

JEDEC STANDARD

DDR5 SODIMM Raw Card Annex E

JESD309-S4-RCE Version 1.0

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JEDEC SOLID STATE TECHNOLOGY ASSOCIATION



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DDR5 SODIMM RAW CARD ANNEX E

From JEDEC Board Ballet JCB-22-15, formulated under the cognizance of the JC-45.3 Subcommittee on Unbuffered DRAM Modules, item 2282.06.

1 Scope

This annex JESD309-S4-RCE, DDR5 Small Outline Dual Inline Memory Module with 4-bit ECC (EC4 SODIMM) Raw Card E Annex" defines the design detail of x8, 2 Package Ranks DDR5 ECC SODIMM. The common feature of DDR5 SODIMM such as the connector pinout can be found in the JESD309, DDR5 Small Outline Dual Inline Memory Module (SODIMM) Common Standard.

2 DDR5 Small Outline DIMM Design File

Table 1 — DDR5 SODIMM Design File

Raw Card	Applicable Design File	Applicable BOM
E0	PC5-SODIMM_RC_E0_R100_20220128.brd	PC5-SODIMM_RC_E0_R100_20220128_BOM.xlsx
NOTE "Reference" design file updates will be released as needed. This DIMM specification will reflect the most recent design files, but may also be updated to reflect clarifications to the specification only. In these cases the design files will not be updated.		

3 Module Configuration

Table 2 — Module Configuration

SDRAM					DIMM										
Die Density	Die Organization	Pack-age Type	# of Logical Ranks ¹ per PKG. Rank		# of PKG. Rank 1,2 per DIMM	# of Logical Ranks ¹ per DIMM		# of SDRAM die per DIMM		Capacity per DIMM (GB)		DIMM Organization		# of Address bits row/col	MO-337 variation
			Min.	Max.			Min.	Max.	Min.	Max.	Min.	Max.	Min.		
16Gb	2G x 8	SDP	-	-	2	2	2	20	20	32	32	4Gx72	4Gx72	16/10	Axxx
24Gb	3G x 8	SDP	-	-	2	2	2	20	20	48	48	6Gx72	6Gx72	17/10	
32Gb	4G x 8	SDP	-	-	2	2	2	20	20	64	64	8Gx72	8Gx72	17/10	
NOTE 1 When populated with single die package (SDP), package ranks per DIMM = 2.															

4 SDRAM Configuration

Table 3 — SDRAM Configuration

Raw Card	Supported DRAM Outline (Width x Length) max. (mm)	Number of Bank Groups/ Banks in a Group	SDRAM Package Type	Package Type	MO-210 Variation
E0	10.1 x 11.1	8/4	82 Ball FBGA	SDP	AN
NOTE 1 SDP is a single die per package.					
NOTE 2 MO-210 variation AL is 78-ball FBGA is also acceptable for placement.					

5 Supported Speeds

Table 4 — Supported Speeds

Raw Card	Speed	PC5-4400	PC5-4800	PC5-5600	PC5-6400	Notes
E0	DDR5	Y	Y			1, 2
NOTE 1 X reflects speed grades approved from previous ballots.						
NOTE 2 Y denotes speed grades being proposed for this most recent ballot.						

6 Design Deviations

Table 5 — Design Deviations

None.
