

Annex A (informative) Differences between JESD21C, Release 26, and JESD21C, Release 25.

This table briefly describes most of the changes made to this standard, JESD21C, Release 26, compared to its predecessor, JESD21C, Release 25. Some editorial changes are not included.

Section/ Page	Description of Change
4.1.2.L.4	Per JCB-16-036 Added Annex L: Document Release 4; Serial Presence Detect (SPD) for DDR4 Modules.
4.1.2.M.2	Per JCB-16-035 Added Annex M: Document Release 2; Serial Presence Detect (SPD) for LPDDR3 and LPDDR4 Modules.
4.1.6	Editorial Updated section: EE1004 and TSE2004 Device Specifications
4.20.25	Per JCB-16-022 Updated Section, 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.A	Per JCB-16-007 Updated Annex A, R/C A, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.B	Per JCB-16-006 Added Annex B, R/B C, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.C	Per JCB-16-003 Added Annex C, R/C C, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.G	Per JCB-16-005 Added Annex G, R/C G, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.H	Per JCB-16-001 Added Annex H, R/C H, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.26	Per JCB-16-023 Updated Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.C	Per JCB-16-004 Added Annex C, R/C C, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.27.D	Per JCB-16-053 Added Annex D, R/C D, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Load Reduced DIMM Design Specification
4.20.28	Per JCB-16-024 Updated Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.A	Per JCB-16-055 Updated Annex A, R/C A, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification

Annex A (informative) Differences between JESD21C, Release 26, and JESD21C, Release 25.

This table briefly describes most of the changes made to this standard, JESD21C, Release 26, compared to its predecessor, JESD21C, Release 25. Some editorial changes are not included.

Section/ Page	Description of Change
4.20.28.D	Per JCB-16-038 Updated Annex D, R/C D, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.E	Per JCB-16-026 Updated Annex E, R/C E, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.H	Per JCB-16-041 Added Annex H, R/C H, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.J	Per JCB-16-002 Updated Annex J, R/C J, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.29	Per JCB-16-028 Added Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Non-Volatile NAND-Flash DIMM Design Specification
A-1	Updated Annex A (Informative) Differences between Release 26 and Release 25 of JESD21C.

Annex A.1 (informative) Differences between JESD21C, Release 25, and JESD21C, Release 24.

This table briefly describes most of the changes made to this standard, JESD21C, Release 25, compared to its predecessor, JESD21C, Release 24. Some editorial changes are not included.

Section/ Page	Description of Change
3.12.1	Per JCB-14-011 Updated Section 3.12.1, MCP and Discrete eMMC, eMMC, and UFS
4.1.2.L.1	Editorial Added Annex L: Document Release 1; Serial Presence Detect (SPD) for DDR4 Modules.
4.1.2.L.2	Editorial Added Annex L: Document Release 2; Serial Presence Detect (SPD) for DDR4 Modules.
4.1.2.L.3	Per JCB-15-042 Added Annex L: Document Release 3; Serial Presence Detect (SPD) for DDR4 Modules.
4.1.2.M.1	Per JCB-15-043 Added Annex M: Document Release 1; Serial Presence Detect (SPD) for LPDDR3 and LPDDR4 Modules.
4.1.6	Editorial Updated section: EE1004 and TSE2004 Device Specifications
4.20.25	Per JCB-15-033, JCB-15-037 Updated Section, 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.E	Per JCB-15-045 Updated Annex E, R/C E, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.26	Per JCB-15-033, JCB-15-038 Updated Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.A	Per JCB-15-035 Updated Annex A, R/C A, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.B	Per JCB-15-010 Updated Annex B, R/C B, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.D	Per JCB-15-036 Updated Annex D, R/C D, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.E	Per JCB-15-002 Added Annex E, R/C E, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification Per JCB-15-015 Updated Annex E, R/C E, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification

Annex A.1 (informative) Differences between JESD21C, Release 25, and JESD21C, Release 24.

This table briefly describes most of the changes made to this standard, JESD21C, Release 25, compared to its predecessor, JESD21C, Release 24. Some editorial changes are not included.

Section/ Page	Description of Change
4.20.27	Per JCB-15-033 Updated Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Load Reduced DIMM Design Specification
4.20.27.E	Per JCB-15-021 Added Annex E, R/C E, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Load Reduced DIMM Design Specification
4.20.28	Per JCB-15-033, JCB-15-051 Updated Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.A	Per JCB-15-008, JCB-15-018 Added Annex A, R/C A, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.B	Per JCB-15-015 Updated Annex B, R/C B, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.C	Per JCB-15-039 Added Annex C, R/C C, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.D	Per JCB-15-019 Updated Annex D, R/C D, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.E	Per JCB-15-041 Updated Annex E, R/C E, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.F	Per JCB-15-046 Updated Annex F, R/C F, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.G	Per JCB-15-020 Updated Annex G, R/C G, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-2933/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
A-1	Updated Annex A (Informative) Differences between Release 25 and Release 24 of JESD21C.

Annex A.2 (informative) Differences between JESD21C, Release 24, and JESD21C, Release 23.

This table briefly describes most of the changes made to this standard, JESD21C, Release 24, compared to its predecessor, JESD21C, Release 23. Some editorial changes are not included.

Section/ Page	Description of Change
4.1.2.11	Per JCB-14-003 Updated Annex K.
4.1.6	Editorial Updated section: EE1004 and TSE2004 Device Specifications
4.20	Editorial Updated Section 4.20, Dual Inline Memory Modules (DIMMs), to reflect added content.
4.20.18	Per JCB-14-015 Updated Section, 204-Pin DDR3 SDRAM Unbuffered SO-DIMM Design Specification
4.20.24	Per JCB-11-110 Added Section, 240-Pin, 72 bit-wide, PC3(L)-6400/PC3(L)-8500/PC3(L)-10600/PC3(L)-12800/PC3(L)-14900/PC3(L)-17000 DDR3 SDRAM Load Reduced DIMM Design Specification
4.20.24.A	Per JCB-12-023 Added Annex A, R/C A, in 240-Pin, 72 bit-wide, PC3(L)-6400/PC3(L)-8500/PC3(L)-10600/PC3(L)-12800/PC3(L)-14900/PC3(L)-17000 DDR3 SDRAM Load Reduced DIMM Design Specification
4.20.24.C	Per JCB-11-113 Added Annex C, R/C C, in 240-Pin, 72 bit-wide, PC3(L)-6400/PC3(L)-8500/PC3(L)-10600/PC3(L)-12800/PC3(L)-14900/PC3(L)-17000 DDR3 SDRAM Load Reduced DIMM Design Specification
4.20.24.K	Per JCB-11-112 Added Annex K, R/C K, in 240-Pin, 72 bit-wide, PC3(L)-6400/PC3(L)-8500/PC3(L)-10600/PC3(L)-12800/PC3(L)-14900/PC3(L)-17000 DDR3 SDRAM Load Reduced DIMM Design Specification
4.20.25	Per JCB-14-032 Added Section, 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.A	Per JCB-14-006 Added Annex A, R/C A, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.D	Per JCB-14-007 Added Annex D, R/C D, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.E	Per JCB-14-014 Added Annex E, R/C E, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.F	Per JCB-14-013 Added Annex F, R/C F, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification
4.20.25.G	Per JCB-14-044 Added Annex G, R/C G, in 260-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM SO-DIMM Design Specification

Annex A.2 (informative) Differences between JESD21C, Release 24, and JESD21C, Release 23.

This table briefly describes most of the changes made to this standard, JESD21C, Release 24, compared to its predecessor, JESD21C, Release 23. Some editorial changes are not included.

Section/ Page	Description of Change
4.20.26	Per JCB-14-033 Added Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.A	Per JCB-14-039 Added Annex A, R/C A, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.B	Per JCB-13-062 Added Annex B, R/C B, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.26.D	Per JCB-14-002 Added Annex D, R/C D, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Unbuffered DIMM Design Specification
4.20.27	Per JCB-14-034 Added Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Load Reduced DIMM Design Specification
4.20.27.A	Per JCB-14-046 Added Annex A, R/C A, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Load Reduced DIMM Design Specification
4.20.27.B	Per JCB-14-038 Added Annex B, R/C B, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Load Reduced DIMM Design Specification
4.20.28	Per JCB-14-036 Added Section, 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.B	Per JCB-14-024 Added Annex B, R/C B, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.D	Per JCB-14-025 Added Annex D, R/C D, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.E	Per JCB-14-037 Added Annex E, R/C E, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.F	Per JCB-14-026 Added Annex F, R/C F, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
4.20.28.G	Per JCB-14-022 Added Annex G, R/C G, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification

Annex A.2 (informative) Differences between JESD21C, Release 24, and JESD21C, Release 23.

This table briefly describes most of the changes made to this standard, JESD21C, Release 24, compared to its predecessor, JESD21C, Release 23. Some editorial changes are not included.

Section/ Page	Description of Change
4.20.28.J	Per JCB-14-023 Added Annex J, R/C J, in 288-Pin, 1.2 V (VDD), PC4-1600/PC4-1866/PC4-2133/PC4-2400/PC4-2666/PC4-3200 DDR4 SDRAM Registered DIMM Design Specification
A-1	Updated Annex A (Informative) Differences between Release 24 and Release 23 of JESD21C.

Annex A.3 (informative) Differences between JESD21C, Release 23, and JESD21C, Release 22.

This table briefly describes most of the changes made to this standard, JESD21C, Release 23, compared to its predecessor, JESD21C, Release 22. Some editorial changes are not included.

Section/ Page	Description of Change
3.12.1	Per JCB-12-030, JCB-12-032, and JCB-12-033 Added Figures 40 - 43 Per JCB-13-048 and JCB-13-052, Added Figures 44 and 45
4.1.2.12	Per JCB-13-065 Added Annex L. R23A - Editorial update
4.20.18	Per JCB-13-017, JCB-13-021, JCB-13-034, JCB-13-051A, JCB-13-063 Updated Section, 204-Pin DDR3 SDRAM Unbuffered SO-DIMM Design Specification
4.20.21.C	Per JCB-13-012 Updated Annex C, R/C C, in EP3-6400/EP3-8500/EP3-10600/EP3-12800 DDR3 SDRAM 72b-SO-DIMM Design Specification
4.20.21.D	Per JCB-13-033 Updated Annex D, R/C D, in EP3-6400/EP3-8500/EP3-10600/EP3-12800 DDR3 SDRAM 72b-SO-DIMM Design Specification
4.20.22.B	Per JCB-13-035 Updated Annex B, R/C B, in EP3-3200/EP3-4200/EP3-5300/EP3-6400 Unbuffered 32b-SO-DIMM Design Specification
A-1	Updated Annex A (Informative) Differences between Release 23 and Release 22 of JESD21C.

Annex A.4 (informative) Differences between JESD21C, Release 22, and JESD21C, Release 21.

This table briefly describes most of the changes made to this standard, JESD21C, Release 22, compared to its predecessor, JESD21C, Release 21. Some editorial changes are not included.

Section/ Page	Description of Change
3.12.1	Per JCB-11-051 Updated Section, Multi-Chip Packages (MCP), adding Figures 29 - 34 Editorial: renamed the section to "MCP and Discrete eMMC, e2MMC, and UFS" Per JCB-10-069, JCB-10-070, JCB-10-071, and JCB-10-089 Added Figures 35 - 39 Per JCB-12-031 Updated Figures 22 and 23 Per JCB-12-034 Updated Figure 20
3.12.2	Per JCB-11-050 Updated Section, Package-on-Package (PoP) and Internal Stacked Module (ISM)
4.1.2.11	Per JCB-12-004 Updated Annex K.
4.1.6	Per JCB-12-010 Added new section: EE1004 and TSE2004 Device Specifications
4.20.13	Per JCB-11-049 Updated Section, 240-Pin PC2-3200/4200/5300/6400 DDR2 SDRAM Unbuffered DIMM Reference Design Standard
4.20.18	Per JCB-12-013, JCB-12-015, JCB-12-049 Updated Section, 204-Pin DDR3 SDRAM Unbuffered SO-DIMM Design Specification
4.20.19	Per JCB-11-108, JCB-12-048 Updated section 240-Pin PC3-6400/PC3-8500/PC3-10600/PC3-12800/PC3-14900/PC3-17000 DDR3 SDRAM Unbuffered DIMM Design Specification
4.20.20	Per JCB-11-067 Updated section PC3-6400/PC3-8500/PC3-10600/PC3-12800/PC3-14900/PC3-17000 DDR3 SDRAM Registered DIMM Design Specification
4.20.20.L	Per JCB-12-018 Updated Section, Annex L, R/C L in PC3-6400/PC3-8500/PC3-10600/PC3-12800 DDR3 SDRAM Registered DIMM Design Specification
4.20.20.N	Per JCB-12-019 Updated Section, Annex N, R/C N in PC3-6400/PC3-8500/PC3-10600/PC3-12800 DDR3 SDRAM Registered DIMM Design Specification
4.20.20.U	Per JCB-12-020 Added Section, Annex U, R/C U in PC3-6400/PC3-8500/PC3-10600/PC3-12800 DDR3 SDRAM Registered DIMM Design Specification
4.20.21	Per JCB-12-014 Updated Section EP3-6400/EP3-8500/EP3-10600/EP3-12800 DDR3 SDRAM 72b-SO-DIMM Design Specification