

RAA215300

High Performance 9-Channel PMIC Supporting DDR Memory, with Built-In Charger and RTC

The RAA215300 is a high-performance, low cost 9-channel PMIC designed for 32-bit and 64-bit MCU and MPU applications. It supports DDR3, DDR3L, DDR4, and LPDDR4 memory power requirements. The internally compensated regulators, built-in Real Time Clock (RTC), 32kHz crystal oscillator, and coin cell battery charger provide a highly integrated, small footprint power solution ideal for System-On-Module (SOM) applications. A spread spectrum feature provides an ease-of-use solution for noise sensitive audio or RF applications.

The RAA215300 has six high-efficiency buck regulators and three LDOs to provide the complete system power. The internal device registers and EEPROM can configure and optimize the RAA215300 for different application requirements, for example: power sequences, output voltages, and switching frequencies. Dynamic Voltage Scaling (DVS) and low-power Sleep modes are supported.

The RAA215300 is available in an 8x8mm, 0.5mm pitch thermally enhanced 56 Ld QFN package, and is specified for operation across a -40°C to 105°C ambient and a -40°C to 125°C junction temperature range.

Features

- Input operating voltage range: 2.7V~5.5V
- 6 synchronous buck regulators (supporting 5A, 3.5A, 2x1.5A, 1A, 0.6A), with settable VOUT
- 3 LDOs (supporting 2x300mA, 50mA), with bypass mode, and settable VOUT
- Dedicated VTT_REF for DDR memory
- Auto PFM/PWM, FPWM, deep-PFM, and ultrasonic modes, with selectable PWM f_{SW}
- Built-in 32kHz crystal oscillator (with bypass), RTC, and coin cell/supercap battery charger
- DVS and sleep modes
- Internally compensated
- Spread spectrum
- I²C Serial Interface (up to 1MHz)
- Pb-free (RoHS compliant)

Applications

- MCU/MPU/SoC Consumer and Industrial Power
- FPGA System Power
- Building/Factory Automation System Power

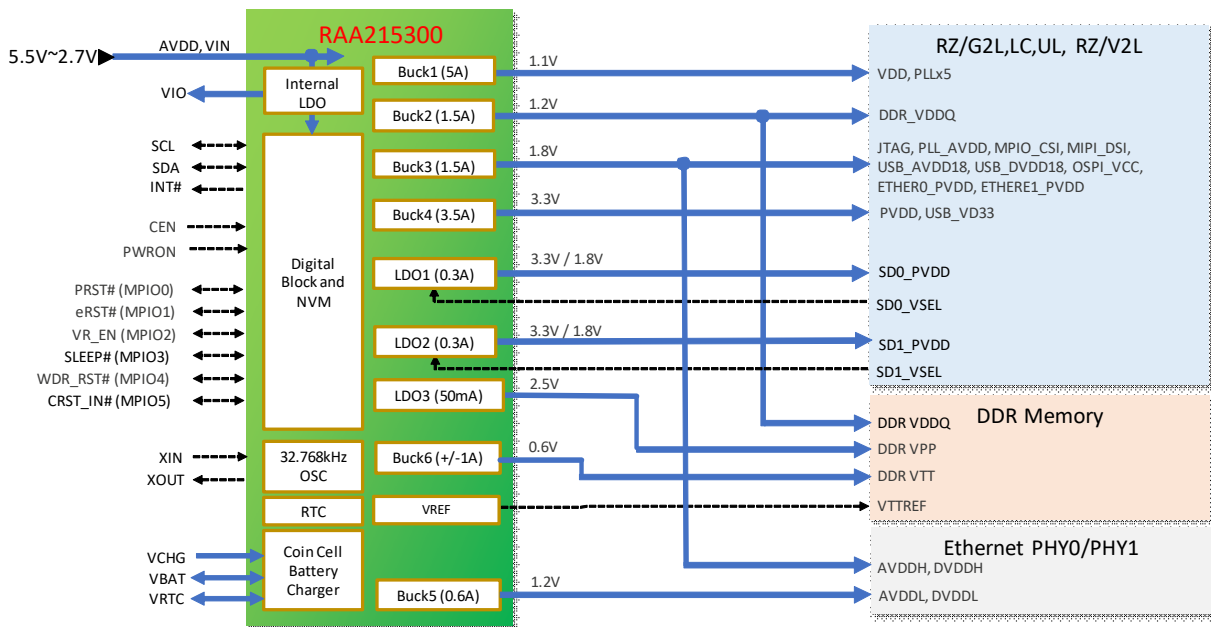


Figure 1. Typical Application Diagram - MPU Power (RZ/G, RZ/V2L)

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(Rev.1.0 Mar 2020)

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