



ASRockRACK TECHNICAL DOCUMENT (NOVEMBER/2024)

Q: How to solve <OUT OF SPEC> problem when using "dmidecode" tool under Linux

Issue:

For "Type" option, it shows <OUT OF SPEC> when using "dmidecode" tool, like below picture:

```
Handle 0x001E, DMI type 17, 92 bytes
Memory Device
  Array Handle: 0x0015
  Error Information Handle: 0x001D
  Total Width: 80 bits
  Data Width: 64 bits
  Size: 24 GB
  Form Factor: DIMM
  Set: None
  Locator: DIMM 1
  Bank Locator: PS0 CHANNEL D
  Type: <OUT OF SPEC>
  Type Detail: Synchronous Registered (Buffered)
  Speed: 5600 MT/s
  Manufacturer: Micron Technology
  Serial Number: 40A774CB
  Asset Tag: Not Specified
  Part Number: MTC10F108YS1RC56BB1
  Rank: 1
  Configured Memory Speed: 4800 MT/s
  Minimum Voltage: 1.1 V
  Maximum Voltage: 1.1 V
  Configured Voltage: 1.1 V
  Memory Technology: DRAM
  Memory Operating Mode Capability: Volatile memory
  Firmware Version: Unknown
  Module Manufacturer ID: Bank 1, Hex 0x2C
  Module Product ID: Unknown
  Memory Subsystem Controller Manufacturer ID: Unknown
  Memory Subsystem Controller Product ID: Unknown
  Non-Volatile Size: None
  Volatile Size: 24 GB
  Cache Size: None
  Logical Size: None
```

Preparation:

1. Ensure the OS within server has connected to network.

Steps:

1. Open terminal, and use the command below to update tool "apt".
"sudo apt update"
2. Use the command below to update the tool "dmidecode"
"sudo apt install dmidecode"
3. After update successfully, it will show information well, like picture below:

```
Handle 0x001E, DMI type 17, 92 bytes
Memory Device
  Array Handle: 0x0015
  Error Information Handle: 0x001D
  Total Width: 80 bits
  Data Width: 64 bits
  Size: 24 GB
  Form Factor: DIMM
  Set: None
  Locator: DIMM 1
  Bank Locator: P0 CHANNEL D
  Type: DDR5
  Type Detail: Synchronous Registered (Buffered)
  Speed: 5600 MT/s
  Manufacturer: Micron Technology
  Serial Number: 40A774CB
  Asset Tag: Not Specified
  Part Number: MTC10F108YS1RC56BB1
  Rank: 1
  Configured Memory Speed: 4800 MT/s
  Minimum Voltage: 1.1 V
  Maximum Voltage: 1.1 V
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  Memory Technology: DRAM
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  Non-Volatile Size: None
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```

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