

# AMD Ryzen™ Threadripper™ Processors

| DDR4 3600 Qualified Vendors List (QVL) |                              |                 |       |            |                   |             |         |                                |        |        |
|--|------------------------------|-----------------|-------|------------|-------------------|-------------|---------|--------------------------------|--------|--------|
| Vendors                                | Part No.                     | Size            | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                              |                 |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| GALAXY                                 | HOF4CALCS3600K17LD162C       | 16G(8G*2)       | SS    | N/A        | Heat-Sink Package | 17-18-18-38 | 1.35V   | •                              |        |        |
| DDR4 3466 Qualified Vendors List (QVL) |                              |                 |       |            |                   |             |         |                                |        |        |
| Vendors                                | Part No.                     | Size            | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                              |                 |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| G.SKILL                                | F4-3466C16D-16GFX            | 32GB(8GB*2)     | SS    |            |                   | 16-16-16-36 | 1.35V   | •                              | •      |        |
| CORSAIR                                | CMR16GX4M2C3466C16           | 16GB ( 2x 8GB ) | SS    | N/A        | Heat-Sink Package | 16-18-18-36 | 1.35V   | •                              |        |        |
| CORSAIR                                | CMK32GX4MB3466C16 (Ver 4.31) | 32GB(8GB*4)     | SS    |            |                   | 16-18-18-36 | 1.35V   | •                              | •      |        |
| DDR4 3400 Qualified Vendors List (QVL) |                              |                 |       |            |                   |             |         |                                |        |        |
| Vendors                                | Part No.                     | Size            | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                              |                 |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| PATRIOT                                | PV48G340C6K                  | 8GB ( 4GB*2)    | SS    | N/A        | Heat-Sink Package |             | 1.35V   | •                              |        |        |
| CORSAIR                                | CMU32GX4M4C3400C16R(Ver5.20) | 32GB(4*8GB)     | SS    | N/A        | Heat-Sink Package | 16-18-18-36 | 1.35V   | •                              |        |        |
| DDR4 3333 Qualified Vendors List (QVL) |                              |                 |       |            |                   |             |         |                                |        |        |
| Vendors                                | Part No.                     | Size            | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                              |                 |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| CORSAIR                                | CMR32GX4M4C3333C16(Ver4.31)  | 32GB ( 4x 8GB ) | SS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.35V   | •                              | •      |        |
| DDR4 3300 Qualified Vendors List (QVL) |                              |                 |       |            |                   |             |         |                                |        |        |
| Vendors                                | Part No.                     | Size            | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                              |                 |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA                                  | AX4U330038G16-B              | 32GB(8GB*4)     | SS    |            |                   | 16-16-16-36 | 1.35V   | •                              | •      |        |
| G.SKILL                                | F4-3300C16Q-16GRKD           | 16GB ( 4GB*4)   | SS    | N/A        | Heat-Sink Package | 16-16-16-36 | 1.35V   | •                              | •      |        |
| DDR4 3200 Qualified Vendors List (QVL) |                              |                 |       |            |                   |             |         |                                |        |        |
| Vendors                                | Part No.                     | Size            | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                              |                 |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA                                  | AX4U320038G16-B              | 32GB(8GB*4)     | SS    |            |                   | 16-16-16-36 | 1.35V   | •                              | •      |        |
| CORASIR                                | CMD16GX4M2B3200C16(Ver3.21)  | 16G             | DS    | N/A        | Heat-Sink Package | 16-18-18-36 | 1.35V   | •                              |        |        |
| CORSAIR                                | CMK32GX4M4B3200C16 ver 4.31  | 32GB(8GB*4)     | SS    |            |                   | 16-18-18-36 | 1.35V   | •                              | •      |        |
| G.SKILL                                | F4-3200C14Q-32GFX            | 32GB(8GB*4)     | SS    |            |                   | 16-16-16-36 | 1.35V   | •                              | •      |        |
| G.SKILL                                | F4-3200C16Q-32GFXR           | 32GB(8GB*4)     | SS    |            |                   | 16-16-16-36 | 1.35V   | •                              | •      |        |
| G.SKILL                                | F4-3200C16Q-32GTZR           | 32GB(8GB*4)     | SS    |            |                   | 16-18-18-38 | 1.35V   | •                              | •      |        |
| G.SKILL                                | F4-3200C14Q-32GTZR           | 32GB(8GB*4)     | SS    |            |                   | 14-14-14-34 | 1.35V   | •                              | •      |        |
| G.SKILL                                | F4-3200C16D-16GTZR           | 8GB*2           | SS    | N/A        | Heat-Sink Package | 18-18-18-38 | 1.35V   | •                              | •      |        |
| HyperX                                 | HX432C16PB3K4/32             | 32GB(8GB*4)     | SS    | N/A        | Heat-Sink Package | 16-18-18-36 | 1.35V   | •                              | •      |        |

|           |                      |               |    |     |                   |             |       |   |   |  |
|-----------|----------------------|---------------|----|-----|-------------------|-------------|-------|---|---|--|
| PANRAM    | PUD43200C164G4NJW    | 16GB ( 4GB*4) | SS | N/A | Heat-Sink Package | 16-18-18-39 | 1.35V | • |   |  |
| PATRIOT   | PV48G320C6K          | 8GB ( 4GB*2)  | SS | N/A | Heat-Sink Package |             | 1.35V | • | • |  |
| TEAMGROUP | TF1D416G3200HC16CD01 | 16GB(8GB*2)   | SS |     |                   | 16-18-18-38 | 1.35V | • | • |  |
| TEAMGROUP | TF2D416G3200HC16CD01 | 16GB(8GB*2)   | SS |     |                   | 16-18-18-38 | 1.35V | • | • |  |
| TIGO      | TMKU8GF58-3200X      | 8GB*2         | DS | N/A | Heat-Sink Package | 16-18-18-38 | 1.35V | • |   |  |

### DDR4 3000 Qualified Vendors List (QVL)

| Vendors | Part No.                            | Size             | SS/DS | Chip Brand | Chip NO.          | Timing         | Voltage | DIMM socket support (Optional) |        |        |
|---------|-------------------------------------|------------------|-------|------------|-------------------|----------------|---------|--------------------------------|--------|--------|
|         |                                     |                  |       |            |                   |                |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA   | AX4U3000316G16-BGZ                  | 16G              | DS    | N/A        | Heat-Sink Package | 16-18-18       | 1.35V   | •                              | •      |        |
| ADATA   | AX4U3000316G16-BGZ(XMP)             | 16GB             | DS    | -          | -                 | 16-18-18-36    | 1.35    | •                              | •      |        |
| ADATA   | AX4U300038G16-DBZ(XMP)              | 8GB              | SS    | -          | -                 | 16-18-18-36    | 1.35    | •                              | •      |        |
| ADATA   | AX4U3000W4G16-BWZ(XMP)              | 4GB              | SS    | -          | -                 | 16-16-16-36    | 1.35    | •                              | •      |        |
| Apacer  | AHU08GGB30CDG6H<br>(EK.16GAZ.GEAK2) | 16GB (2x 8GB )   | SS    | Apacer     | -                 | 16-16-16-36    | 1.35    | •                              | •      |        |
| Apacer  | AHU08GGB30CDU5H<br>(EK.16GAZ.GEBK2) | 16GB (2x 8GB )   | SS    | Apacer     | -                 | 16-16-16-36    | 1.35    | •                              | •      |        |
| AVEXIR  | AVD4UZ130001604G-4COB               | 16GB ( 4GB*4)    | SS    | N/A        | Heat-Sink Package | 15-15-15-36-51 | 1.35V   | •                              | •      |        |
| AVEXIR  | AVD4UZ130001608G-4COB               | 32GB ( 8GB*4 )   | DS    | N/A        | Heat-Sink Package | 15-15-15-36-51 | 1.35V   | •                              | •      |        |
| CORSAIR | CMD32GX4M2B3000C15(Ver4.31)         | 32GB ( 16GB*2 )  | DS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              | •      |        |
| CORSAIR | CMK16GX4M2B3000C15(Ver 4.42)        | 16GB (8GB*2 )    | DS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              |        |        |
| CORSAIR | CMD16GX4M4B3000C15(Ver4.24)         | 4G               | SS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              | •      |        |
| CORSAIR | CMU16GX4M2C3000C159(Ver 4.31)       | 8G               | SS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              |        |        |
| CORSAIR | CMU32GX4M4C3000C15(Ver 5.3)         | 32GB(8GB*4)      | DS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              | •      |        |
| CORSAIR | CMD16GX4M2B3000C15(Ver5.30)         | 16GB ( 2x 8GB )  | SS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              |        |        |
| CORSAIR | CMD32GX4M4C3000C15(Ver5.30)         | 32GB ( 4x 8GB )  | SS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              | •      |        |
| CORSAIR | CMR16GX4M2C3000C15(Ver4.31)         | 16GB ( 2x 8GB )  | SS    | N/A        | Heat-Sink Package | 15-17-17-35    | 1.35V   | •                              |        |        |
| CORSAIR | CMD16GX4M2B3000C15(Ver5.30)(XMP)    | 16GB ( 2x 8GB )  | SS    | -          | -                 | 15-17-17-35    | 1.35    | •                              |        |        |
| CORSAIR | CMD16GX4M4B3000C15(Ver5.29)(XMP)    | 16GB ( 4x 4GB )  | DS    | -          | -                 | 15-17-17-35    | 1.35    | •                              |        |        |
| CORSAIR | CMD32GX4M2B3000C15(Ver5.39)(XMP)    | 32GB ( 2x 16GB ) | DS    | -          | -                 | 15-17-17-35    | 1.35    | •                              |        |        |
| CORSAIR | CMD32GX4M4C3000C15(Ver3.32)(XMP)    | 32GB ( 4x 8GB )  | DS    | -          | -                 | 15-17-17-35    | 1.35    | •                              | •      |        |
| CORSAIR | CMK16GX4M2B3000C15(Ver3.32)(XMP)    | 16GB ( 2x 8GB )  | SS    | -          | -                 | 15-17-17-35    | 1.35    | •                              |        |        |
| CORSAIR | CMK16GX4M2B3000C15(Ver5.30)(XMP)    | 16GB ( 2x 8GB )  | SS    | -          | -                 | 15-17-17-35    | 1.35    | •                              |        |        |
| CORSAIR | CMK16GX4M4B3000C15(Ver5.29)(XMP)    | 16GB ( 4x 4GB )  | SS    | -          | -                 | 15-17-17-35    | 1.35    | •                              | •      |        |
| CORSAIR | CMK32GX4M2B3000C15(Ver4.31)(XMP)    | 32GB ( 2x 16GB ) | DS    | -          | -                 | 15-17-17-35    | 1.35    | •                              |        |        |
| CORSAIR | CMK32GX4M4B3000C15(Ver4.24)(XMP)    | 32GB ( 4x 8GB )  | DS    | -          | -                 | 15-17-17-35    | 1.35    | •                              | •      |        |
| CORSAIR | CMK32GX4M4B3000C15(Ver5.29)(XMP)    | 32GB ( 4x 8GB )  | DS    | -          | -                 | 15-17-17-35    | 1.35    | •                              | •      |        |

|          |                                  |                   |    |      |                   |                |       |   |   |  |
|----------|----------------------------------|-------------------|----|------|-------------------|----------------|-------|---|---|--|
| CORSAIR  | CMK64GX4M4B3000C15(Ver4.31)(XMP) | 64GB ( 4x 16GB )  | DS | -    | -                 | 15-17-17-35    | 1.35  | • | • |  |
| CORSAIR  | CMR16GX4M2C3000C15(Ver5.30)(XMP) | 16GB ( 2x 8GB )   | SS | -    | -                 | 15-17-17-35    | 1.35  | • |   |  |
| CORSAIR  | CMR32GX4M4C3000C15(Ver3.32)(XMP) | 32GB ( 4x 8GB )   | SS | -    | -                 | 15-17-17-35    | 1.35  | • | • |  |
| CORSAIR  | CMU16GX4M2C3000C15(Ver3.21)(XMP) | 16GB ( 2x 8GB )   | DS | -    | -                 | 15-17-17-35    | 1.35  | • |   |  |
| CRUCIAL  | BLT8G4D30AETA.K16FE              | 8GB               | DS | N/A  | Heat-Sink Package | 15-16-16-35    | 1.35V | • |   |  |
| CRUCIAL  | BLE4G4D30AEEA.K8FE(XMP)          | 4GB               | SS | -    | -                 | 15-16-16-35    | 1.35  | • | • |  |
| CRUCIAL  | BLE8G4D30AEEA.K16FE(XMP)         | 8GB               | DS | -    | -                 | 15-16-16-35    | 1.35  | • | • |  |
| CRUCIAL  | BLT4G4D30AETA.K8FE(XMP)          | 4GB               | SS | -    | -                 | 15-16-16-35    | 1.35  | • | • |  |
| CRUCIAL  | BLT8G4D30AETA.K16FE(XMP)         | 8GB               | DS | -    | -                 | 15-16-16-35    | 1.35  | • | • |  |
| G.SKILL  | F4-3000C15D-32GVR                | 32GB ( 16GB*2 )   | DS | N/A  | Heat-Sink Package | 15-15-15-35    | 1.35V | • |   |  |
| G.SKILL  | F4-3000C15Q-32GRK                | 8G*4              | DS | N/A  | Heat-Sink Package | 15-15-15-35    | 1.35V | • | • |  |
| G.SKILL  | F4-3000C15S-16GVR                | 16GB              | DS | N/A  | Heat-Sink Package | 15-15-15-35    | 1.35V | • |   |  |
| G.SKILL  | F4-3000C14Q2-128GVK(XMP)         | 128GB ( 8x 16GB ) | DS | -    | -                 | 14-14-14-34    | 1.35  | • | • |  |
| G.SKILL  | F4-3000C14Q2-128GVRD             | 128GB ( 8x 16GB ) | DS |      |                   | 14-14-14-34    | 1.35  | • | • |  |
| G.SKILL  | F4-3000C14Q2-128GVKD             | 128GB ( 8x 16GB ) | DS |      |                   | 14-14-14-34    | 1.35  | • | • |  |
| G.SKILL  | F4-3000C15D-8GTZB(XMP)           | 8GB ( 2x 4GB )    | SS | -    | -                 | 15-16-16-35    | 1.35  | • |   |  |
| G.SKILL  | F4-3000C15D-8GTZB                | 8GB ( 2x 4GB )    | SS |      |                   | 15-16-16-35    | 1.35  | • |   |  |
| G.SKILL  | F4-3000C15D-8GVRB                | 8GB ( 2x 4GB )    | SS |      |                   | 15-16-16-35    | 1.35  | • |   |  |
| G.SKILL  | F4-3000C15Q-16GRR(XMP)           | 16GB ( 4x 4GB )   | SS | -    | -                 | 15-15-15-35    | 1.35  | • | • |  |
| GALAXY   | HOF DDR4-3000                    | 16GB ( 2x 8GB )   |    | N/A  | Heat-Sink Package | 16-18-18-38    | 1.35V | • |   |  |
| GEIL     | GFR416GB3000C15ADC               | 8G                | SS | N/A  | Heat-Sink Package | 15-17-17-35    | 1.35V | • |   |  |
| GeIL     | GLR416GB3000C15ADC               | 8GB               | SS | N/A  | Heat-Sink Package | 16-18-18-38    | 1.35V | • | • |  |
| GeIL     | GLR416GB3000C15ADC(XMP)          | 8GB               | SS | -    | -                 | 15-17-17-35    | 1.35  | • | • |  |
| GeIL     | GWW416GB3000C15DC(XMP)           | 16GB ( 2x 8GB )   | DS | GeIL | CG4L512G88BA093L  | 15-17-17-35    | 1.35  | • |   |  |
| Hyper X  | HX430C15PB2K4/16(XMP)            | 16GB ( 4x 4GB )   | SS | -    | -                 | 15-16-16-39    | 1.35  | • | • |  |
| Hyper X  | HX430C15PB3K2/16(XMP)            | 16GB ( 2x 8GB )   | SS | -    | -                 | 15-17-17-36    | 1.35  | • |   |  |
| Hyper X  | HX430C15PB3K2/8(XMP)             | 8GB ( 2x 4GB )    | SS | -    | -                 | 15-17-17-36    | 1.35  | • |   |  |
| Hyper X  | HX430C15PB3K4/16(XMP)            | 16GB ( 4x 4GB )   | SS | -    | -                 | 15-17-17-36    | 1.35  | • | • |  |
| Hyper X  | HX430C15PB3K4/32(XMP)            | 32GB ( 4x 8GB )   | SS | -    | -                 | 15-17-17-36    | 1.35  | • | • |  |
| Hyper X  | HX430C15PB3K4/64(XMP)            | 64GB ( 4x 16GB )  | DS | -    | -                 | 15-17-17-36    | 1.35  |   | • |  |
| Hyper X  | HX430C15SB2/4(XMP)               | 4GB               | SS | -    | -                 | 15-17-17-39    | 1.35  | • |   |  |
| Hyper X  | HX430C15SB2K2/8(XMP)             | 8GB ( 2x 4GB )    | SS | -    | -                 | 15-17-17-39    | 1.35  | • |   |  |
| Hyper X  | HX430C15SB2K4/16(XMP)            | 16GB ( 4x 4GB )   | SS | -    | -                 | 15-17-17-39    | 1.35  | • |   |  |
| Hyper X  | HX430C15SBK2/16(XMP)             | 16GB ( 2x 8GB )   | DS | -    | -                 | 15-16-16-39    | 1.35  | • |   |  |
| HyperX   | HX430C15PB3K4/32                 | 32GB ( 4x 8GB )   | SS | N/A  | Heat-Sink Package | 15-17-17-36    | 1.35V | • | • |  |
| KINGSTON | HX430C15PBK4/32                  | 32GB ( 8GB*4 )    | DS | N/A  | Heat-Sink Package | 15-15-15-36-50 | 1.35V | • |   |  |

|           |                              |                 |    |      |                   |                |       |   |   |  |
|-----------|------------------------------|-----------------|----|------|-------------------|----------------|-------|---|---|--|
| KINGSTON  | HX430C15SB2K4/16             | 16GB ( 4GB*4)   | SS | N/A  | Heat-Sink Package | 15-15-15-36-50 | 1.35V | • |   |  |
| KLEVV     | IM44GU48A30-GIIHMC           | 16GB ( 4GB*4)   | SS | N/A  | Heat-Sink Package | 16-18-18       | 1.35V | • | • |  |
| Klevv     | IM4AGU88A30-FGGHMZ           | 16GB            | DS | N/A  | Heat-Sink Package | 15-16-16       | 1.35V | • | • |  |
| Klevv     | IM48GU88A30-FGGHMZ           | 8GB             | SS | N/A  | Heat-Sink Package | 15-16-16       | 1.35V | • | • |  |
| Klevv     | IM44GU48A30-FGGHAZ           | 4GB             | SS | N/A  | Heat-Sink Package | 15-16-16       | 1.35V | • | • |  |
| Klevv     | IM48GU88A30-FGGHMB           | 8GB             | SS | N/A  | Heat-Sink Package | 15-16-16       | 1.35V | • | • |  |
| Klevv     | IM44GU48A30-FGGHAB           | 4GB             | SS | N/A  | Heat-Sink Package | 15-16-16       | 1.35V | • | • |  |
| Klevv     | IM4AGU88A30-FGGHMB           | 16GB            | DS | N/A  | Heat-Sink Package | 15-16-16       | 1.35V | • | • |  |
| Klevv     | IM44GU48A30-FFFHAB(XMP)      | 4GB             | SS | -    | -                 | 15-15-16-36    | 1.2   | • | • |  |
| Klevv     | IM48GU48A30-GIIHMC(XMP)      | 8GB             | DS | -    | -                 | 16-18-18-36    | 1.35  | • | • |  |
| Klevv     | IM48GU88A30-FFFHMB(XMP)      | 8GB             | SS | -    | -                 | 15-15-16-36    | 1.2   | • | • |  |
| Klevv     | IM4AGU88A30-FGGHMZ(XMP)      | 16GB            | DS | -    | -                 | 15-15-16-36    | 1.35  | • | • |  |
| Klevv     | KM4Z16X1A-3000-15-16-16-36-0 | 16GB            | DS | -    | -                 | 15-15-16-36    | 1.35  | • | • |  |
| Klevv     | IM4AGU88A30-FFFHMB(XMP)      | 16GB            | DS | -    | -                 | 15-15-16-36    | 1.2   | • | • |  |
| NEO FORZA | NFMUD480E8-3000DH2A          | 8GB             | SS | N/A  | Heat-Sink Package | 15-17-17-35    | 1.35V | • | • |  |
| NEO FORZA | NMUD480E82-3000DB30          | 8GB             | SS | N/A  | Heat-Sink Package | 15-17-17-35    | 1.35V | • | • |  |
| PANRAM    | PUD43000C154G4NJW            | 16GB ( 4GB*4)   | SS | N/A  | Heat-Sink Package | 15-17-17-35    | 1.35V | • | • |  |
| PATRIOT   | PV432G300C6QK                | 32GB ( 4x 8GB ) | SS | N/A  | Heat-Sink Package | 16-16-16-36    | 1.35V | • | • |  |
| PATRIOT   | PVE416G300C6KBL              | 16GB ( 2x 8GB ) | SS | N/A  | Heat-Sink Package | 16-16-16-36    | 1.35V | • |   |  |
| PATRIOT   | PVE48G300C6KRD               | 8GB ( 2x 4GB )  | SS | N/A  | Heat-Sink Package | 16-16-16-36    | 1.35V | • | • |  |
| PATRIOT   | PV416G300C6K(XMP)            | 16GB ( 2x 8GB ) | SS | -    | -                 | 16-16-16-36    | -     | • |   |  |
| TEAM      | TFWD416G3000C16CBK           | 16G             | DS | TEAM | T4D10248HT-30     | 16-18-18-38    | 1.35V | • |   |  |
| TEAM      | TFRD48G3000C16CBK            | 8G              | DS | N/A  | SEC625            | 16-18-18-38    | 1.35V | • | • |  |
| TEAM      | TCD44G3000C16CBK             | 4G              | SS | TEAM | T4D5128HT-30      | 16-18-18-38    | 1.35V | • | • |  |
| TEAM      | TDRGD48G3000HC16CBK          | 8GB             | DS | N/A  | Heat-Sink Package | 16-18-18-38    | 1.35V | • | • |  |
| TEAM      | TCD44G3000C16CBK(XMP)        | 4GB             | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • | • |  |
| TEAM      | TLRED416G3000HC16CQC01       | 16GB(4GB*4)     | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • | • |  |
| TEAM      | TLGD416G3000HC16CQC01        | 16GB(4GB*4)     | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • | • |  |
| TEAM      | TDRED416G3000HC16CQC01       | 16GB(4GB*4)     | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • | • |  |
| TEAM      | TDGED416G3000HC16CQC01       | 16GB(4GB*4)     | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • | • |  |
| TEAM      | TLRED48G3000HC16CDC01        | 8GB(4GB*2)      | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • |   |  |
| TEAM      | TLGD48G3000HC16CDC01         | 8GB(4GB*2)      | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • |   |  |
| TEAM      | TDRED48G3000HC16CDC01        | 8GB(4GB*2)      | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • |   |  |
| TEAM      | TDGED48G3000HC16CDC01        | 8GB(4GB*2)      | SS | Team | T4D5128HT-30      | 16-18-18-38    | 1.35  | • |   |  |
| TEAM      | TFRD48G3000C16CBK(XMP)       | 8GB             | DS | -    | K4A4G085WSBCPB    | 16-18-18-38    | 1.35  | • | • |  |
| TEAM      | TLRED432G3000HC16CQC01       | 32GB(8GB*4)     | DS | -    | K4A4G085WSBCPB    | 16-18-18-38    | 1.35  | • | • |  |

|      |                         |              |    |      |                |             |      |   |   |  |
|------|-------------------------|--------------|----|------|----------------|-------------|------|---|---|--|
| TEAM | TLGD432G3000HC16CQC01   | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDRED432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDGED432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDPRD432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDPGD432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | THRD432G3000HC16CQC01   | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | THWD432G3000HC16CQC01   | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | THBD432G3000HC16CQC01   | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDTRD432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDTWD432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDTBD432G3000HC16CQC01  | 32GB(8GB*4)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TLRED416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TLGD416G3000HC16CDC01   | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDRED416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDGED416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDPRD416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDPGD416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | THRD416G3000HC16CDC01   | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | THWD416G3000HC16CDC01   | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | THBD416G3000HC16CDC01   | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDTRD416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDTWD416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDTBD416G3000HC16CDC01  | 16GB(8GB*2)  | DS | -    | K4A4G085WSBCPB | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TFWD416G3000C16CBK(XMP) | 16GB         | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDPRD464G3000HC16CQC01  | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDPGD464G3000HC16CQC01  | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | THRD464G3000HC16CQC01   | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | THWD464G3000HC16CQC01   | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | THBD464G3000HC16CQC01   | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDTRD464G3000HC16CQC01  | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDTWD464G3000HC16CQC01  | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDTBD464G3000HC16CQC01  | 64GB(16GB*4) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● | ● |  |
| TEAM | TDPRD432G3000HC16CDC01  | 32GB(16GB*2) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | TDPGD432G3000HC16CDC01  | 32GB(16GB*2) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | THRD432G3000HC16CDC01   | 32GB(16GB*2) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● |   |  |
| TEAM | THWD432G3000HC16CDC01   | 32GB(16GB*2) | DS | Team | T4D10248HT-30  | 16-18-18-38 | 1.35 | ● |   |  |

| TEAM  | THBD432G3000HC16CDC01               | 32GB(16GB*2)   | DS    | Team       | T4D10248HT-30     | 16-18-18-38    | 1.35    | •                              |        |        |
|---|-------------------------------------|----------------|-------|------------|-------------------|----------------|---------|--------------------------------|--------|--------|
| TEAM  | TDTRD432G3000HC16CDC01              | 32GB(16GB*2)   | DS    | Team       | T4D10248HT-30     | 16-18-18-38    | 1.35    | •                              |        |        |
| TEAM  | TDTWD432G3000HC16CDC01              | 32GB(16GB*2)   | DS    | Team       | T4D10248HT-30     | 16-18-18-38    | 1.35    | •                              |        |        |
| TEAM  | TDTBD432G3000HC16CDC01              | 32GB(16GB*2)   | DS    | Team       | T4D10248HT-30     | 16-18-18-38    | 1.35    | •                              |        |        |
| V-corlor                                      | TL48G30S816RGB(XMP)                 | 8GB            | SS    | -          | -                 | 16-18-18-38    | 1.35    | •                              | •      |        |
| <b>DDR4 2800 Qualified Vendors List (QVL)</b> |                                     |                |       |            |                   |                |         |                                |        |        |
| Vendors                                       | Part No.                            | Size           | SS/DS | Chip Brand | Chip NO.          | Timing         | Voltage | DIMM socket support (Optional) |        |        |
|   |                                     |                |       |            |                   |                |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA   | Digital Storm                       | 8G             | DS    | SK HYNIX   | HMA54G8NAFR       |                |         | •                              |        |        |
| ADATA   | AX4U280038G17-SBF                   | 8GB*8          | SS    | N/A        | Heat-Sink Package | 18-17-17-36    | 1.2V    | •                              | •      |        |
| ADATA   | AX4U2800316G16-SBF                  | 16GB           | DS    | N/A        | Heat-Sink Package | 17-16-16-36    | 1.2V    | •                              |        |        |
| ADATA   | AX4U2800W8G17-BRD                   | 8GB            | DS    | N/A        | Heat-Sink Package | 17-17-17-36    | 1.2V    | •                              | •      |        |
| ADATA   | AX4U2800W4G17-BRZ                   | 8GB(2*4GB)     | SS    | N/A        | Heat-Sink Package | 17-17-17-36    | 1.2V    | •                              |        |        |
| ADATA   | AX4U280038G17-BWZ                   | 8G             | SS    | N/A        | Heat-Sink Package | 17-17-17-36    | 1.2V    | •                              |        |        |
| ADATA   | AX4U2800316G16(XMP)                 | 16GB           | DS    | -          | -                 | 16-16-16-36    | 1.2     | •                              | •      |        |
| ADATA   | AX4U2800316G16-SBF(XMP)             | 16GB           | DS    | -          | -                 | 16-16-16-36    | 1.2     | •                              | •      |        |
| ADATA   | AX4U280038G17-SBF(XMP)              | 8GB            | SS    | -          | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| ADATA   | AX4U2800W4G17-BRZ(XMP)              | 4GB            | SS    | -          | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| ADATA   | AX4U2800W8G15(XMP)                  | 8GB            | DS    | -          | -                 | 15-16-16-35    | 1.25    | •                              | •      |        |
| ADATA   | AX4U2800W8G17-BRD(XMP)              | 8GB            | DS    | -          | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| ADATA   | AX4U2800W8G17-BRZ(XMP)              | 8GB            | DS    | -          | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| Apacer  | 78.BAGM8.AF20B(XMP)                 | 16GB (4x 4GB ) | SS    | -          | -                 | 17-17-17-36    | -       | •                              | •      |        |
| Apacer  | 78.CAGM8.AF30B(XMP)                 | 32GB (4x 8GB ) | DS    | -          | -                 | 17-17-17-36    | -       | •                              | •      |        |
| Apacer  | AHU08GGB28CET6H<br>(EK.16GAW.KFAK2) | 8GB            | DS    | Apacer     | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| Apacer  | AHU08GGB28CEU6H<br>(EK.16GAW.GFAK2) | 16GB (2x 8GB ) | SS    | Apacer     | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| Apacer  | AHU08GGB28CEU5H<br>(EK.16GAW.GFBK2) | 16GB (2x 8GB ) | SS    | Apacer     | -                 | 17-17-17-36    | 1.2     | •                              | •      |        |
| AVEXIR  | AVD4UZ128001604G-4COB               | 16GB ( 4GB*4)  | SS    | N/A        | Heat-Sink Package | 15-15-15-36-51 | 1.2V    | •                              | •      |        |
| AVEXIR  | AVD4UZ128001608G-4COB               | 32GB ( 8GB*4 ) | DS    | N/A        | Heat-Sink Package | 15-15-15-36-51 | 1.2V    | •                              | •      |        |
| AVEXIR  | AVD4UZ128001504G-4BZ1RR             | 4G*4           | SS    | N/A        | Heat-Sink Package |                | 1.35V   | •                              | •      |        |
| AVEXIR  | AVD4UZ128001508G-4BZ1RR             | 8G*4           | DS    | N/A        | Heat-Sink Package |                | 1.35V   | •                              | •      |        |
| CORSAIR                                       | CMK16GX4M4A2800C16                  | 16GB ( 4GB*4)  | SS    | N/A        | Heat-Sink Package | 16-18-18-36    | 1.2V    | •                              | •      |        |
| CORSAIR                                       | CMK32GX4M4A2800C16                  | 32GB ( 8GB*4 ) | DS    | N/A        | Heat-Sink Package | 16-18-18-36    | 1.2V    | •                              |        |        |
| CORSAIR                                       | CMD16GX4M4A2800C16                  | 16GB(4*4GB)    | SS    | N/A        | Heat-Sink Package | 16-18-18-36    | 1.2V    | •                              | •      |        |
| CORSAIR                                       | CMK64GX4M8B2800C14                  | 64GB(8*8GB)    | DS    | N/A        | Heat-Sink Package | 14-16-16-36    | 1.35V   |                                |        | •      |

|           |                                  |                  |    |     |                   |                  |       |   |   |   |
|-----------|----------------------------------|------------------|----|-----|-------------------|------------------|-------|---|---|---|
| CORSAIR   | CMD16GX4M4A2800C16(Ver5.29)(XMP) | 16GB ( 4x 4GB )  | SS | -   | -                 | 16-18-18-36      | 1.2   | • | • |   |
| CORSAIR   | CMD32GX4M4A2800C15(Ver5.29)(XMP) | 32GB ( 4x 8GB )  | DS | -   | -                 | 15-17-17-36      | 1.2   | • | • |   |
| CORSAIR   | CMD32GX4M4A2800C16(Ver5.29)(XMP) | 32GB ( 4x 8GB )  | DS | -   | -                 | 18-18-18-36      | 1.2   | • | • |   |
| CORSAIR   | CMK16GX4M4A2800C16(Ver5.29)(XMP) | 16GB ( 4x 4GB )  | SS | -   | -                 | 16-18-18-36      | 1.2   | • | • |   |
| CORSAIR   | CMK64GX4M8B2800C14(Ver4.24)(XMP) | 64GB ( 8x 8GB )  | DS | -   | -                 | 14-16-16-36      | 1.35  | • | • | • |
| FORZA     | NFMUD416E8-2800EH2A              | 16GB             | DS | N/A | Heat-Sink Package | 17-17-17-36      | 1.2V  | • | • |   |
| FORZA     | NFMUD480E8-2800DH2A              | 8G               | SS | N/A | Heat-Sink Package | 17-17-17-36      | 1.2V  | • |   |   |
| G.SKILL   | F4-2800C16D-16GRR                | 8G*2             | SS | N/A | Heat-Sink Package |                  | 1.2V  | • |   |   |
| G.SKILL   | F4-2800C14Q-64GVK                | 16G*4            | DS | N/A | Heat-Sink Package | 14-14-14-35      | 1.35V | • |   |   |
| G.SKILL   | F4-2800C16Q-32GVR                | 8G*4             | SS | N/A | Heat-Sink Package | 16-16-16-36      | 1.20V | • | • |   |
| G.SKILL   | F4-2800C14Q-64GVK(XMP)           | 64GB ( 4x 16GB ) | DS | -   | -                 | 14-14-14-35      | 1.35  | • |   |   |
| G.SKILL   | F4-2800C15Q2-64GRK(XMP)          | 64GB ( 8x 8GB )  | DS | -   | -                 | 15-16-16-35      | 1.25  | • | • |   |
| G.SKILL   | F4-2800C15Q2-64GRK(XMP)          | 64GB ( 8x 8GB )  | DS | -   | -                 | 15-16-16-35      | 1.25  | • |   |   |
| G.SKILL   | F4-2800C16Q-16GRR(XMP)           | 16GB ( 4x 4GB )  | SS | -   | -                 | 16-16-16-36      | 1.2   | • | • |   |
| G.SKILL   | F4-2800C16Q-32GRR(XMP)           | 32GB ( 4x 8GB )  | DS | -   | -                 | 16-16-16-36      | 1.2   | • |   |   |
| G.SKILL   | F4-2800C16Q-32GVR                | 32GB ( 4x 8GB )  | DS |     |                   | 16-16-16-36      | 1.2   | • | • |   |
| G.SKILL   | F4-2800C16Q-32GVB                | 32GB ( 4x 8GB )  | DS |     |                   | 16-16-16-36      | 1.2   | • | • |   |
| G.SKILL   | F4-2800C16Q-32GVK                | 32GB ( 4x 8GB )  | DS |     |                   | 16-16-16-36      | 1.2   | • | • |   |
| G.SKILL   | F4-2800C16Q-32GVG                | 32GB ( 4x 8GB )  | DS |     |                   | 16-16-16-36      | 1.2   | • | • |   |
| G.SKILL   | F4-2800C16Q-32GVS                | 32GB ( 4x 8GB )  | DS |     |                   | 16-16-16-36      | 1.2   | • | • |   |
| GeIL      | GPR416GB2800C16QC(XMP)           | 16GB ( 4x 4GB )  | SS | -   | -                 | 16-16-16-36      | 1.2   | • | • |   |
| GeIL      | GPR432GB2800C16QC(XMP)           | 32GB ( 4x 8GB )  | DS | -   | -                 | 16-16-16-36      | 1.2   | • | • |   |
| Hyper X   | HX428C14PBK8/64(XMP)             | 64GB (8x 8GB )   | DS | -   | -                 | 14-15-15-39      | 1.35  | • | • |   |
| KINGMAX   | GLMG42F-18KIIA CJBR4             | 8GB              | SS | N/A | Heat-Sink Package | 17-17-17-39      | 1.20V |   |   | • |
| KINGMAX   | GLMG42F-18KIIA-CJBR4(XMP)        | 8GB              | SS | -   | -                 | 17-17-17-39      | 1.2   | • | • |   |
| KINGSTON  | HX428C14PBK4/32                  | 32GB ( 8GB*4 )   | DS | N/A | Heat-Sink Package | 15-15-15-36-50   | 1.35V | • |   |   |
| KINGSTON  | HX428C14SB2K4/32                 | 32GB ( 8GB*4 )   | DS | N/A | Heat-Sink Package | 15-15-15-36-50   | 1.35V | • |   |   |
| Klevv     | IMA451U6MFR8N-DG0(Ver1.05)(XMP)  | 4GB              | SS | -   | -                 | 16-16-16-36      | 1.2   | • | • |   |
| NEO FORZA | NFMUD416E8-2800EB2A(XMP)         | 16GB             | DS | -   | -                 | 2800-17-17-17-36 | -     | • | • |   |
| NEO FORZA | NFMUD416E8-2800EB3A(XMP)         | 16GB             | DS | -   | -                 | 2800-17-17-17-36 | -     | • | • |   |
| NEO FORZA | NFMUD416E8-2800EC2A(XMP)         | 16GB             | DS | -   | -                 | 2800-17-17-17-36 | -     | • | • |   |
| NEO FORZA | NFMUD416E8-2800EC3A(XMP)         | 16GB             | DS | -   | -                 | 2800-17-17-17-36 | -     | • | • |   |
| NEO FORZA | NFMUD416E8-2800ED2A(XMP)         | 16GB             | DS | -   | -                 | 2800-17-17-17-36 | -     | • | • |   |
| NEO FORZA | NFMUD416E8-2800EH2A(XMP)         | 16GB             | DS | -   | -                 | 2800-17-17-17-36 | -     | • | • |   |

|           |                          |               |    |      |                   |                  |       |   |   |  |
|-----------|--------------------------|---------------|----|------|-------------------|------------------|-------|---|---|--|
| NEO FORZA | NFMUD416E8-2800EH2A(XMP) | 16GB          | DS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DB2A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DB3A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DC2A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DC3A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DD2A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DD3A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DH2A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| NEO FORZA | NFMUD480E8-2800DH2A(XMP) | 8GB           | SS | -    | -                 | 2800-17-17-17-36 | -     | • | • |  |
| PANRAM    | PUD42800C164G4NJW        | 16GB ( 4GB*4) | SS | N/A  | Heat-Sink Package | 16-18-18-36      | 1.25V | • | • |  |
| TEAM      | TFWD416G2800C16CBK       | 16G           | DS | TEAM | T4D10248HT-30     | 16-18-18-38      | 1.2V  | • | • |  |
| TEAM      | TCD44G2800C16CBK         | 4G            | SS | TEAM | T4D5128HT-30      | 16-18-18-38      | 1.2V  | • |   |  |
| TEAM      | TCD44G2800C16CBK(XMP)    | 4GB           | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • | • |  |
| TEAM      | TLRED416G2800HC16CQC01   | 16GB(4GB*4)   | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • | • |  |
| TEAM      | TLGD416G2800HC16CQC01    | 16GB(4GB*4)   | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • | • |  |
| TEAM      | TDRED416G2800HC16CQC01   | 16GB(4GB*4)   | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • | • |  |
| TEAM      | TDGED416G2800HC16CQC01   | 16GB(4GB*4)   | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • | • |  |
| TEAM      | TLRED48G2800HC16CDC01    | 8GB(4GB*2)    | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TLGD48G2800HC16CDC01     | 8GB(4GB*2)    | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TDRED48G2800HC16CDC01    | 8GB(4GB*2)    | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TDGED48G2800HC16CDC01    | 8GB(4GB*2)    | SS | Team | T4D5128HT-30      | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TFRD48G2800C16CBK(XMP)   | 8GB           | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • | • |  |
| TEAM      | TLRED432G2800HC16CQC01   | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TLGD432G2800HC16CQC01    | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TDRED432G2800HC16CQC01   | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TDGED432G2800HC16CQC01   | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | THRD432G2800HC16CQC01    | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | THWD432G2800HC16CQC01    | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | THBD432G2800HC16CQC01    | 32GB(8GB*4)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TLRED416G2800HC16CDC01   | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TLGD416G2800HC16CDC01    | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TDRED416G2800HC16CDC01   | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | TDGED416G2800HC16CDC01   | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | THRD416G2800HC16CDC01    | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | THWD416G2800HC16CDC01    | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |
| TEAM      | THBD416G2800HC16CDC01    | 16GB(8GB*2)   | DS | -    | K4A4G085WSBCPB    | 16-18-18-38      | 1.2   | • |   |  |



| TEAM                                   | TFWD416G2800C16CBK(XMP)           | 16GB              | DS    | Team       | T4D10248HT-30     | 16-18-18-38 | 1.2     | •                              | •      |        |
|--|-----------------------------------|-------------------|-------|------------|-------------------|-------------|---------|--------------------------------|--------|--------|
| DDR4 2666 Qualified Vendors List (QVL) |                                   |                   |       |            |                   |             |         |                                |        |        |
| Vendors                                | Part No.                          | Size              | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|  |                                   |                   |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA                                  | AX4U2666W4G16-BRZ                 | 4GB               | SS    | N/A        | Heat-Sink Package | 16-16-16-39 | 1.2V    | •                              | •      |        |
| ADATA                                  | AX4U266638G16-DRZ                 | 16GB ( 2x 8GB )   | SS    | N/A        | Heat-Sink Package | 16-16-16-39 | 1.2V    | •                              | •      |        |
| ADATA                                  | AX4U2666W8G16-QRZ                 | 32GB ( 4x 8GB )   | DS    | N/A        | Heat-Sink Package | 16-16-16-39 | 1.2V    | •                              | •      |        |
| ADATA                                  | AX4U266638G16-DRZ(XMP)            | 16GB ( 2x 8GB )   | SS    | -          | -                 | 16-16-16-39 | 1.2     | •                              |        |        |
| ADATA                                  | AX4U2666W4G16-BRZ(XMP)            | 4GB               | SS    | -          | -                 | 16-16-16-39 | 1.2     | •                              | •      |        |
| ADATA                                  | AX4U2666W8G16-QRZ(XMP)            | 32GB ( 4x 8GB )   | DS    | -          | -                 | 16-16-16-39 | 1.2     | •                              | •      |        |
| AVEXIR                                 | AVD4UZ126661504G-4COB             | 16GB ( 4GB*4)     | SS    | N/A        | Heat-Sink Package | 15-15-15-36 | 1.2V    | •                              | •      |        |
| AVEXIR                                 | AVD4UZ126661508G-4COB             | 32GB ( 8GB*4 )    | DS    | N/A        | Heat-Sink Package | 15-15-15-36 | 1.2V    | •                              |        |        |
| AVEXIR                                 | AVD4UZ126661504G-4IPROG           | 16G(4G*4)         | DS    | N/A        | Heat-Sink Package |             | 1.2V    | •                              | •      |        |
| AVEXIR                                 | AVD4UZ126661504G                  | 8G(4G*2)          | DS    | N/A        | Heat-Sink Package |             | 1.2V    | •                              |        |        |
| AVEXIR                                 | AVD4UZ126661704G-4COR             | 4G*4              | SS    | N/A        | Heat-Sink Package |             | 1.2V    | •                              | •      |        |
| AVEXIR                                 | AVD4UZ126661708G-4COR             | 8G*4              | SS    | N/A        | Heat-Sink Package |             | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMK16GX4M4A2666C16 ( Ver5.29 )    | 16GB ( 4GB*4)     | SS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.2V    | •                              |        |        |
| CORSAIR                                | CMD32GX4M4A2666C15(Ver5.29)       | 32GB ( 8GB*4 )    | DS    | N/A        | Heat-Sink Package | 15-17-17-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMD128GX4M8A2666C15               | 128GB(16GB*4)     | DS    | N/A        | Heat-Sink Package | 15-17-17-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMU32GX4M2A2666C16 ( Ver5.20 )    | 32GB(2*16GB)      | DS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.2V    | •                              |        |        |
| CORSAIR                                | CMK32GX4M4A2666C16(Ver3.20)       | 32GB(8GB*4)       | DS    | N/A        |                   | 16-18-18-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMK16GX4M2A2666C16 ( Ver3.31 )    | 16GB(2*8GB)       | SS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMK32GX4M2A2666C16 ( Ver5.39 )    | 32GB(2*16GB)      | DS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMK16GX4M4A2666C15 ( Ver5.20 )    | 16GB ( 4GB*4)     | SS    | N/A        | Heat-Sink Package | 15-17-17-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMK64GX4M4A2666C16 ( Ver5.3 )     | 64GB(16GB*4)      | DS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.2V    | •                              |        |        |
| CORSAIR                                | CMK32GX4M4A2666C15 ( Ver5.20 )    | 32GB(4*8GB)       | DS    | N/A        | Heat-Sink Package | 15-17-17-35 | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMK16GX4M2A2666C16(Ver5.30)       | 8GB               | SS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.2V    | •                              |        |        |
| CORSAIR                                | CMK128GX4M8A2666C16(Ver5.39)      | 128GB(8*16GB)     | DS    | N/A        | Heat-Sink Package | 16-18-18-36 | 1.20V   | •                              | •      |        |
| CORSAIR                                | CMR16GX4M2A2666C16(Ver5.30)       | 16GB ( 2x 8GB )   | SS    | N/A        | Heat-Sink Package | 16-18-18-35 | 1.20V   | •                              |        |        |
| CORSAIR                                | CMD128GX4M8A2666C15(Ver4.31)(XMP) | 128GB ( 8x 16GB ) | DS    | -          | -                 | 15-17-17-35 | 1.2     | •                              | •      | •      |
| CORSAIR                                | CMD16GX4M2A2666C15(Ver4.23)(XMP)  | 16GB ( 2x 8GB )   | DS    | -          | -                 | 15-17-17-35 | 1.2     | •                              |        |        |
| CORSAIR                                | CMD16GX4M4A2666C15(Ver4.23)(XMP)  | 16GB ( 4x 4GB )   | SS    | -          | -                 | 15-17-17-35 | 1.2     | •                              | •      |        |
| CORSAIR                                | CMD16GX4M4A2666C16(Ver4.23)(XMP)  | 16GB ( 4x 4GB )   | SS    | -          | -                 | 16-18-18-35 | 1.2     | •                              | •      |        |
| CORSAIR                                | CMD16GX4M4A2666C16(Ver5.29)(XMP)  | 16GB ( 4x 4GB )   | SS    | -          | -                 | 16-18-18-35 | 1.2     | •                              | •      |        |
| CORSAIR                                | CMD32GX4M4A2666C15(Ver4.23)(XMP)  | 32GB ( 4x 8GB )   | DS    | -          | -                 | 15-17-17-35 | 1.2     | •                              | •      |        |
| CORSAIR                                | CMD32GX4M4A2666C15(Ver5.29)(XMP)  | 32GB ( 4x 8GB )   | DS    | -          | -                 | 15-17-17-35 | 1.2     | •                              | •      |        |

|         |                                   |                   |    |     |                   |             |       |   |   |   |
|---------|-----------------------------------|-------------------|----|-----|-------------------|-------------|-------|---|---|---|
| CORSAIR | CMD32GX4M4A2666C16(Ver4.23)(XMP)  | 32GB ( 4x 8GB )   | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMD64GX4M8A2666C15(Ver4.23)(XMP)  | 64GB ( 8x 8GB )   | DS | -   | -                 | 15-17-17-35 | 1.2   | • | • |   |
| CORSAIR | CMD64GX4M8A2666C15(Ver4.24)(XMP)  | 64GB ( 8x 8GB )   | DS | -   | -                 | 15-17-17-35 | 1.2   | • | • | • |
| CORSAIR | CMD8GX4M2A2666C15(Ver4.23)(XMP)   | 8GB ( 2x 4GB )    | DS | -   | -                 | 15-17-17-35 | 1.2   | • |   |   |
| CORSAIR | CMD8GX4M2A2666C15(Ver4.23)(XMP)   | 8GB ( 2x 4GB )    | DS | -   | -                 | 15-17-17-35 | 1.2   | • |   |   |
| CORSAIR | CMK128GX4M8A2666C16(Ver5.39)(XMP) | 128GB ( 8x 16GB ) | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK16GX4M2A2666C16(Ver5.29)(XMP)  | 16GB ( 2x 8GB )   | DS | -   | -                 | 16-18-18-35 | 1.2   | • |   |   |
| CORSAIR | CMK16GX4M2A2666C16(Ver5.29)(XMP)  | 16GB ( 2x 8GB )   | DS | -   | -                 | 16-18-18-35 | 1.2   | • |   |   |
| CORSAIR | CMK16GX4M2A2666C16(Ver5.30)(XMP)  | 16GB ( 2x 8GB )   | SS | -   | -                 | 16-18-18-35 | 1.2   | • |   |   |
| CORSAIR | CMK16GX4M4A2666C15(Ver4.23)(XMP)  | 16GB ( 4x 4GB )   | SS | -   | -                 | 15-17-17-35 | 1.2   | • |   |   |
| CORSAIR | CMK16GX4M4A2666C15(Ver5.29)(XMP)  | 16GB ( 4x 4GB )   | SS | -   | -                 | 15-17-17-35 | 1.2   | • | • |   |
| CORSAIR | CMK16GX4M4A2666C16(Ver3.21)(XMP)  | 16GB ( 4x 4GB )   | SS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK16GX4M4A2666C16(Ver4.23)(XMP)  | 16GB ( 4x 4GB )   | SS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK16GX4M4A2666C16(Ver5.29)(XMP)  | 16GB ( 4x 4GB )   | SS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M2A2666C16(Ver4.31)(XMP)  | 32GB ( 2x 16GB )  | DS | -   | -                 | 16-18-18-35 | 1.2   | • |   |   |
| CORSAIR | CMK32GX4M2A2666C16R(Ver3.31)(XMP) | 32GB ( 2x 16GB )  | DS | -   | -                 | 16-18-18-35 | 1.2   | • |   |   |
| CORSAIR | CMK32GX4M4A2666C15(Ver4.23)(XMP)  | 32GB ( 4x 8GB )   | DS | -   | -                 | 15-17-17-35 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2666C15(Ver5.29)(XMP)  | 32GB ( 4x 8GB )   | DS | -   | -                 | 15-17-17-35 | 1.2   | • |   |   |
| CORSAIR | CMK32GX4M4A2666C16(Ver3.20)(XMP)  | 32GB ( 4x 8GB )   | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2666C16(Ver3.21)(XMP)  | 32GB ( 4x 8GB )   | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2666C16(Ver5.29)(XMP)  | 32GB ( 4x 8GB )   | DS | -   | -                 | 16-16-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2666C16(Ver5.30)(XMP)  | 32GB ( 4x 8GB )   | SS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2666C16R(Ver4.23)(XMP) | 32GB ( 4x 8GB )   | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK64GX4M4A2666C16(Ver3.31)(XMP)  | 64GB ( 4x 16GB )  | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMK64GX4M4A2666C16(Ver4.31)(XMP)  | 64GB ( 4x 16GB )  | DS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CORSAIR | CMU32GX4M4A2666C16(Ver5.30)(XMP)  | 32GB ( 4x 8GB )   | SS | -   | -                 | 16-18-18-35 | 1.2   | • | • |   |
| CRUCIAL | BLE4G4D26AFEA.8FAD                | 8G                | SS | N/A | Heat-Sink Package | 16-16-17-36 | 1.2V  | • | • |   |
| CRUCIAL | BLE8G4D26AFEA.16FAD               | 8G                | DS | N/A | Heat-Sink Package | 16-17-17-36 | 1.2V  | • | • |   |
| CRUCIAL | BLT4G4D26AFTA.8FADG               | 4G                | SS | N/A | Heat-Sink Package | 16-17-17-36 | 1.2V  | • | • |   |
| CRUCIAL | BLS8G4D26BFSC.16FBR2              | 8GB               | DS | N/A | Heat-Sink Package | 16-18-18-38 | 1.20V | • | • |   |
| CRUCIAL | BLS4G4D26BFSC.8FBR2               | 4GB               | SS | N/A | Heat-Sink Package | 16-18-18-38 | 1.20V | • | • |   |
| CRUCIAL | BLE4G4D26AFEA.8FAD (XMP)          | 4GB               | SS | -   | -                 | 16-17-17-36 | 1.2   | • | • |   |
| CRUCIAL | BLE8G4D26AFEA.16FAD(XMP)          | 8GB               | DS | -   | -                 | 16-17-17-36 | 1.2   | • |   |   |
| CRUCIAL | BLS16G4D26BFSC.16FBD(XMP)         | 16GB              | DS | -   | -                 | 16-18-18-38 | 1.2   | • | • |   |
| CRUCIAL | BLS4G4D26BFSC.8FBR2(XMP)          | 4GB               | SS | -   | -                 | 16-18-18-38 | 1.2   | • | • |   |
| CRUCIAL | BLS8G4D26BFSC.16FBR2(XMP)         | 8GB               | DS | -   | -                 | 16-18-18-38 | 1.2   | • | • |   |

|         |                          |                   |    |       |                   |             |       |   |   |   |
|---------|--------------------------|-------------------|----|-------|-------------------|-------------|-------|---|---|---|
| CRUCIAL | BLT4G4D26AFTA.8FADG(XMP) | 16GB ( 4x4GB )    | SS | -     | -                 | 16-17-17-36 | 1.2   | • | • |   |
| CRUCIAL | BLT4G4D26AFTA.8FADG(XMP) | 4GB               | SS | -     | -                 | 16-17-17-36 | 1.2   | • | • |   |
| CRUCIAL | BLT8G4D26AFTA.16FAD(XMP) | 32GB ( 4x 8GB )   | DS | -     | -                 | 16-17-17-36 | 1.2   | • | • |   |
| CRUCIAL | BLT8G4D26AFTA.16FAD(XMP) | 8GB               | DS | -     | -                 | 16-17-17-36 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GRR        | 16GB ( 4GB*4)     | SS | N/A   | Heat-Sink Package | 15-15-15-35 | 1.2V  | • |   |   |
| G.SKILL | F4-2666C15Q-32GRR        | 8G*4              | SS | N/A   | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2666C16Q2-64GRB       | 64GB ( 8GBx8 )    | SS | N/A   | Heat-Sink Package | 16-16-16-36 | 1.20V |   |   | • |
| G.SKILL | F4-2666C15Q-16GRR(XMP)   | 16GB ( 4x 4GB )   | SS | -     | -                 | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GVR        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GVB        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GVG        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GVK        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GVS        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GRK        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-16GRB        | 16GB ( 4x 4GB )   | SS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GRR(XMP)   | 32GB ( 4x 8GB )   | DS | -     | -                 | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GVR        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GVB        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GVG        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GVK        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GVS        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GRK        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C15Q-32GRB        | 32GB ( 4x 8GB )   | DS |       |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2666C16Q2-128GVK(XMP) | 128GB ( 8x 16GB ) | DS | -     | -                 | 16-16-16-36 | 1.2   | • | • |   |
| G.SKILL | F4-2666C16Q2-128GVR      | 128GB ( 8x 16GB ) | DS |       |                   | 16-16-16-36 | 1.2   | • | • |   |
| Hyper X | HX426C13SB2/4(XMP)       | 4GB               | SS | -     | -                 | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2/8(XMP)       | 8GB               | DS | -     | -                 | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2K2/16(XMP)    | 16GB ( 2x 8GB )   | DS | -     | -                 | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2K2/16(XMP)    | 16GB ( 2x 8GB )   | DS | Nanya | NT5AD512M8B1-GN   | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2K2/8(XMP)     | 8GB ( 2x 4GB )    | SS | -     | -                 | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2K4/16(XMP)    | 16GB ( 4x 4GB )   | SS | -     | -                 | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2K4/32(XMP)    | 32GB ( 4x 8GB )   | DS | -     | -                 | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C13SB2K4/32(XMP)    | 32GB ( 4x 8GB )   | DS | Nanya | NT5AD512M8B1-GN   | 13-15-15-39 | 1.35  | • |   |   |
| Hyper X | HX426C15FB/4             | 4GB               | SS | -     | -                 | 15-17-17-35 | 1.2   | • | • |   |
| Hyper X | HX426C15FB/4             | 4GB               | SS | -     | -                 | 15-17-17-35 | 1.2   | • | • |   |
| Hyper X | HX426C15FB/8             | 8GB               | DS | -     | -                 | 15-17-17-35 | 1.2   | • | • |   |

|          |                         |                  |    |        |                   |             |       |   |   |  |
|----------|-------------------------|------------------|----|--------|-------------------|-------------|-------|---|---|--|
| Hyper X  | HX426C15FB/8            | 8GB              | DS | -      | -                 | 15-17-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15FBK2/16         | 16GB ( 2x 8GB )  | DS | -      | -                 | 15-15-17-35 | 1.2   | • |   |  |
| Hyper X  | HX426C15FBK2/16         | 16GB ( 2x 8GB )  | DS | -      | -                 | 15-17-17-35 | 1.2   | • |   |  |
| Hyper X  | HX426C15FBK2/16         | 16GB ( 2x 8GB )  | DS | -      | -                 | 15-17-17-35 | 1.2   | • |   |  |
| Hyper X  | HX426C15FBK2/8          | 8GB ( 2x 4GB )   | SS | -      | -                 | 15-17-17-35 | 1.2   | • |   |  |
| Hyper X  | HX426C15FBK2/8          | 8GB ( 2x 4GB )   | SS | -      | -                 | 15-17-17-35 | 1.2   | • |   |  |
| Hyper X  | HX426C15FBK4/16         | 16GB ( 4x 4GB )  | SS | -      | -                 | 15-17-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15FBK4/16         | 16GB ( 4x 4GB )  | SS | -      | -                 | 15-17-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15FBK4/16         | 16GB ( 4x 4GB )  | SS | -      | -                 | 15-17-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15FBK4/32         | 32GB ( 4x 8GB )  | DS | -      | -                 | 15-15-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15FBK4/32         | 32GB ( 4x 8GB )  | DS | -      | -                 | 15-17-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15FBK4/32         | 32GB ( 4x 8GB )  | DS | -      | -                 | 15-17-17-35 | 1.2   | • | • |  |
| Hyper X  | HX426C15SBK4/64(XMP)    | 64GB ( 4x 16GB ) | DS | -      | -                 | 15-15-15-35 | 1.2   | • | • |  |
| Hyper X  | HX426C16FB/16           | 16GB             | DS | -      | -                 | 16-18-18-39 | 1.2   | • | • |  |
| Hyper X  | HX426C16FB2/8(XMP)      | 8GB              | SS | -      | -                 | 16-18-18-39 | 1.2   | • | • |  |
| Hyper X  | HX426C16FB2K2/16(XMP)   | 16GB (2x 8GB )   | SS | -      | -                 | 16-18-18-39 | 1.2   | • |   |  |
| Hyper X  | HX426C16FB2K4/32(XMP)   | 32GB (4x 8GB )   | SS | -      | -                 | 16-18-18-39 | 1.2   | • | • |  |
| Hyper X  | HX426C16FBK2/32         | 32GB ( 2x 16GB ) | DS | -      | -                 | 16-18-18-39 | 1.2   | • |   |  |
| Hyper X  | HX426C16FBK4/64         | 64GB ( 4x 16GB ) | DS | -      | -                 | 16-18-18-39 | 1.2   | • | • |  |
| Hyper X  | HX426C16FBK4/64         | 64GB ( 4x 16GB ) | DS | -      | -                 | 16-18-18-39 | -     | • |   |  |
| Hyper X  | HX426C16FW/16           | 16GB             | DS | -      | -                 | 16-18-18-39 | 1.2   | • | • |  |
| Hyper X  | HX426C16FWK2/32         | 32GB ( 2x 16GB ) | DS | -      | -                 | 16-18-18-39 | 1.2   | • |   |  |
| Hyper X  | HX426C16FWK4/64         | 64GB ( 4x 16GB ) | DS | -      | -                 | 16-18-18-39 | 1.2   | • | • |  |
| HyperX   | HX426C15FBK2/16         | 8G               | DS | N/A    | Heat-Sink Package |             | 1.2V  | • | • |  |
| HyperX   | HX426C16FB2K4/64        | 64GB(4*16GB)     | DS | N/A    | Heat-Sink Package | 16-18-18-39 | 1.20V | • | • |  |
| HyperX   | HX426C15SBK8/128        | 128GB ( 16GBx8 ) | DS | N/A    | Heat-Sink Package | 15-16-16-35 | 1.20V |   | • |  |
| KINGSTON | HX426C13PBK4/32         | 32GB ( 8GB*4 )   | DS | N/A    | Heat-Sink Package | 15-15-15-36 | 1.35V | • |   |  |
| KINGSTON | HX426C15FBK4/32         | 32GB ( 8GB*4 )   | DS | N/A    | Heat-Sink Package | 15-17-17-35 | 1.2V  | • |   |  |
| KINGSTON | HX426C13SB2K4/32        | 32GB ( 8GB*4 )   | DS | N/A    | Heat-Sink Package | 15-15-15-36 | 1.35V | • | • |  |
| KINGSTON | HX426C13SB2K4/16        | 16GB ( 4GB*4)    | SS | N/A    | Heat-Sink Package | 15-15-15-36 | 1.35V | • |   |  |
| Kingston | KVR26N19S8/8            | 8GB              | SS | Micron | D9TZV             | 19-19-19-43 | 1.2   | • | • |  |
| KLEVV    | IMA41GU6MFR8N-C F0      | 8G               | DS | N/A    | Heat-Sink Package | 15-15-15    | 1.2V  | • | • |  |
| Klevv    | IM48GU88N26-FFFHMZ      | 8GB              | SS | N/A    | Heat-Sink Package | 15-15-15    | 1.2V  | • |   |  |
| Klevv    | IM4AGU88N26-FFFHMZ      | 16GB             | DS | N/A    | Heat-Sink Package | 15-15-15    | 1.2V  | • | • |  |
| Klevv    | IM44GU48N26-FFFHAZ      | 4GB              | SS | N/A    | Heat-Sink Package | 15-15-15    | 1.2V  | • | • |  |
| Klevv    | IM44GU48N26-FFFHAZ(XMP) | 4GB              | SS | -      | -                 | 15-15-15-35 | 1.2   | • | • |  |

|         |                                    |               |    |      |                   |             |      |   |   |  |
|---------|------------------------------------|---------------|----|------|-------------------|-------------|------|---|---|--|
| Klevv   | KM4Z4GX1N-2666-15-15-15-35-1       | 4GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z4GX2N-2666-15-15-15-35-1       | 4GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z4GX4N-2666-15-15-15-35-1       | 4GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | IM48GU88N26-FFFHMZ(XMP)            | 8GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z8GX1N-2666-15-15-15-35-1       | 8GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z8GX1N-2666-15-15-15-35-1       | 8GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z8GX1N-2666-15-15-15-35-1       | 8GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | IM4AGU88N26-FFFHMZ(XMP)            | 16GB          | DS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z16X1N-2666-15-15-15-35-0       | 16GB          | DS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z16X2N-2666-15-15-15-35-0       | 16GB          | DS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4Z16X4N-2666-15-15-15-35-0       | 16GB          | DS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4C4GX4N-2666-15-15-15-35-0 (XMP) | 4GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • |   |  |
| Klevv   | KM4C4GX4N-2666-15-15-15-35-1 (XMP) | 4GB           | SS | -    | -                 | 15-15-15-35 | 1.2  | • |   |  |
| Klevv   | KM4C8GX4N-2666-15-15-15-35-0 (XMP) | 8GB           | DS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| Klevv   | KM4C8GX4N-2666-15-15-15-35-1(XMP)  | 8GB           | DS | -    | -                 | 15-15-15-35 | 1.2  | • | • |  |
| MUSHKIN | 997192F                            | 8GB(4GB*2)    | SS | N/A  | Heat-Sink Package | 15-15-15-35 | 1.2V | • | • |  |
| PATRIOT | PV416G266C5QK                      | 16GB ( 4GB*4) | SS | N/A  | Heat-Sink Package | 15-15-15-35 | 1.2V | • | • |  |
| PNY     | MD16GK4D4266615AXR                 | 16GB ( 4GB*4) | SS | N/A  | Heat-Sink Package |             | 1.2V | • | • |  |
| TEAM    | TFRD4162666C15BBK                  | 16G           | DS | N/A  | SEC546            | 15-17-17-35 | 1.2V | • |   |  |
| TEAM    | TFWD48G2666C15BBK                  | 8G            | DS | N/A  | SEC634            | 15-17-17-35 | 1.2V | • | • |  |
| TEAM    | TCD44G2666C15BBK                   | 4G            | SS | TEAM | T4D5128HT-266     | 15-17-17-35 | 1.2V | • | • |  |
| TEAM    | TCD44G2666C15BBK(XMP)              | 4GB           | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | TLRED416G2666HC15BQC01             | 16GB(4GB*4)   | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | TLGD416G2666HC15BQC01              | 16GB(4GB*4)   | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | TDRED416G2666HC15BQC01             | 16GB(4GB*4)   | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | TDGED416G2666HC15BQC01             | 16GB(4GB*4)   | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | TLRED48G2666HC15BDC01              | 8GB(4GB*2)    | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • |   |  |
| TEAM    | TLGD48G2666HC15BDC01               | 8GB(4GB*2)    | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • |   |  |
| TEAM    | TDRED48G2666HC15BDC01              | 8GB(4GB*2)    | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • |   |  |
| TEAM    | TDGED48G2666HC15BDC01              | 8GB(4GB*2)    | SS | Team | T4D5128HT-266     | 15-17-17-35 | 1.2  | • |   |  |
| TEAM    | TFRD416G2666C15BBK(XMP)            | 16GB          | DS | -    | K4ABG085WBBCPB    | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | THRD464G2666HC15BQC01              | 64GB(16GB*4)  | DS | -    | K4ABG085WBBCPB    | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | THWD464G2666HC15BQC01              | 64GB(16GB*4)  | DS | -    | K4ABG085WBBCPB    | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | THBD464G2666HC15BQC01              | 64GB(16GB*4)  | DS | -    | K4ABG085WBBCPB    | 15-17-17-35 | 1.2  | • | • |  |
| TEAM    | THRD432G2666HC15BDC01              | 32GB(16GB*2)  | DS | -    | K4ABG085WBBCPB    | 15-17-17-35 | 1.2  | • |   |  |
| TEAM    | THWD432G2666HC15BDC01              | 32GB(16GB*2)  | DS | -    | K4ABG085WBBCPB    | 15-17-17-35 | 1.2  | • |   |  |

|      |                        |              |    |   |                |             |     |   |   |  |
|------|------------------------|--------------|----|---|----------------|-------------|-----|---|---|--|
| TEAM | THBD432G2666HC15BDC01  | 32GB(16GB*2) | DS | - | K4ABG085WBBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | TFWD48G2666C15BBK(XMP) | 8GB          | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | TLRED432G2666HC15BQC01 | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | TLGD432G2666HC15BQC01  | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | TDRED432G2666HC15BQC01 | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | TDGED432G2666HC15BQC01 | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | THRD432G2666HC15BQC01  | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | THWD432G2666HC15BQC01  | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | THBD432G2666HC15BQC01  | 32GB(8GB*4)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • | • |  |
| TEAM | TLRED416G2666HC15BDC01 | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | TLGD416G2666HC15BDC01  | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | TDRED416G2666HC15BDC01 | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | TDGED416G2666HC15BDC01 | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | THRD416G2666HC15BDC01  | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | THWD416G2666HC15BDC01  | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |
| TEAM | THBD416G2666HC15BDC01  | 16GB(8GB*2)  | DS | - | K4A4G085WSBCPB | 15-17-17-35 | 1.2 | • |   |  |

**DDR4 2400 Qualified Vendors List (QVL)**

| Vendors | Part No.                | Size           | SS/DS | Chip Brand | Chip NO.          | Timing      | Voltage | DIMM socket support (Optional) |        |        |
|---------|-------------------------|----------------|-------|------------|-------------------|-------------|---------|--------------------------------|--------|--------|
|         |                         |                |       |            |                   |             |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA   | AD4U2400W4G17-B         | 4GB            | SS    | SK Hynix   | H5AN4G8NAFRTFC    | 15-15-15-35 | 1.2     | •                              | •      |        |
| ADATA   | AD4U2400W8G17-B         | 8GB            | DS    | SK Hynix   | H5AN4G8NAFRTFC    | 15-15-15-35 | 1.2     | •                              | •      |        |
| ADATA   | AX4U2400316G16-DRD(XMP) | 16GB           | DS    | -          | -                 | 16-16-16-39 | 1.2     | •                              | •      |        |
| ADATA   | AX4U2400316G16-SBF(XMP) | 16GB           | DS    | -          | -                 | 16-16-16-36 | 1.2     | •                              | •      |        |
| ADATA   | AX4U240038G16-SBF(XMP)  | 8GB            | SS    | -          | -                 | 16-16-16-39 | 1.2     | •                              | •      |        |
| ADATA   | AX4U2400W8G16-BRZ(XMP)  | 8GB            | DS    | -          | -                 | 16-16-16-39 | 1.2     | •                              | •      |        |
| ADATA   | AX4U2400W8G16-DRD(XMP)  | 8GB            | DS    | -          | -                 | 16-16-16-39 | 1.2     | •                              | •      |        |
| ADATA   | AD4X240038G17-BP        | 64GB ( 8GBx8 ) | SS    | N/A        | PP019-083E        | 17-17-17-39 | 1.20V   |                                |        | •      |
| ADATA   | AX4U2400W8G16-DRZ       | 8G             | DS    | N/A        | Heat-Sink Package | 16-16-16    | 1.2V    | •                              | •      |        |
| ADATA   | AX4U2400W4G16-DRZ       | 4G             | SS    | N/A        | Heat-Sink Package | 16-16-16    | 1.2V    | •                              |        |        |
| ADATA   | AX4U2400W8G16-BRZ       | 8G             | DS    | N/A        | Heat-Sink Package | 16-16-16    | 1.2V    | •                              | •      |        |
| ADATA   | AX4U240038G16-BWZ       | 8GB*8          | SS    | N/A        | Heat-Sink Package | 17-16-16-39 | 1.2V    | •                              | •      |        |
| ADATA   | AX4U2400316G16-SBF      | 16G*16         | DS    | N/A        | Heat-Sink Package | 17-16-16-39 | 1.2V    | •                              | •      |        |
| ADATA   | AX4U2400W8G16-DRD       | 8GB            | DS    | N/A        | Heat-Sink Package | 17-17-17-39 | 1.2V    | •                              | •      |        |
| ADATA   | AX4U2400316G16-DRD      | 16G            | DS    | N/A        | Heat-Sink Package | 17-17-17-39 | 1.2V    | •                              | •      |        |
| Apacer  | 78.B1GMS.4050B          | 16GB (4x 4GB ) | SS    | Samsung    | K4A4G085WD        | 17-17-17-39 | -       | •                              |        |        |
| Apacer  | 78.C1GMS.4010B          | 32GB (4x 8GB ) | DS    | Samsung    | K4A4G085WD        | 17-17-17-39 | -       | •                              | •      |        |

|         |                                   |                   |    |          |                         |             |       |   |   |   |
|---------|-----------------------------------|-------------------|----|----------|-------------------------|-------------|-------|---|---|---|
| Apacer  | EL.08G2T.GFM                      | 8GB               | SS | Apacer   | AM6F6308MHHSB2          | 17-17-17-39 | -     | • | • |   |
| Apacer  | AU08GGB24CEYBGC(EL.08G2T.GFM)     | 8GB               | SS | Apacer   | AM6F6308MHHSB2          | 17-17-17-39 | 1.2   | • | • |   |
| Apacer  | AHU08GGB24CDT7G(EK.08G2T.KEC)     | 8GB               | DS | Apacer   | -                       | 16-16-16-36 | 1.2   | • | • |   |
| Apacer  | AHU08GGB24CDU7G(EK.08G2T.GEC)     | 8GB               | SS | Apacer   | -                       | 16-16-16-36 | 1.2   | • | • |   |
| Apacer  | AHU08GGB24CDU6H(EK.16GAT.GEAK2)   | 16GB (2x 8GB )    | SS | Apacer   | -                       | 16-16-16-36 | 1.2   | • | • |   |
| Apacer  | AHU08GGB24CDU5H(EK.16GAT.GEBK2)   | 16GB (2x 8GB )    | SS | Apacer   | -                       | 16-16-16-36 | 1.2   | • | • |   |
| APACER  | AHU08GGB24CDU7S                   | 8GB               | SS | N/A      | Heat-Sink Package       | 16-16-16-36 | 1.20V | • | • | • |
| APACER  | 78.C1GMA.AF30B                    | 8G                | DS | SK HYNIX | H5AN4G8NMFR             | 16-16-16-36 | 1.2V  | • | • |   |
| APACER  | AHU08GGB24CDT7G                   | 8G                | DS | N/A      | Heat-Sink Package       | 16-16-16-36 |       | • | • |   |
| APACER  | 78.B1GMA.AF20B                    | 4G                | SS | SK HYNIX | H5AN4G8NMFR             | 16-16-16-36 | 1.2V  | • |   |   |
| APACER  | AH08GGB24CDT5H                    | 16GB ( 2x 8G )    | DS | N/A      | Heat-Sink Package       | 16-16-16-36 |       | • | • |   |
| APACER  | AU08GGB24CETBGC                   | 8G                | DS | APACER   | AM6F600801HSB21550<br>E |             |       | • | • |   |
| APACER  | AU08GGB24CEYBGC                   | 8G                | SS | APACER   | AM6F6308MHHSB2          | 17-17-17-39 | 1.2V  | • |   |   |
| Asgard  | VML41UG-MIC1U22ZG                 | 8GB               | SS | N/A      | Heat-Sink Package       | 17-17-17-39 | 1.20V | • | • | • |
| AVEXIR  | AVD4UZ124001608G-4COR             | 8G                | DS | N/A      | Heat-Sink Package       |             | 1.2V  | • |   |   |
| AVEXIR  | AVD4UZ124001604G-4COB             | 4G                | SS | N/A      | Heat-Sink Package       |             | 1.2V  | • | • |   |
| AVEXIR  | AVD4UZ124001608G-1COB             | 8G                | DS | N/A      | Heat-Sink Package       |             | 1.2V  | • | • |   |
| AVEXIR  | AVD4U24001608G-1BW                | 8G                | DS | N/A      | 512X8DDR4               |             | 1.2V  | • | • |   |
| AVEXIR  | AVD4UZ124001604G-4COR             | 16GB ( 4x 4GB )   | SS | N/A      | Heat-Sink Package       | 16-16-16-36 | 1.2V  | • | • |   |
| CORSAIR | CMD16GX4M4A2400C14(Ver4.23)(XMP)  | 16GB ( 4x 4GB )   | SS | -        | -                       | 14-16-16-31 | 1.2   | • | • |   |
| CORSAIR | CMD32GX4M4A2400C14(Ver4.23)(XMP)  | 32GB ( 4x 8GB )   | DS | -        | -                       | 14-16-16-31 | 1.2   | • | • |   |
| CORSAIR | CMK16GX4M2A2400C16(Ver3.31)(XMP)  | 16GB ( 2x 8GB )   | DS | -        | -                       | 16-16-16-39 | 1.2   | • |   |   |
| CORSAIR | CMK16GX4M2Z2400C16(Ver3.31)       | 16GB ( 2x 8GB )   | SS | -        | -                       | 16-16-16-39 | 1.2   | • |   |   |
| CORSAIR | CMK16GX4M4A2400C14(Ver4.23)(XMP)  | 16GB ( 4x 4GB )   | SS | -        | -                       | 14-16-16-31 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2400C14(Ver4.23)(XMP)  | 32GB ( 4x 8GB )   | DS | -        | -                       | 14-16-16-31 | 1.2   | • | • |   |
| CORSAIR | CMK32GX4M4A2400C16(Ver3.31)(XMP)  | 32GB ( 4x 8GB )   | SS | -        | -                       | 16-16-16-39 | 1.2   | • | • |   |
| CORSAIR | CMK64GX4M4A2400C14(Ver3.31)(XMP)  | 64GB ( 4x 16GB )  | DS | -        | -                       | 14-16-16-31 | 1.2   | • | • |   |
| CORSAIR | CMK64GX4M4A2400C14(Ver4.31)(XMP)  | 64GB ( 4x 16GB )  | DS | -        | -                       | 14-16-16-31 | 1.2   | • | • |   |
| CORSAIR | CMK128GX4M8A2400C14(Ver5.30)(XMP) | 128GB ( 8x 16GB ) | DS | -        | -                       | 14-16-16-31 | 1.2   | • | • | • |
| CORSAIR | CM4X8GE2400C14K4-CN ( Ver4.24 )   | 8G                | DS | N/A      | Heat-Sink Package       | 14-16-16-31 | 1.2V  | • |   |   |
| CORSAIR | CMK8GX4M1A2400C14(Ver3.20)        | 8G                | DS | N/A      | Heat-Sink Package       | 14-16-16-31 | 1.2V  | • |   |   |
| CORSAIR | CM4X8GE2400C16K4-CN ( Ver5.20 )   | 8G                | DS | N/A      | Heat-Sink Package       | 16-16-16-39 | 1.2V  | • |   |   |
| CORSAIR | CMD32GX4M4A2400C14 ( Ver4.23 )    | 8G                | DS | N/A      | Heat-Sink Package       | 14-16-16-31 | 1.2V  | • | • |   |
| CORSAIR | CMD32GX4M4A2400C12 ( Ver5.20 )    | 32GB(8GB*4)       | DS | N/A      | Heat-Sink Package       |             | 1.2V  | • | • |   |
| CORSAIR | CMK32GX4M2A2400C14(Ver3.31)       | 32GB916GB*2)      | DS | N/A      | Heat-Sink Package       | 14-16-16-31 | 1.2V  | • | • |   |
| CORSAIR | CMK32GX4M4A2400C16R(Ver3.31)      | 32GB(4*8GB)       | SS | N/A      | Heat-Sink Package       | 16-16-16-39 | 1.2V  | • | • |   |

|         |                              |                   |    |        |                   |             |       |   |   |   |
|---------|------------------------------|-------------------|----|--------|-------------------|-------------|-------|---|---|---|
| CORSAIR | CMD16GX4M4B2400C10           | 16GB(4*4GB)       | SS | N/A    | Heat-Sink Package | 10-12-12-28 | 1.35V | • | • |   |
| CORSAIR | CMK16GX4M2Z2400C16(Ver3.31)  | 16GB ( 2x 8GB )   | SS | N/A    | Heat-Sink Package | 16-16-16-18 | 1.20V | • |   |   |
| CORSAIR | CMK128GX4M8A2400C14(Ver5.30) | 128GB(8*16GB)     | DS | N/A    | Heat-Sink Package | 14-16-16-31 | 1.20V | • | • |   |
| CORSAIR | CMK16GX4M2Z2400C16(Ver3.31)  | 16GB ( 2x 8GB )   | SS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.20V | • |   |   |
| CRUCIAL | BLS16G4D240FSB.16FBD(XMP)    | 16GB              | DS | -      | -                 | 16-16-16-39 | 1.2   | • | • |   |
| CRUCIAL | BLS4G4D240FSB.8FBD(XMP)      | 4GB               | SS | -      | -                 | 16-16-16-39 | 1.2   | • | • |   |
| CRUCIAL | BLS8G4D240FSBK.8FBD(XMP)     | 8GB               | SS | -      | -                 | 16-16-16-39 | 1.2   | • | • |   |
| CRUCIAL | CT16G4DFD824A.16FB1          | 16GB              | DS | Micron | D9TBH             | 17-17-17-39 | 1.2   | • | • |   |
| CRUCIAL | CT16G4DFD824A.C16FDR1        | 16GB              | DS | Micron | C9BGV             | 17-17-17-39 | 1.2   | • | • |   |
| CRUCIAL | CT8G4DFS824A.8FB1            | 8GB               | SS | -      | -                 | 17-17-17-39 | 1.2   | • | • |   |
| CRUCIAL | CT8G4DFS824A.C8FBD1          | 8GB               | SS | Micro  | 6VB47 C9BGM       | 17-17-17-39 | 1.20V | • | • | • |
| CRUCIAL | BLS8G4D240FSC.16FBR2         | 8GB               | DS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.20V | • | • | • |
| CRUCIAL | BLS4K4G4D240FSA              | 4G                | SS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.2V  | • |   |   |
| CRUCIAL | BLS8G4D240FSA.16FADG         | 8G                | DS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.2V  | • |   |   |
| CRUCIAL | BLS8G4D240FSB.16FARG         | 32GB(8GB*4)       | DS | N/A    | Heat-Sink Package |             | 1.2V  | • |   |   |
| CRUCIAL | BLS8G4D240FSC.16FARG         | 8GB               | DS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.2V  | • | • |   |
| CRUCIAL | BLS16G4D240FSE.16FAD         | 16G               | DS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.2V  | • | • |   |
| CRUCIAL | BLS4G4D240FSA.8FARG          | 4G                | SS | N/A    | Heat-Sink Package | 16-16-16-39 | 1.2V  | • | • |   |
| CRUCIAL | MTA16ATF1G64AZ-2G3A2         | 8GB               | DS | MICON  | 5VA77D9RGG        | 17-17-17-39 | 1.2V  | • |   |   |
| G.SKILL | F4-2400C15Q-16GRR(XMP)       | 16GB ( 4x 4GB )   | SS | -      | -                 | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GVR            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GVB            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GVG            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GVK            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GVS            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GRK            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-16GRB            | 16GB ( 4x 4GB )   | SS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GRR(XMP)       | 32GB ( 4x 8GB )   | DS | -      | -                 | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GVR            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GVB            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GVG            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GVK            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GVS            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GRK            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C15Q-32GRB            | 32GB ( 4x 8GB )   | DS |        |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2400C14Q2-128GRK(XMP)     | 128GB ( 8x 16GB ) | DS | -      | -                 | 14-14-14-34 | 1.2   | • | • | • |



|         |                          |                   |    |         |                   |             |       |   |   |   |
|---------|--------------------------|-------------------|----|---------|-------------------|-------------|-------|---|---|---|
| G.SKILL | F4-2400C15Q2-128GRK(XMP) | 128GB ( 8x 16GB ) | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2400C15Q2-128GVK(XMP) | 128GB ( 8x 16GB ) | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2400C15Q2-128GVR      | 128GB ( 8x 16GB ) | DS |         |                   | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2400C15Q2-64GRK(XMP)  | 64GB ( 8x 8GB )   | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2400C15Q-32GRB        | 32GB ( 8GB*4 )    | DS | N/A     | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2400C15D-169GVR       | 16GB ( 8GB*2)     | DS | N/A     | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2400C14Q2-128GRK      | 16G               | DS | N/A     | Heat-Sink Package | 14-14-14-34 | 1.2V  | • |   |   |
| G.SKILL | F4-2400C14Q-16GRK        | 4G                | SS | N/A     | Heat-Sink Package | 14-14-14-34 | 1.2V  | • | • |   |
| G.SKILL | F4-2400C15Q-16GRR        | 4G                | SS | N/A     | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2400C15Q-64GIS        | 64GB(16GB*4)      | DS | N/A     | Heat-Sink Package |             | 1.2V  | • | • |   |
| G.SKILL | F4-2400C15Q-32GNT        | 32GB(8GB*4)       | SS | G.SKILL | D4 1GM8GE15       |             | 1.2V  | • |   |   |
| G.SKILL | F4-2400C15Q-32GFX        | 32GB ( 4x 8GB )   | SS | N/A     | Heat-Sink Package | 15-15-15-39 | 1.20V | • | • |   |
| G.SKILL | F4-2400C16Q-64GFX        | 64GB(4*16GB)      | DS | N/A     | Heat-Sink Package | 16-16-16-39 | 1.20V | • | • |   |
| GALAXY  | GAL4AXLBM2400D16JE081C   | 8G                | SS | GALAXY  | GA4L1GM88BA093H   |             | 1.2V  | • | • |   |
| GALAXY  | GAM4BXLBS240016JE164C    | 16GB ( 4GB*4)     | SS | N/A     | Heat-Sink Package | 16-16-16-36 | 1.2V  | • |   |   |
| GALAXY  | GAM4HFL1BM2400D15IE081C  | 8G                | DS | N/A     | Heat-Sink Package |             | 1.2V  | • |   |   |
| GeIL    | GFR416GB2400C16S(XMP)    | 16GB              | SS | -       | -                 | 16-16-16-36 | 1.2   | • |   |   |
| GeIL    | GFR432GB2400C16D(XMP)    | 16GB              | SS | -       | -                 | 16-16-16-36 | 1.2   | • | • |   |
| GeIL    | GLR464GB2400C14QC(XMP)   | 64GB ( 4x 16GB )  | DS | -       | -                 | 14-14-14-35 | 1.2   | • | • |   |
| GeIL    | GPR416GB2400C15QC(XMP)   | 16GB ( 4x 4GB )   | SS | -       | -                 | 15-15-15-35 | 1.2   | • |   |   |
| GeIL    | GPR432GB2400C15QC(XMP)   | 32GB ( 4x 8GB )   | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • |   |
| GeIL    | GPR432GB2400C16QC(XMP)   | 32GB ( 4x 8GB )   | SS | -       | -                 | 16-16-16-36 | 1.2   | • | • |   |
| GEIL    | GPR416GB2400C15QC        | 4G                | SS | N/A     | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| GEIL    | DDR48GB2400C16QC         | 8G                | SS | GEIL    | 1GX8DDR4 HL 1612  | 16-16-16-36 | 1.2V  | • |   |   |
| GeIL    | GFR416GB2400C16S         | 16GB              | SS | N/A     | Heat-Sink Package | 16-16-16-36 | 1.20V | • |   |   |
| GeIL    | GFR432GB2400C16D         | 16GB              | SS | N/A     | Heat-Sink Package | 16-16-16-36 | 1.20V | • | • |   |
| GLOWAY  | PC4-19200                | 8G                | SS | N/A     | M15B302062        | 15-15-15-35 | 1.2V  | • | • |   |
| GLOWAY  | STK4U2400D17081C         | 8GB               | SS | N/A     | Heat-Sink Package | 17-17-17-39 | 1.20V | • |   |   |
| GLOWAY  | STK4U2400D17161C         | 16GB              | SS | N/A     | Heat-Sink Package | 17-17-17-39 | 1.20V | • | • |   |
| Hyper X | HX424C12PB2K4/16         | 16GB ( 4x 4GB )   | SS | -       | -                 | 12-13-13-35 | 1.2   | • | • |   |
| Hyper X | HX424C12SB2/4(XMP)       | 4GB               | SS | -       | -                 | 12-14-14-35 | 1.35  | • | • |   |
| Hyper X | HX424C12SB2/8(XMP)       | 8GB               | DS | -       | -                 | 12-14-14-35 | 1.35  | • | • |   |
| Hyper X | HX424C12SB2K2/16(XMP)    | 16GB ( 2x 8GB )   | DS | -       | -                 | 12-14-14-35 | 1.35  | • | • |   |
| Hyper X | HX424C12SB2K2/16(XMP)    | 16GB ( 2x 8GB )   | DS | Nanya   | NT5AD512M8B1-GN   | 12-14-14-35 | 1.35  | • |   |   |
| Hyper X | HX424C12SB2K4/16(XMP)    | 16GB ( 4x 4GB )   | SS | -       | -                 | 12-14-14-35 | 1.35  | • | • |   |
| Hyper X | HX424C12SB2K4/32(XMP)    | 32GB ( 4x 8GB )   | DS | -       | -                 | 12-14-14-35 | 1.35  | • | • |   |

|          |                       |                  |    |         |                   |                |       |   |   |   |
|----------|-----------------------|------------------|----|---------|-------------------|----------------|-------|---|---|---|
| Hyper X  | HX424C12SB2K4/32(XMP) | 32GB ( 4x 8GB )  | DS | Nanya   | NT5AD512M8B1-GN   | 12-14-14-35    | 1.35  | ● |   |   |
| Hyper X  | HX424C15B2K4/32(XMP)  | 32GB ( 4x 8GB )  | SS | -       | -                 | 15-15-15-35    | 1.2   | ● | ● |   |
| Hyper X  | HX424C15FB/4          | 4GB              | SS | -       | -                 | 15-15-5-35     | 1.2   | ● | ● |   |
| Hyper X  | HX424C15FB/8(XMP)     | 8GB              | SS | -       | -                 | 15-15-15-35    | 1.2   | ● | ● |   |
| Hyper X  | HX424C15FB/8(XMP)     | 8GB              | DS | -       | -                 | 15-15-15-35    | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK2/16       | 16GB ( 2x 8GB )  | DS | Nanya   | NT5AD512M8B1-GN   | 15-15-15-35    | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK2/16       | 32GB ( 2x 16GB ) | DS | -       | -                 | 15-15-15-35    | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK2/8        | 8GB ( 2x 4GB )   | SS | -       | -                 | 15-15-5-35     | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK4/16       | 16GB ( 4x 4GB )  | SS | -       | -                 | 15-15-5-35     | 1.2   | ● | ● |   |
| Hyper X  | HX424C15FBK4/16       | 16GB ( 4x4GB )   | SS | -       | -                 | 15-15-15-35    | 1.2   | ● | ● |   |
| Hyper X  | HX424C15FBK4/32       | 32GB ( 4x 8GB )  | DS | -       | -                 | 15-15-15-35    | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK4/32       | 32GB ( 4x 8GB )  | DS | -       | -                 | 15-15-15-35    | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK4/32       | 32GB ( 4x 8GB )  | DS | Nanya   | NT5AD512M8B1-GN   | 15-15-15-35    | 1.2   | ● |   |   |
| Hyper X  | HX424C15FBK4/64       | 64GB ( 4x 16GB ) | DS | -       | -                 | 15-15-15-35    | 1.2   | ● | ● |   |
| HyperX   | HX424C15FB2K4/32      | 32GB ( 4x 8GB )  | SS | N/A     | Heat-Sink Package | 15-15-15-35    | 1.20V | ● | ● |   |
| J&A      | AD4U24001716-16M      | 16GB             | DS | -       | -                 | 17-17-17-39    | -     | ● | ● |   |
| J&A      | JAD4U24001708-04M     | 4GB              | SS | -       | -                 | 17-17-17-39    | -     | ● | ● |   |
| J&A      | JAD4U24001708-08M     | 8GB              | SS | -       | -                 | 17-17-17-39    | -     | ● | ● |   |
| KINGMAX  | GLLF62F-DAKZIG-CLBU   | 4GB              | SS | KINGMAX | KGDACZ-CU         | 17-17-17-39    | -     | ● | ● |   |
| KINGMAX  | GLLF62F-DAKZIG CLBU   | 4GB              | SS | N/A     | PS029-D93 TP      | 17-17-17-39    | 1.20V | ● | ● | ● |
| KINGMAX  | GLLH22F-18KIIA CFBU2  | 16GB             | DS | N/A     | PS023-D93 TP      | 17-17-17-39    | 1.20V | ● | ● | ● |
| KINGSTON | KVR24N17D8/16         | 16GB             | DS | Micron  | D9SRJ             | 17-17-17-39    | 1.2   | ● | ● |   |
| KINGSTON | KVR24N17D8/8          | 8GB              | DS | Micron  | D9TGG             | 17-17-17-39    | 1.2   | ● | ● |   |
| KINGSTON | KVR24N17S8/4          | 4GB              | SS | Micron  | D9TGG             | 17-17-17-39    | 1.2   | ● | ● |   |
| KINGSTON | KVR24N17S8/8          | 8GB              | SS | Micron  | D9TBH             | 17-17-17-39    | 1.2   | ● | ● |   |
| KINGSTON | KVR24N17S8/8          | 8GB              | SS | -       | -                 | 17-17-17-39    | 1.2   | ● | ● |   |
| KINGSTON | HX424C15FBK4/32       | 32GB ( 8GB*4 )   | DS | N/A     | Heat-Sink Package | 15-15-15-35-56 | 1.2V  | ● |   |   |
| KINGSTON | HX424C15FBK4/16       | 4G               | SS | N/A     | Heat-Sink Package |                | 1.2V  | ● | ● |   |
| KINGSTON | HX424C12PBK4/32       | 8G               | DS | N/A     | Heat-Sink Package |                | 1.35V | ● | ● |   |
| KINGSTON | HX424C12SB2K4/16      | 16GB ( 4GB*4)    | SS | N/A     | Heat-Sink Package |                | 1.35V | ● |   |   |
| KINGSTON | HX424C12SB2K4/32      | 32GB ( 8GB*4 )   | DS | N/A     | Heat-Sink Package |                | 1.35V | ● | ● |   |
| KINGSTON | HX424C15FBK2/16       | 16GB ( 8GB*2 )   | DS | N/A     | Heat-Sink Package |                | 1.2V  | ● | ● |   |
| KINGSTON | HX424C15FB/16         | 16GB             | DS | N/A     | Heat-Sink Package |                | 1.2V  | ● |   |   |
| KINGSTON | HX424C12SB2K2/16      | 16G              | DS | N/A     | Heat-Sink Package |                | 1.35V | ● |   |   |
| KINGSTON | KVR24N17D8/8-SP       | 8G               | DS | N/A     | Heat-Sink Package |                | 1.2V  | ● |   |   |
| KINGSTON | TF24D4U7S8MB-8        | 8GB              | SS | MICON   | 6SB77D9TBH        | 17-17-17-39    | 1.2V  | ● |   |   |

|          |                              |                |    |        |                   |                |      |   |   |   |
|----------|------------------------------|----------------|----|--------|-------------------|----------------|------|---|---|---|
| KINGSTON | TF24D4U7S8MBD-4              | 4GB            | SS | MICON  | 6QB77D9TGG        | 17-17-17-39    | 1.2V | ● |   |   |
| KINGSTON | KVR24N17S8/8                 | 8GB            | SS | N/A    | Heat-Sink Package | 17-17-17-39    | 1.2V | ● | ● |   |
| Klevv    | IM44GU48N24-FFFHAB(XMP)      | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | IM44GU48N24-FFFHAZ(XMP)      | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | IM48GU88N24-FFFHMB(XMP)      | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | IM48GU88N24-FFFHMZ(XMP)      | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | IM4AGU88N24-FFFHMB(XMP)      | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | IM4AGU88N24-FFFHMZ(XMP)      | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | IM4AGU88N24-FFFHMB           | 16GB           | DS | N/A    | Heat-Sink Package | 15-15-15       | 1.2V | ● | ● |   |
| Klevv    | IM48GU88N24-FFFHMB           | 8GB            | SS | N/A    | Heat-Sink Package | 15-15-15       | 1.2V | ● | ● |   |
| Klevv    | IM44GU48N24-FFFHAB           | 4GB            | SS | N/A    | Heat-Sink Package | 15-15-15       | 1.2V | ● |   |   |
| Klevv    | KM4B4GX1N-2133-15-15-15-35-0 | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B4GX2N-2133-15-15-15-35-0 | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B4GX4N-2133-15-15-15-35-0 | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z4GX1N-2400-15-15-15-35-1 | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z4GX2N-2400-15-15-15-35-1 | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z4GX4N-2400-15-15-15-35-1 | 4GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B8GX1N-2400-15-15-15-35-0 | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B8GX2N-2400-15-15-15-35-0 | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B8GX4N-2400-15-15-15-35-0 | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z8GX1N-2400-15-15-15-35-1 | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z8GX2N-2400-15-15-15-35-1 | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z8GX4N-2400-15-15-15-35-1 | 8GB            | SS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B16X1N-2133-15-15-15-35-0 | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B16X2N-2133-15-15-15-35-0 | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4B16X2N-2133-15-15-15-35-0 | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z16X1N-2400-15-15-15-35-0 | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z16X2N-2400-15-15-15-35-0 | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| Klevv    | KM4Z16X4N-2400-15-15-15-35-0 | 16GB           | DS | -      | -                 | 15-15-15-35    | 1.2  | ● | ● |   |
| LEORICE  | DDR4/2400MHZ/CL15/1.2V       | 32GB ( 8GB*4 ) | SS | N/A    | Heat-Sink Package |                | 1.2V | ● | ● |   |
| Micron   | MTA16ATF2G64AZ-2G3B1         | 16GB           | DS | Micron | D9TBH             | 17-17-17-39    | 1.2  | ● | ● |   |
| Micron   | MTA8ATF1G64AZ-2G3B1          | 8GB            | SS | -      | -                 | 17-17-17-39    | 1.2  | ● | ● | ● |
| MICRON   | MTA16ATF2G64AZ-2G3B1         | 16G            | DS | MICRON | 5WB47D9TBH        |                |      | ● |   |   |
| MICRON   | MTA8ATF1G64AZ-2G3B1          | 8G             | SS | MICRON | 5WB47D9TBH        | 17-17-17-39-55 | 1.2V | ● | ● |   |
| MUSHKIN  | 997199F                      | 8G             | DS | N/A    | Heat-Sink Package | 15-15-15-35-50 | 1.2V | ● | ● |   |
| MUSHKIN  | 997199T                      | 16GB(2*8GB)    | SS | N/A    | Heat-Sink Package | 15-15-15-35    | 1.2V | ● | ● |   |

|          |                         |                 |    |          |                   |             |       |   |   |  |
|----------|-------------------------|-----------------|----|----------|-------------------|-------------|-------|---|---|--|
| PANRAM   | W4U2400PS-8G            | 8GB             | SS | panram   | DTCCCH912G2       | 14-14-14-31 | -     | • | • |  |
| PANRAM   | PUD42400C158G4NJW       | 8G              | DS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V  | • |   |  |
| PATRIOT  | PSD416G24002            | 16GB            | DS | Samsung  | K4A8G085WB        | 17-17-17-39 | 1.2   | • | • |  |
| PATRIOT  | PSD44G240081            | 4GB             | SS | Samsung  | K4A4G085WE        | 16-16-16-39 | 1.2   | • | • |  |
| PATRIOT  | PSD48G240081            | 8GB             | SS | Samsung  | K4A8G085WB        | 17-17-17-39 | 1.2   | • | • |  |
| PATRIOT  | PSD48G240082            | 8GB             | DS | -        | N/A               | 17-17-17-39 | 1.2   | • |   |  |
| PATRIOT  | PV432G240C5QK(XMP)      | 32GB ( 4x 8GB ) | SS | -        | -                 | 15-15-15-35 | 1.2   | • | • |  |
| PATRIOT  | PVE416G240C5KBL(XMP)    | 16GB ( 2x 8GB ) | SS | -        | -                 | 15-15-15-35 | -     | • |   |  |
| PATRIOT  | PVE48G240C5KRD(XMP)     | 8GB ( 2x 4GB )  | SS | -        | -                 | 15-15-15-35 | -     | • |   |  |
| PATRIOT  | PX416G240C5QK           | 4G              | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |  |
| PATRIOT  | PV416G240C5QK           | 16GB ( 4GB*4)   | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |  |
| PATRIOT  | PSD44G240081            | 4G              | SS | PAIROT   | PM512M8D4BU-083   |             |       | • |   |  |
| PATRIOT  | PV48G240C5              | 8G              | DS | N/A      | Heat-Sink Package |             | 1.2V  | • | • |  |
| PATRIOT  | PSD48G240081            | 8GB             | SS | SEC 710  | K4A8G08           | 17-17-17-39 | 1.20V | • | • |  |
| PATRIOT  | PSD44G240081            | 4GB             | SS | SEC 707  | K4A4G08           | 16-16-16-39 | 1.20V | • | • |  |
| PATRIOT  | PV432G240C5QK           | 32GB ( 4x 8GB ) | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.20V | • | • |  |
| PATRIOT  | PVE48G240C5KRD          | 8GB ( 2x 4GB )  | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.20V | • | • |  |
| PATRIOT  | PVE416G240C5KBL         | 16GB ( 2x 8GB ) | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.20V | • | • |  |
| PNY      | MD16GK2D4240015AB       | 16GB ( 8GB*2)   | DS | N/A      | Heat-Sink Package |             | 1.2V  | • | • |  |
| RAMAXEL  | RMUA5120MB86H9F-2400    | 4GB             | SS | MICON    | 6RB77D9TBK        | 17-17-17-39 | 1.2V  | • |   |  |
| SAMSUNG  | M378A5244CB0--CRC       | 16GB(4*4GB)     | SS | SEC 704  | K4A8G16 5WC BCRC  | 17-17-17-39 | 1.20V | • |   |  |
| SAMSUNG  | M378A2K43CB1-CRC        | 16GB            | DS | SEC 719  | K4A8G08           | 17-17-17-39 | 1.20V | • | • |  |
| SK Hynix | HMA81GU6AFR8N-UH        | 8GB             | SS | SK Hynix | H5AN8GBNAFRUHC    | 17-17-17-39 | -     | • | • |  |
| SK Hynix | HMA851U6AFR6N-UH        | 4GB             | SS | SK Hynix | H5AN8G6NAFRUHC    | 17-17-17-39 | -     | • | • |  |
| SK Hynix | HMA82GU6AFR8N-UH        | 16GB            | DS | SK Hynix | H5AN8GBNAFRUHC    | 17-17-17-39 | -     | • | • |  |
| TEAM     | TCD44G2400C14BK(XMP)    | 4GB             | SS | SK Hynix | H5AN4GBNAFRFTFC   | 14-16-16-31 | 1.2   | • |   |  |
| TEAM     | TCD48G2400C14BK(XMP)    | 8GB             | SS | Team     | T4D1024BMT-24     | 14-16-16-31 | 1.2   | • |   |  |
| TEAM     | TED416G2400C16BK        | 16GB            | DS | Team     | T4D10248MT-24     | 16-16-16-39 | 1.2   | • | • |  |
| TEAM     | TED48G2400C16BK         | 8GB             | DS | Team     | T4D5128HT-24      | 16-16-16-39 | 1.2   | • | • |  |
| TEAM     | TFRD44G2400C15ABK(XMP)  | 4GB             | SS | Team     | T4D5128HT-24      | 15-15-15-35 | 1.2   | • | • |  |
| TEAM     | TFRD48G2400C15ABK(XMP)  | 8GB             | SS | Team     | T4D10248HT-24     | 15-15-15-35 | 1.2   | • | • |  |
| TEAM     | TFWD416G2400C15BBK(XMP) | 16GB            | DS | Team     | PP020-093E        | 15-17-17-35 | 1.2   | • | • |  |
| TEAM     | TDTRD48G2400HC15ABK     | 8GB             | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |  |
| TEAM     | TDRED48G2400HC14BK      | 8GB             | DS | N/A      | Heat-Sink Package | 14-16-16-31 | 1.2V  | • |   |  |
| TEAM     | TCD44G2400C14BK         | 4GB             | SS | Skhymix  | H5AN4G8NAFR       | 14-16-16-31 | 1.2V  | • | • |  |
| TEAM     | TCD48G2400C14BK         | 8G              | SS | TEAM     | T4D10248MT-24     | 14-16-16-31 | 1.2V  | • | • |  |

|      |                       |              |    |          |                |             |      |   |   |  |
|------|-----------------------|--------------|----|----------|----------------|-------------|------|---|---|--|
| TEAM | TFWD416G2400C15BBK    | 16G          | DS | TEAM     | PP020-093E TP  | 15-17-17-35 | 1.2V | ● | ● |  |
| TEAM | TFRD44G2400C15ABK     | 4G           | SS | TEAM     | T4D5128HT-24   | 15-15-15-35 | 1.2V | ● | ● |  |
| TEAM | TLRED416G2400HC14QC01 | 16GB(4GB*4)  | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLGD416G2400HC14QC01  | 16GB(4GB*4)  | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDRED416G2400HC14QC01 | 16GB(4GB*4)  | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDGED416G2400HC14QC01 | 16GB(4GB*4)  | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLRED48G2400HC14DC01  | 8GB(4GB*2)   | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLGD48G2400HC14DC01   | 8GB(4GB*2)   | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDRED48G2400HC14DC01  | 8GB(4GB*2)   | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDGED48G2400HC14DC01  | 8GB(4GB*2)   | SS | SK Hynix | H5AN4GBNAFRTFC | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLRED432G2400HC14QC01 | 32GB(8GB*4)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLGD432G2400HC14QC01  | 32GB(8GB*4)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDRED432G2400HC14QC01 | 32GB(8GB*4)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDGED432G2400HC14QC01 | 32GB(8GB*4)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLRED416G2400HC14DC01 | 16GB(8GB*2)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TLGD416G2400HC14DC01  | 16GB(8GB*2)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDRED416G2400HC14DC01 | 16GB(8GB*2)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TDGED416G2400HC14DC01 | 16GB(8GB*2)  | DS | Team     | T4D1024BMT-24  | 14-16-16-31 | 1.2  | ● |   |  |
| TEAM | TED464G2400C16QC01    | 64GB(16GB*4) | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPRD464G2400HC16QC01  | 64GB(16GB*4) | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPD464G2400HC16QC01   | 64GB(16GB*4) | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TED432G2400C16DC01    | 32GB(16GB*2) | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPRD432G2400HC16DC01  | 32GB(16GB*2) | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPD432G2400HC16DC01   | 32GB(16GB*2) | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TED416G2400C1601      | 16GB         | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPRD416G2400HC1601    | 16GB         | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPD416G2400HC1601     | 16GB         | DS | Team     | T4D10248MT-24  | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TED432G2400C16QC01    | 32GB(8GB*4)  | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPRD432G2400HC16QC01  | 32GB(8GB*4)  | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPD432G2400HC16QC01   | 32GB(8GB*4)  | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TED416G2400C16DC01    | 16GB(8GB*2)  | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPRD416G2400HC16DC01  | 16GB(8GB*2)  | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPD416G2400HC16DC01   | 16GB(8GB*2)  | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TED48G2400C1601       | 8GB          | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPRD48G2400HC1601     | 8GB          | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |
| TEAM | TPD48G2400HC1601      | 8GB          | DS | Team     | T4D5128HT-24   | 16-16-16-39 | 1.2  | ● | ● |  |

|               |                        |                |           |               |                   |                    |              |   |   |   |
|---------------|------------------------|----------------|-----------|---------------|-------------------|--------------------|--------------|---|---|---|
| TEAM          | TDTRD416G2400HC15AQC01 | 16GB(4GB*4)    | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD416G2400HC15AQC01 | 16GB(4GB*4)    | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD416G2400HC15AQC01 | 16GB(4GB*4)    | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD48G2400HC15ADC01  | 8GB(4GB*2)     | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD48G2400HC15ADC01  | 8GB(4GB*2)     | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD48G2400HC15ADC01  | 8GB(4GB*2)     | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD44G2400HC15A01    | 4GB            | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD44G2400HC15A01    | 4GB            | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD44G2400HC15A01    | 4GB            | SS        | Team          | T4D5128HT-24      | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD432G2400HC15AQC01 | 32GB(8GB*4)    | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD432G2400HC15AQC01 | 32GB(8GB*4)    | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD432G2400HC15AQC01 | 32GB(8GB*4)    | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD416G2400HC15ADC01 | 16GB(8GB*2)    | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD416G2400HC15ADC01 | 16GB(8GB*2)    | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD416G2400HC15ADC01 | 16GB(8GB*2)    | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD48G2400HC15A01    | 8GB            | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD48G2400HC15A01    | 8GB            | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD48G2400HC15A01    | 8GB            | SS        | Team          | T4D10248HT-24     | 15-15-15-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD464G2400HC15BQC01 | 64GB(16GB*4)   | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD464G2400HC15BQC01 | 64GB(16GB*4)   | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD464G2400HC15BQC01 | 64GB(16GB*4)   | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD432G2400HC15BDC01 | 32GB(16GB*2)   | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD432G2400HC15BDC01 | 32GB(16GB*2)   | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD432G2400HC15BDC01 | 32GB(16GB*2)   | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTRD416G2400HC15B01   | 16GB           | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTWD416G2400HC15B01   | 16GB           | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TEAM          | TDTBD416G2400HC15B01   | 16GB           | DS        | Team          | PP020-093E        | 15-17-17-35        | 1.2          | ● | ● |   |
| TIGO          | TMKU8GF28-2400U        | 8G             | DS        | N/A           | Heat-Sink Package |                    | 1.2V         | ● | ● |   |
| V-COLOR       | TC48G24S817-IMS        | 8GB            | SS        | -             | -                 | 17-17-17-39        | 1.2          | ● | ● |   |
| V-COLOR       | TD4G8C17-UH            | 4GB            | SS        | V-color       | DW3J0460HM        | 15-15-15-36        | 1.2          | ● | ● |   |
| V-COLOR       | TD8G16C17-UH           | 8GB            | DS        | V-color       | A4G8H-24CS        | 17-17-17-39        | 1.2          | ● | ● |   |
| V-COLOR       | TD8G16C16-UHK          | 16GB ( 8GB*2)  | DS        | N/A           | Heat-Sink Package | 16-16-16-35        | 1.2V         | ● | ● |   |
| V-COLOR       | 8GTC48G24S817-IMS      | 32GB ( 8GB*4 ) | SS        | V-COLOR       | N/A               |                    | 1.2V         | ● | ● |   |
| V-COLOR       | TC48G24S817            | 8GB            | SS        | V-COLOR       | TMC9486G2         | 17-17-17-39        | 1.2V         | ● | ● |   |
| <b>Ramsta</b> | <b>R2DD4N04G2400</b>   | <b>4G</b>      | <b>SS</b> | <b>Micron</b> | <b>8</b>          | <b>16-16-16-39</b> | <b>1.20V</b> | ● | ● | ● |
| <b>Ramsta</b> | <b>R2DD4N16G2400</b>   | <b>16G</b>     | <b>SS</b> | <b>Micron</b> | <b>16</b>         | <b>17-17-17-39</b> | <b>1.20V</b> | ● | ● |   |

| Ramsta                                 | R2DD4N08G2400                    | 8GB              | DS    | Micron     | 8                  | 17-17-17-39  | 1.20V   | •                              | •      | •      |
|--|----------------------------------|------------------|-------|------------|--------------------|--------------|---------|--------------------------------|--------|--------|
| DDR4 2133 Qualified Vendors List (QVL) |                                  |                  |       |            |                    |              |         |                                |        |        |
| Vendors                                | Part No.                         | Size             | SS/DS | Chip Brand | Chip NO.           | Timing       | Voltage | DIMM socket support (Optional) |        |        |
|  |                                  |                  |       |            |                    |              |         | 2 DIMM                         | 4 DIMM | 8 DIMM |
| ADATA                                  | AD4U2133W8G15-B                  | 128GB( 16x 8G)   | DS    | SK HYNIX   | H5AN4G8NAFR        |              |         | •                              | •      |        |
| ANUCCELL                               | GRPIF1621033818594               | 8GB              | DS    | ANUCCELL   | P4P4GF3BLF-GMT     | 16-16-16-35  | 1.2V    | •                              | •      |        |
| APACER                                 | 78.C1GM3.AF10B                   | 8G               | DS    | SK HYNIX   | H5AN4G8NMFR        | 16-16-16-36  | 1.2V    | •                              | •      |        |
| APACER                                 | AHU08GGB13CGT7G                  | 8G               | DS    | N/A        | Heat-Sink Package  |              |         | •                              |        |        |
| APACER                                 | AU08GGB13CDTBGC                  | 8G               | DS    | APACER     | AM6F6008THSA11550F |              |         | •                              |        |        |
| APACER                                 | 78.B1GM3.AF00B                   | 16GB (4x 4GB )   | SS    | SK Hynix   | H5AN4G8NMFRTFC     | 15-15-15-36  | 1.2     | •                              | •      |        |
| APACER                                 | 78.C1GM3.AF10B                   | 32GB (4x 8GB )   | DS    | SK Hynix   | H5AN4G8NMFRTFC     | 15-15-15-36  | 1.2     | •                              | •      |        |
| APACER                                 | AHU08GGB13CGT7G(EK.08G2R.KDC)    | 32GB (4x 8GB )   | DS    | Apacer     | AM6F60080THMA1     | 15-15-15-36  | 1.2     | •                              |        |        |
| APACER                                 | AHU08GGB13CGU7G(EK.08G2R.GDC)    | 8GB              | SS    | Apacer     | -                  | 15-15-15-36  | 1.2     | •                              | •      |        |
| APACER                                 | AU08GGB13CDYBGC(EL.08G2R.GDM)    | 8GB              |       | Apacer     | -                  | 15-15-15-36  | 1.2     | •                              | •      |        |
| ASINT                                  | SLB404G08-CCN2B 1615             | 8G               | DS    | SK HYNIX   | H5AN4G8NMFR        |              |         | •                              | •      |        |
| AVANT                                  | AVW6451U67J5213N3-SAEP           | 4GB              | SS    | SEC 549    | K4A4G08            | 15--15-15-36 | 1.20V   | •                              | •      |        |
| AVANT                                  | AVW641GU67J5213N2-SAEP           | 8GB              | DS    | SEC 549    | K4A4G08            | 15--15-15-36 | 1.20V   | •                              | •      |        |
| AVANT                                  | AVW642GU42J5213N2-SAEP           | 16GB             | DS    | SEC 549    | K4A8G08            | 15--15-15-36 | 1.20V   | •                              |        |        |
| AVEXIR                                 | AVD4U21331508G-1C0B              | 8G               | DS    | N/A        | Heat-Sink Package  | 15-15-15-35  | 1.2V    | •                              | •      |        |
| CENTURY                                | PC4-17000                        | 8G               | DS    | SK HYNIX   | H5AN4G8NMFR        | 15-15-15-36  | 1.2V    | •                              | •      |        |
| CENTURY MICRO INC                      | CD8G-D4U2133                     | 8GB              | DS    | SK Hynix   | H5AN4G8NMFRTFC     | 15-15-15-36  | -       | •                              | •      |        |
| CENTURY MICRO INC                      | CK8GX4-D4U2133                   | 32GB ( 4x 8GB )  | DS    | SK hynix   | H5AN4G8NMFRTFC     | 15-15-15-35  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMK16GX4M4A2133C15(Ver4.23)      | 16GB ( 4GB*4)    | SS    | N/A        | Heat-Sink Package  | 15-15-15-36  | 1.2V    | •                              | •      |        |
| CORSAIR                                | CMV4GX4M1A2133C15                | 4G               | SS    | N/A        | 4GA72Z9RGR         | 15-15-15-36  | 1.2V    | •                              |        |        |
| CORSAIR                                | CMD16GX4M4B2133C10(Ver3.20)(XMP) | 16GB ( 4x 4GB )  | SS    | -          | -                  | 10-12-12-31  | 1.35    | •                              | •      |        |
| CORSAIR                                | CMD16GX4M4B2133C10(Ver3.20)(XMP) | 16GB ( 4x 4GB )  | SS    | -          | -                  | 10-12-12-31  | 1.35    | •                              |        |        |
| CORSAIR                                | CMK16GX4M4A2133C13(Ver4.23)(XMP) | 16GB ( 4x 4GB )  | SS    | -          | -                  | 13-15-15-28  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMK32GX4M2A2133C13(Ver4.31)(XMP) | 32GB ( 2x 16GB ) | DS    | -          | -                  | 13-15-15-28  | 1.2     | •                              |        |        |
| CORSAIR                                | CMK32GX4M4A2133C13(Ver4.23)(XMP) | 32GB ( 4x 8GB )  | DS    | -          | -                  | 13-15-15-28  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMK32GX4M4A2133C15(Ver3.20)      | 32GB ( 4x 8GB )  | DS    | -          | -                  | 15-15-15-36  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMK32GX4M4A2133C15(Ver5.29)      | 32GB ( 4x 8GB )  | DS    | -          | -                  | 15-15-15-36  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMK64GX4M8A2133C13(Ver3.20)(XMP) | 64GB ( 8x 8GB )  | DS    | -          | -                  | 13-15-15-28  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMK64GX4M8A2133C13(Ver4.23)(XMP) | 64GB ( 8x 8GB )  | DS    | -          | -                  | 13-15-15-28  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMV16GX4M1A2133C15               | 16GB             | DS    | -          | -                  | 15-15-15-36  | 1.2     | •                              | •      |        |
| CORSAIR                                | CMV16GX4M1A2133C15               | 16GB             | DS    | -          | -                  | 15-15-15-36  | -       | •                              |        |        |

|         |                       |                   |    |         |                   |             |       |   |   |   |
|---------|-----------------------|-------------------|----|---------|-------------------|-------------|-------|---|---|---|
| CORSAIR | CMV4GX4M1A2133C15     | 4GB               | SS | -       | -                 | 15-15-15-36 | 1.2   | • | • |   |
| CORSAIR | CMV8GX4M1A2133C15     | 8GB               | DS | -       | -                 | 15-15-15-36 | 1.2   | • | • |   |
| CRUCIAL | CMV4GX4M1A2133C15     | 4G                | SS | MICRON  | 4QA77D9RCQ        | 15-15-15-36 | 1.2V  | • | • |   |
| CRUCIAL | CT8G4DFD8213.16FA11   | 32GB ( 8GB*4 )    | DS | MICRO   | 5CA77D9RGQ        |             | 1.2V  | • |   |   |
| CRUCIAL | CT16G4DFD8213.C16FAD1 | 16G               | DS | MICON   | 6NA47C9BGD        |             | 1.2V  | • |   |   |
| CRUCIAL | CT8G4DFD8213.C16FDR2  | 8G                | DS | MICON   | 6UD75C9BHB        |             | 1.2V  | • | • |   |
| CRUCIAL | CT4G4DFS8213.C8FBD2   | 4G                | SS | MICON   | 6SB45C9BHC        |             | 1.2V  | • | • |   |
| CRUCIAL | CT16G4DFD8213.16FB1   | 16GB              | DS | Micron  | D9TBH             | 15-15-15-36 | 1.2   | • | • | • |
| CRUCIAL | CT4G4DFS8213.8FA2     | 4GB               | SS | Micron  | D9RGQ             | 15-15-15-36 | 1.2   | • | • |   |
| CRUCIAL | CT4G4DFS8213.8FB1     | 4GB               | SS | -       | -                 | 15-15-15-36 | 1.2   | • | • | • |
| CRUCIAL | CT8G4DFD8213.16FA1    | 8GB               | DS | Micron  | D9RGQ             | 15-15-15-37 | 1.2   | • | • |   |
| CRUCIAL | CT8G4DFS8213.8FB1     | 8GB               | SS | -       | -                 | 15-15-15-36 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-32GRK     | 32GB ( 8GB*4 )    | DS | N/A     | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2133C15Q-16GRB     | 16GB ( 4GB*4)     | SS | N/A     | Heat-Sink Package | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2133C15S-4GNT      | 4G                | SS | G.SKILL | D4 512M8GE15      | 15-15-15-35 | 1.2V  | • |   |   |
| G.SKILL | F4-2133C15S-8GNT      | 8G                | DS | G.SKILL | D4 512M8GE15      | 15-15-15-35 | 1.2V  | • | • |   |
| G.SKILL | F4-2133C15Q-64GFX     | 64GB(4*16GB)      | DS | N/A     | Heat-Sink Package | 15-15-15-36 | 1.2V  | • | • |   |
| G.SKILL | F4-2133C15Q-32GFX     | 32GB ( 4x 8GB )   | SS | N/A     | Heat-Sink Package | 15-15-15-36 | 1.2V  | • | • |   |
| G.SKILL | F4-2133C15S-8GDB      | 8GB               | SS | G.SKILL | D4 1GM8GDDP       | 15-15-15-35 | 1.35V | • | • |   |
| G.SKILL | F4-2133C15Q-16GRR     | 16GB ( 4x 4GB )   | SS | -       | -                 | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GVR     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GVB     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GVG     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GVK     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GVS     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GRK     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-16GRB     | 16GB ( 4x 4GB )   | SS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q2-128GVK   | 128GB ( 8x 16GB ) | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2133C15Q2-128GVR   | 128GB ( 8x 16GB ) | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q2-64GRR    | 64GB ( 8x 8GB )   | DS | -       | -                 | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2133C15Q2-64GRB    | 64GB ( 8x 8GB )   | DS |         |                   | 15-15-15-35 | 1.2   | • | • | • |
| G.SKILL | F4-2133C15Q-32GRR     | 32GB ( 4x 8GB )   | DS | -       | -                 | 15-15-15-35 | -     | • | • |   |
| G.SKILL | F4-2133C15Q-32GVR     | 32GB ( 4x 8GB )   | DS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-32GVB     | 32GB ( 4x 8GB )   | DS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-32GVG     | 32GB ( 4x 8GB )   | DS |         |                   | 15-15-15-35 | 1.2   | • | • |   |
| G.SKILL | F4-2133C15Q-32GVK     | 32GB ( 4x 8GB )   | DS |         |                   | 15-15-15-35 | 1.2   | • | • |   |



|          |                             |                  |    |          |                   |             |      |   |   |  |
|----------|-----------------------------|------------------|----|----------|-------------------|-------------|------|---|---|--|
| G.SKILL  | F4-2133C15Q-32GVS           | 32GB ( 4x 8GB )  | DS |          |                   | 15-15-15-35 | 1.2  | ● | ● |  |
| G.SKILL  | F4-2133C15Q-32GRK           | 32GB ( 4x 8GB )  | DS |          |                   | 15-15-15-35 | 1.2  | ● | ● |  |
| G.SKILL  | F4-2133C15Q-32GRB           | 32GB ( 4x 8GB )  | DS |          |                   | 15-15-15-35 | 1.2  | ● | ● |  |
| GALAXY   | GAM4DBLBM2133D15IE041C      | 4G               | DS | N/A      | Heat-Sink Package | 15-15-15-36 | 1.2V | ● |   |  |
| GALAXY   | GAM4DBLBM213315IE081C       | 8G               | DS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V | ● |   |  |
| GALAXY   | GAL4AXLBM213315IE081C       | 8GB              | SS | GALAXY   | GA4L1GM88BA093H   | 15-15-15-35 | 1.2V | ● |   |  |
| GEIL     | GPR48GB2133C15DC            | 8GB ( 4GB*2)     | SS | N/A      | Heat-Sink Package | 15-15-15-36 | 1.2V | ● | ● |  |
| GEIL     | GPR432GB2133C15QC           | 8G               | SS | N/A      | Heat-Sink Package | 15-15-15-36 | 1.2V | ● | ● |  |
| GeIL     | GPR416GB2133C15QC           | 16GB ( 4x 4GB )  | SS | -        | -                 | 15-15-15-36 | 1.2  | ● | ● |  |
| GeIL     | GPR432GB2133C15QC           | 32GB ( 4x 8GB )  | SS | -        | -                 | 15-15-15-36 | 1.2  | ● | ● |  |
| GLOWAY   | PC4-17000                   | 4G               | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V | ● | ● |  |
| GLOWAY   | STK4U2133D15041C/ PC4-17000 | 4G               | SS | N/A      | Heat-Sink Package | 15-15-15-35 | 1.2V | ● | ● |  |
| Hyper X  | HX421C13SB/4(XMP)           | 4GB              | SS | -        | -                 | 13-13-13-36 | 1.2  | ● | ● |  |
| Hyper X  | HX421C13SB/8(XMP)           | 8GB              | DS | -        | -                 | 13-13-13-36 | 1.2  | ● | ● |  |
| Hyper X  | HX421C13SBK2/16(XMP)        | 16GB ( 2x 8GB )  | DS | -        | -                 | 13-13-13-36 | 1.2  | ● |   |  |
| Hyper X  | HX421C13SBK2/8(XMP)         | 8GB ( 2x 4GB )   | SS | -        | -                 | 13-13-13-36 | 1.2  | ● |   |  |
| Hyper X  | HX421C13SBK4/16(XMP)        | 16GB ( 4x 4GB )  | SS | -        | -                 | 13-13-13-36 | 1.2  | ● | ● |  |
| Hyper X  | HX421C13SBK4/32(XMP)        | 32GB ( 4x 8GB )  | DS | -        | -                 | 13-13-13-36 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FB/4                | 4GB              | SS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FB/8                | 8GB              | DS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FB2K4/32(XMP)       | 32GB ( 4x 8GB )  | SS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FBK2/16             | 16GB ( 2x 8GB )  | DS | -        | -                 | 14-14-14-35 | 1.2  | ● |   |  |
| Hyper X  | HX421C14FBK2/8              | 8GB ( 2x 4GB )   | SS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FBK4/16             | 16GB ( 4x 4GB )  | SS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FBK4/32             | 32GB ( 4x 8GB )  | DS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FBK4/64             | 64GB ( 4x 16GB ) | DS | -        | -                 | 15-15-15-35 | 1.2  | ● | ● |  |
| Hyper X  | HX421C14FBK8/64             | 64GB ( 8x 8GB )  | DS | -        | -                 | 14-14-14-35 | 1.2  | ● | ● |  |
| KINGSTON | HX421C13PBK4/16             | 16GB ( 4GB*4)    | SS | N/A      | Heat-Sink Package | 15-15-15-36 | 1.2V | ● | ● |  |
| KINGSTON | HX421C14FB/8                | 8G               | DS | N/A      | Heat-Sink Package | 14-14-14-35 | 1.2V | ● |   |  |
| KINGSTON | HX421C13SBK4/16             | 16GB ( 4GB*4)    | SS | N/A      | Heat-Sink Package | 15-15-15-36 | 1.2V | ● | ● |  |
| KINGSTON | HX421C14FBK4/32             | 32GB ( 8GB*4 )   | DS | N/A      | Heat-Sink Package | 14-14-14-35 | 1.2V | ● | ● |  |
| KINGSTON | KVR21N15S8/4                | 4G               | SS | SK HYNIX | H5AN4G8NMFR       | 15-15-15-36 | 1.2V | ● |   |  |
| KINGSTON | KVR21E15S8/4                | 4GB              | SS | SK HYNIX | H5AN4G8NAFR       |             | 1.2V | ● |   |  |
| KINGSTON | HX421C14FB2/8               | 8G               | SS | N/A      | Heat-Sink Package |             | 1.2V | ● |   |  |
| KINGSTON | HX421C14FBK2/8              | 8GB ( 4GB*2 )    | SS | N/A      | Heat-Sink Package |             | 1.2V | ● | ● |  |
| KINGSTON | HX421C14FB/4                | 4G               | SS | N/A      | Heat-Sink Package |             | 1.2V | ● |   |  |

|          |                              |                 |    |                 |                     |             |      |   |   |   |
|----------|------------------------------|-----------------|----|-----------------|---------------------|-------------|------|---|---|---|
| KINGSTON | KVR21N15D8/8                 | 8GB             | DS | SK hynix        | H5AN4G8NMFRTFC      | 15-15-15-37 | 1.2  | • | • |   |
| KINGSTON | KVR21N15S8/4                 | 4GB             | SS | SK Hynix        | H5AN4G8NAFR         | 15-15-15-36 | 1.2  | • | • |   |
| KINGSTON | KVR21N15S8/4                 | 4GB             | SS | SK Hynix        | H5AN4G8NAFRTFC      | 15-15-15-36 | 1.2  | • | • |   |
| KINGSTON | KVR21N15S8/4                 | 4GB             | SS | SK Hynix        | H5AN4G8NMFRTFC      | 15-15-15-37 | 1.2  | • | • |   |
| KINGSTON | KVR21N15D8/16                | 16GB            | DS | Micron          | D9TBH               | 15-15-15-36 | 1.2  | • | • |   |
| KINGSTON | KVR21N15D8/8                 | 8GB             | DS | SK Hynix        | H5AN4G8NAFR         | 15-15-15-36 | 1.2  | • | • |   |
| Klevv    | IM48GU88N21-FFFHMB           | 8GB             | SS | N/A             | Heat-Sink Package   | 15-15-15    | 1.2V | • | • |   |
| Klevv    | IM44GU48N21-FFFHAB           | 4GB             | SS | N/A             | Heat-Sink Package   | 15-15-15    | 1.2V | • | • |   |
| Klevv    | IM4AGU88N21-FFFHMB           | 16GB            | DS | N/A             | Heat-Sink Package   | 15-15-15    | 1.2V | • | • |   |
| Klevv    | IM44GU48N21-FFFHAB(XMP)      | 4GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B4GX1N-2133-15-15-15-35-0 | 4GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B4GX2N-2133-15-15-15-35-0 | 4GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B4GX4N-2133-15-15-15-35-0 | 4GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | IM48GU88N21-FFFHMB(XMP)      | 8GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B8GX1N-2133-15-15-15-35-0 | 8GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B8GX2N-2133-15-15-15-35-0 | 8GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B8GX4N-2133-15-15-15-35-0 | 8GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | IM4AGU88N21-FFFHMB(XMP)      | 16GB            | DS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B16X1N-2133-15-15-15-35-0 | 16GB            | DS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B16X2N-2133-15-15-15-35-0 | 16GB            | DS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4B16X4N-2133-15-15-15-35-0 | 16GB            | DS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4C4GX4N-2133-15-15-15-35-0 | 4GB             | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4C4GX4N-2133-15-15-15-35-1 | 16GB ( 4x 4GB ) | SS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Klevv    | KM4C8GX4N-2133-15-15-15-35-0 | 8GB             | DS | -               | -                   | 15-15-15-35 | 1.2  | • | • | • |
| Klevv    | KM4C8GX4N-2133-15-15-15-35-1 | 32GB ( 4x 8GB ) | DS | -               | -                   | 15-15-15-35 | 1.2  | • | • |   |
| Micron   | MTA8ATF1G64AZ-2G1B1          | 8GB             | SS | -               | -                   | 15-15-15-36 | 1.2  | • | • |   |
| Micron   | MTA8ATF51264AZ-2G1A2         | 4GB             | SS | Micron          | D9RG0               | 15-15-15-36 | -    | • | • |   |
| Micron   | MTA16ATF1G64AZ-2G1A1         | 8GB             | DS | Micron          | D9RGQ               | 15-15-15-37 | 1.2  | • | • |   |
| Micron   | MTA16ATF2G64AZ-2G1B1         | 16GB            | DS | Micron          | D9TBH               | 15-15-15-36 | 1.2  | • | • |   |
| PANRAM   | PUD42133C138G4NJW            | 32GB ( 8GB*4 )  | DS | N/A             | Heat-Sink Package   | 13-13-13-35 | 1.2V | • |   |   |
| PANRAM   | PUD42133C134G4NJW            | 16GB ( 4GB*4)   | SS | N/A             | Heat-Sink Package   | 13-13-13-35 | 1.2V | • | • |   |
| panram   | W4U2133PS-8G                 | 8GB             | SS | panram          | DTCCH872HA2         | 16-16-16-36 | -    | • | • | • |
| PATRIOT  | PSD44G213381                 | 4G              | SS | PAIROT          | 1621JB5454512X8DDR4 |             |      | • |   |   |
| PATRIOT  | PSD48G21332                  | 8G              | DS | PAIROT          | PM512M8D4BU-083     |             |      | • |   |   |
| PATRIOT  | PVE48G213C4GY                | 8G              | SS | N/A             | Heat-Sink Package   |             | 1.2V | • |   |   |
| SAMSUNG  | M378A5143DB0--CPB            | 4G              | SS | SEC 428<br>BCPB | K4A4G085WD          | 15-15-15-36 | 1.2V | • | • |   |

|                 |                      |              |    |                 |                   |             |      |   |   |   |
|-----------------|----------------------|--------------|----|-----------------|-------------------|-------------|------|---|---|---|
| SAMSUNG         | M378A1G43DB0--CPB    | 8G           | DS | SEC 428<br>BCPB | K4A4G085WD        | 15-15-15-36 | 1.2V | • | • |   |
| SAMSUNG         | M378A1K43BB1-CPB     | 8G           | SS | SEC 610         | K4A8G085WBBCPB    |             |      | • |   |   |
| SAMSUNG         | M378A5143EB1-CPB     | 4GB          | SS | SEC 637         | E8GZ250WP         | 15-15-15-36 | 1.2V | • | • |   |
| SAMSUNG         | M378A5143EB1-CPB     | 4GB          | SS | SEC 607         | E8K4089YC         | 15-15-15-36 | 1.2V | • |   |   |
| SAMSUNG         | M378A2K43BB1CPB      | 16G          | DS | SEC510          | K4A8G085WBBCPB    |             | 1.2V | • | • |   |
| SanMax          | SMD-4G28HP-21P       | 4GB          | SS | SK Hynix        | H5AN4G8NMFRTFC    | 15-15-15-37 | -    | • | • |   |
| SanMax          | SMD-8G28HP-21P       | 8GB          | DS | SK Hynix        | H5AN4G8NMFRTFC    | 15-15-15-37 | -    | • | • |   |
| Silicon Power   | SP004GBLFU213N01     | 4GB          | SS | Samsung         | K4A4G085WD        | 15-15-15-37 | -    | • | • |   |
| Silicon Power   | SP008GBLFU213N01     | 8GB          | DS | Samsung         | K4A4G085WD        | 15-15-15-37 | -    | • | • | • |
| SK HYNIX        | HMA451U6AFR8N-TF     | 16GB(4*4GB)  | SS | SK HYNIX        | H5AN4G8NAFR       | 15-15-15-36 | 1.2V | • |   |   |
| SK Hynix        | HMA41GU7AFR8N-TF     | 8GB          | DS | SK Hynix        | H5AN4G8NAFRTFC    | 15-15-15-36 | -    | • | • |   |
| SK Hynix        | HMA451U7AFR8N-TF     | 4GB          | SS | SK Hynix        | H5AN4G8NAFR       | 15-15-15-36 | -    | • | • |   |
| SK Hynix        | HMA82GU6MFR8N-TF     | 16GB         | DS | SK Hynix        | H5AN8G8NMFRTFC    | 15-15-15-36 | -    | • | • |   |
| SK Hynix        | HMA82GU7MFR8N-TF     | 16GB         | DS | SK Hynix        | H5AN8G8NMFRTFC    | 15-15-15-36 | -    | • | • |   |
| SK Hynix        | HMA41GU6MFR8N-TF     | 8GB          | DS | SK Hynix        | H5AN4G8NMFRTFC    | 15-15-15-37 | 1.2  | • | • |   |
| SUPER<br>TALENT | FBU2B008GM           | 8GB          | DS | Micron          | D9RGQ             | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED48GM2133C15BK     | 8G           | DS | SK HYNIX        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2V | • | • |   |
| TEAM            | TPAD44G2133HC15BK    | 4G           | SS | N/A             | Heat-Sink Package | 15-15-15-36 | 1.2V | • |   |   |
| TEAM            | TED416G2133C15BK     | 16G          | DS | TEAM            | T4D10248MT-21     | 15-15-15-36 | 1.2V | • |   |   |
| TEAM            | TED48G2133C15BK      | 8GB          | SS | TEAM            | T4D10248KT-21     | 15-15-15-36 | 1.2V | • |   |   |
| TEAM            | TED416G2133C15BK     | 16GB         | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED464G2133C15QC01   | 64GB(16GB*4) | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPRD464G2133HC15QC01 | 64GB(16GB*4) | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPD464G2133HC15QC01  | 64GB(16GB*4) | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED432G2133C15DC01   | 32GB(16GB*2) | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPRD432G2133HC15DC01 | 32GB(16GB*2) | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPD432G2133HC15DC01  | 32GB(16GB*2) | DS | Team            | T4D10248MT-24     | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED44GM2133C15ABK    | 4GB          | SS | SK Hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED48GM2133C15BK     | 8GB          | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED432G2133C15QC01   | 32GB(8GB*4)  | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPRD432G2133HC15QC01 | 32GB(8GB*4)  | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPD432G2133HC15QC01  | 32GB(8GB*4)  | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TED416G2133C15DC01   | 16GB(8GB*2)  | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPRD416G2133HC15DC01 | 16GB(8GB*2)  | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |
| TEAM            | TPD416G2133HC15DC01  | 16GB(8GB*2)  | DS | SK hynix        | H5AN4G8NMFRTFC    | 15-15-15-36 | 1.2  | • | • |   |

|               |                        |             |           |                 |               |                    |              |          |          |          |
|---------------|------------------------|-------------|-----------|-----------------|---------------|--------------------|--------------|----------|----------|----------|
| TEKISM        | T4U2133B8G15-SAD       | 8G          | DS        | SEC 446<br>BCPB | K4A4G085WD    | 15-15-15-36        | 1.2V         | •        | •        |          |
| TIGO          | TMKU8GF58-2133P        | 8G          | DS        | N/A             | PPE08-093TP   |                    | 1.2V         | •        | •        |          |
| TIGO          | TMKU8G868-2133P        | 8GB         | SS        |                 | PP020-093E TP | 15-15-15-36        | 1.2V         | •        |          |          |
| UMAX          | 84G44G93MC-21OMCALGF15 | 4GB         | SS        | Micron          | D9RGQ         | 15-15-15-36        | -            | •        | •        | •        |
| UMAX          | 84G48G93MC-21OMCGNGF15 | 8GB         | DS        | Micron          | D9RGQ         | 15-15-15-36        | -            | •        | •        |          |
| V-COLOR       | TC48G21S818-IMS        | 32GB(8GB*4) | SS        | V-COLOR         | N/A           |                    | 1.2V         | •        |          |          |
| V-COLOR       | TC48G21S815            | 8GB         | SS        | V-COLOR         | TMCB134HA3    | 15-15-15-36        | 1.2V         | •        | •        |          |
| V-COLOR       | TC48G21S815-iMS        | 8GB         | SS        | V-COLOR         | E0510         | 15-15-15-36        | 1.2V         | •        | •        |          |
| V-COLOR       | TC48G21S815-IMS        | 8GB         | SS        | -               | -             | 15-15-15-36        | 1.2          | •        | •        |          |
| Xiede         | 1.2V-PC4-17000-1620    | 4GB         | SS        | MICON           | 6GA77D9RGQ    | 15-15-15-36        | 1.2V         | •        | •        |          |
| Xiede         | 1.2V-PC4-17000-1620    | 8GB         | DS        | SK HYNIX        | H5AN4G8NMFR   | 15-15-15-36        | 1.2V         | •        |          |          |
| <b>Ramsta</b> | <b>R2DD4N04G2133</b>   | <b>4G</b>   | <b>SS</b> | <b>Micron</b>   | <b>8</b>      | <b>15-15-15-35</b> | <b>1.20V</b> | <b>•</b> | <b>•</b> |          |
| <b>Ramsta</b> | <b>R2DD4N08G2133</b>   | <b>8GB</b>  | <b>SS</b> | <b>Micron</b>   | <b>8</b>      | <b>15-15-15-36</b> | <b>1.20V</b> | <b>•</b> | <b>•</b> | <b>•</b> |

## 8 DIMM Slots

For each DRAM channel (A,B,C,D), make sure to install the DRAM module to dark gray slot first.

- 1 DIMM: Supports one (1) module inserted into any dark gray slot as Single-channel memory configuration. Install the module into the C1 slot for better compatibility.
- 2 DIMMs: Supports two (2) modules inserted into one pair of dark gray slots as one pair of Dual-channel memory configuration. Install the modules into slots A1 and C1 for better compatibility.
- 4 DIMMs: Supports four (4) modules inserted into four dark gray slots as two pairs of Quad-channel memory configuration. Install the modules into slots A1/B1/C1/D1 for better compatibility.
- 6 DIMMs: Supports six (6) modules inserted into four dark gray slots and one pair of black slots as three pairs of Quad-channel memory configurations. Install the modules into slots A1/A2/B1/C1/C2/D1 for better compatibility.
- 8 DIMMs: Supports eight (8) modules inserted into all the slots as fully-loaded Quad-channel memory configurations.