JEDEC
STANDARD

DDR5 Load Reduced (LRDIMM) and Registered Dual Inline Memory Module (RDIMM) Common Specification

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DDR5 LOAD REDUCED (LRDIMM) AND REGISTERED DUAL INLINE MEMORY MODULE (RDIMM) COMMON SPECIFICATION

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DDR5 LOAD REDUCED (LRDIMM) AND REGISTERED DUAL INLINE MEMORY MODULE (RDIMM) COMMON SPECIFICATION

(From JEDEC Board Ballot JCB-21-32, formulated under the cognizance of the JC-45.1 Subcommittee on Registered DRAM Modules, Item 2273.07.)

1 Product Description

This standard defines the electrical and mechanical requirements for 288-pin, 1.1 Volt (VDD and VDDQ), DDR5 Registered (RDIMM) and Load Reduced (LRDIMM), Double Data Rate (DDR), Synchronous DRAM Dual In-Line Memory Modules (DIMM). These 288-pin Registered and Load Reduced DDR5 SDRAM DIMMs are intended for use in server, workstation, and database environments.

Reference design examples are included which provide an initial basis for DDR5 RDIMM and LRDIMM designs. Modifications to these reference designs may be required to meet all system timing, signal integrity and thermal requirements for PC5-4000, PC5-4800, PC5-5600, and PC5-6400 support. All DDR5 RDIMM and LRDIMM implementations must use simulations and lab verification to ensure proper timing requirements, signal integrity, power delivery and efficiencies in the design.

1.1 Related Documents

JESD79-5, *DDR5 SDRAM Standard*

JESD300-5, *SPD5118 Hub & Serial Presence Detect Device Standard*

JESD301-1, *PMIC50x0 Power Management Integrated Circuit (PMIC) Device Specification*

JESD302-1, *TS5111, TS5110 Serial Bus Thermal Sensor Specification*

JESD400-5, *DDR5 Serial Presence Detect (SPD) Contents*

JESD401-5, *DDR5 DIMM Label*

JESD402-1, *Temperature Grade and Measurement Specifications for Components and Modules*

JESD403-1, *JEDEC Module Sideband Bus*

MO-210, *Square & andRectangular Die-Size, Ball Grid Array Family*

MO-329, 288 *pin DDR5 DIMM, 0.85 mm pitch*