcap"	Feature Not Available
13	Make FAST_QMAX_FLD flag public	Improvement
14	AD conversions on entry to sleep	Bug Fix

### 3 Revision History

Changes from Revision * (April 2020) to Revision A (March 2021)	Page
• Changed <a href="#">Table 2-1</a> .....	<a href="#">1</a>

---

## IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to [TI's Terms of Sale](#) or other applicable terms available either on [ti.com](http://ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2022, Texas Instruments Incorporated