

BIOS Release Notes

TITLE

SUBJECT: MS93-FS0 BIOS Release Notes version [R14](#)

System: [MS93-FS0-000](#), [R183-S90-AAD1-000](#), [R183-S90-LAD1-000](#), [R183-S90-AAD2-000](#), [R183-S90-AAV1-000](#), [R183-S90-IAV1-000](#), [R183-S90-AAV2-000](#), [R183-S91-AAD1-000](#), [R183-S91-AAD2-000](#), [R183-S91-AAV1-000](#), [R183-S91-AAV2-000](#), [R183-S92-AAD1-000](#), [R183-S92-AAD2-000](#), [R183-S92-AAD3-000](#), [R183-S92-AAV1-000](#), [R183-S92-AAV2-000](#), [R183-S92-AAV3-000](#), [R183-S95-AAD1-000](#), [R183-S95-AAV1-000](#), [R183-S96-AAD1-000](#), [R183-S96-AAV1-000](#), [R183-S97-AAD1-000](#), [R183-S97-AAV1-000](#), [R283-S90-AAE1-000](#), [R283-S90-AAE2-000](#), [R283-S90-AAE3-000](#), [R283-S90-AAJ1-000](#), [R283-S90-AAJ2-000](#), [R283-S90-AAJ3-000](#), [R283-S91-AAE1-000](#), [R283-S91-AAE2-000](#), [R283-S91-AAJ1-000](#), [R283-S91-AAJ2-000](#), [R283-S92-AAE1-000](#), [R283-S92-AAE2-000](#), [R283-S92-AAE3-000](#), [R283-S92-AAE4-000](#), [R283-S92-AAJ1-000](#), [R283-S92-AAJ2-000](#), [R283-S92-AAJ3-000](#), [R283-S92-AAJ4-000](#), [R283-S96-AAE1-000](#), [R283-S96-AAJ1-000](#), [R283-S97-AAD1-000](#), [R283-S97-AAV1-000](#), [R283-S98-AAE1-000](#), [R283-S98-AAE2-000](#), [R283-S98-AAJ1-000](#), [R283-S98-AAJ2-000](#), [E283-S90-AAD1-000](#), [E283-S90-AAV1-000](#)

About This Release

Build Date: [2025/04/12](#)

BIOS Checksum: [0xA476F746](#) (16M), [0x8C78ABBC](#) (64M)

Release Owner: jim.huang

BIOS Components/Contents

Processor stepping(s) supported: Intel® Sapphire Rapids-SP/Emerald Rapids-SP processor

System hardware configurations supported: MS93-FS0

Microcode updates versions:

CPUID	Family	Microcode Update ID
806f3	Sapphire Rapids Production D-0	0d0004b1
806f8	Sapphire Rapids All HBM Production B	2c0003f7

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806f8	Sapphire Rapids All Production XCC E / MCC S / EE LCC U	2b000639
c06f2	Processor Emerald Rapids Production XCC A1 / MCC R1	210002a7

IPMI support:

AMI Kernel version: **Gbt_Kernel_108_06**

Intel CSI/MRC Package version: **114.D30**

SPI Descriptor version: **06.01.04.089.0**

OPROM version :

OPROM	Version
INTEL 1G PXE	1.5.53
INTEL 1G LAN EFI	8.5.21
AST2600 VGA	1.13.03
INTEL RAID PACKAGE	RSTe 9.0.0.2018

Installation Notes

IMPORTANT NOTES:

1. Please extract the MS93-FS0_ [R14](#).zip to a bootable diskette that use FAT/FAT32 format

BIOS UPDATE INSTRUCTIONS FOR EFI Shell:

1. Insert USB flash drive to system for BIOS upgrade.
2. Power on system and boot to Build-In Shell.
3. Enter your USB filesystem, like "fs0:" or "fsx:", "x" is your USB filesystem number
4. Execute F.nsh for bios update
5. After bios flash finish, system must Power-Off to have the changes take effect.

BIOS UPDATE INSTRUCTIONS FOR Windows:

1. Insert bios update USB flash drive.
 2. Use Command Shell.
 3. Enter \Tool\Win32 and execute f.bat for Windows 32bit.
- Or

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Enter \Tool\Win64 and execute f.bat for Windows 64bit.

4. After bios flash finish, system must Power-Off to have the changes take effect.

BIOS UPDATE FOR Easy BIOS Refresh:

1. The system supports remotely update BIOS if BMC existent.
2. Please download the Easy BIOS Refresh User Guide from Gigabyte website, target system support page.

BIOS Version CHECK INSTRUCTIONS:

1. Power on system and press during POST
2. The bios version shows on the first main page

Known Issues/Workarounds

Issues fixed in this version

R14

1. [Feature] Update RC 114.D30 (EagleStream IPU 2025.2 BKC WW10_2025).
2. [Feature] Update EMR Microcode : EMR Production A* / R* Step: Step: m_87_c06f2_210002a7.pdb;
3. [Feature] Update SPR Microcode : SPR Production E* / S* Step: Step: m_87_806f8_2b000639.pdb;SPR HBM Production B* Step: m_10_806f8_2c0003f7.pdb;
4. [Feature] Update SPS to SPS_E5_06.01.04.089.0.
5. [Feature] Update RSTe/VROC UEFI driver to v9.0.0.2018.
6. [Feature] Update TDX Seamloader to TDX-SEAMLDR_1.5.02.00.
7. [Feature] Update TDX Module to TDX_1.5.13.00.864.
8. [Feature] Include INTEL-SA-01244 for CVE-2025-20054/CVE-2025-20103.
9. [Feature] Include INTEL-SA-01245 for CVE-2025-20044.
10. [Feature] Include INTEL-SA-01247 for CVE-2024-45332.
11. [Feature] Include INTEL-SA-01249 for CVE-2025-20109.
12. [Feature] Include AMI SA50286 for CVE-2024-42446.
13. [Feature] Include AMI SA50290 for CVE-2024-38796.
14. [Feature] Include AMI SA50292 for CVE-2023-6237/CVE-2024-5535/CVE-2024-6119.

R13

1. [Feature] Fine tune BIOS setup item.

R12

1. [Feature] Fine tune BIOS setup item default.

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2. [Feature] Improve KCS protocol.
 3. [Feature] Support Microsoft Option ROM UEFI CA 2023 for Secure Boot.
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R11

1. [Feature] Fine-tune Redfish display content.
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R10

1. [Feature] Update RC 113.D55 (EagleStream uPLR3 BKC 2024 WW37).
 2. [Feature] Update EMR Microcode : EMR Production A* / R* Step:
m_87_c06f2_21000291.pdb;
 3. [Feature] Update SPR Microcode : SPR Production E* / S* Step:
m_87_806f8_2b000620.pdb;SPR HBM Production B* Step: m_10_806f8_2c0003e0.pdb;
 4. [Feature] Include INTEL-SA-01139 for CVE-2024-31157/CVE-2024-28047/CVE-2024-39279.
 5. [Feature] Include INTEL-SA-01166 for CVE-2024-31068.
 6. [Feature] Include INTEL-SA-01194 for CVE-2024-37020.
 7. [Feature] Include INTEL-SA-01120 for CVE-2024-25571.
 8. [Feature] Include INTEL-SA-01198 for CVE-2024-21859/CVE-2024-31155.
 9. [Feature] Include INTEL-SA-01152 for CVE-2024-26021/CVE-2024-30211.
 10. [Feature] Include INTEL-SA-01196 for CVE-2024-36242.
 11. [Feature] Include INTEL-SA-01192 for CVE-2024-33607.
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R09

1. [Feature] Update RC 111.D23 (EagleStream uPLR2 BKC 2024 WW30).
 2. [Feature] Update EMR Microcode : EMR Production A* / R* Step:
m_87_c06f2_21000283.pdb;
 3. [Feature] Update SPR Microcode : SPR Production E* / S* Step:
m_87_806f8_2b000603.pdb;SPR HBM Production B* Step: m_10_806f8_2c0003d3.pdb;
 4. [Feature] Update UEFI VROC to VROC v8.6.0.1136.
 5. [Feature] Update TDX Module to TDX_1.5.06.00.744.
 6. [Bug Fix] Include INTEL-SA-01097 for CVE-2024-24968.
 7. [Bug Fix] Include INTEL-SA-01103 for CVE-2024-23984.
 8. [Bug Fix] Include INTEL-SA-01079 for CVE-2024-21820/CVE-2024-23918.
 9. [Bug Fix] Include INTEL-SA-01071 for CVE-2024-21829/CVE-2024-21781/CVE-2024-23599.
 10. [Bug Fix] Include INTEL-SA-01085 for CVE-2024-25565.
 11. [Bug Fix] Include INTEL-SA-01101 for CVE-2024-21853.
 12. [Bug Fix] Include INTEL-SA-01099 for CVE-2024-27457.
 13. [Bug Fix] Include INTEL-SA-01111 for CVE-2024-22185/CVE-2024-24985.
 14. [Bug Fix] Include INTEL-SA-01076 for CVE-2024-21850.
 15. [Bug Fix] Include AMI SA50158 for CWE-269.
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R08

1. [Feature] Update RC 109.D34 (EagleStream uPLR1 OOB BKC 2024).
 2. [Feature] Update EMR Microcode : EMR Production A1/R1-Stepping:m_87_c06f2_21000240.pdb;
 3. [Feature] Update SPR Microcode : SPR Production E-Stepping:m_87_806f8_2b0005d1.pdb;SPR HBM Production B-Stepping:m_10_806f8_2c0003a1.pdb;
 4. [Feature] Fine tune BMC LAN IPv6 configuration page.
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R07

1. [Feature] Fine tune Intel TDX related item.
 2. [Feature] Fine tune BMC IPv6 and IPv4 Network.
 3. [Feature] Include AMI SA50248 solution for CWE-119.
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R06

1. [Feature] Update RC 109.D34 (EagleStream uPLR1 BKC 2024 WW12).
 2. [Feature] Update EMR Microcode : EMR Production A1/R1-Stepping:m_87_c06f2_21000230.pdb;
 3. [Feature] Update SPR Microcode : SPR Production E-Stepping:m_87_806f8_2b0005c0.pdb;SPR HBM Production B-Stepping:m_10_806f8_2c000390.pdb;
 4. [Feature] Update SPS FW to SPS_E5_06.01.04.047.0.
 5. [Feature] Update BIOS ACM / SINT to v1.1.A.
 6. [Feature] Update TDX Module to TDX_1.5.05.46.698.
 7. [Feature] Include INTEL-TA-01036 for CVE-2023-45745/CVE-2023-47855.
 8. [Feature] Include AMI SA50232 for CVE-2023-45236/CVE-2023-45237.
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R05

1. [Bug Fix] Fix install CMT4032 can't downgrade to Gen3.
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R04

1. [Feature] Update RC 1752.P05 (EagleStream UMR1 BKC 2024 WW05).
2. [Feature] Update EMR Microcode : No update.
3. [Feature] Update SPR Microcode : SPR Production E-Stepping:m_87_806f8_2b000590.pdb;SPR HBM Production B-Stepping:m_10_806f8_2c000360.pdb;
4. [Feature] Add AMI SA50218 for below CVE :
CVE-2023-45229
CVE-2023-45230
CVE-2023-45231

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CVE-2023-45232

CVE-2023-45233

CVE-2023-45234

CVE-2023-45235

5. [Feature] Add AMI SA50229 for CVE-2023-3817 and CVE-2023-2650.

6. [Feature] Add AMI SA50236 for CVE-2023-5678.

R03

1. [Feature] Update RC 107.D52 (EagleStream PV BKC 2023 WW49).

2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a1000200.pdb ; EMR Production A0-Stepping:Stepping:m_87_c06f2_21000200.pdb;

3. [Feature] Add AMI SA50216 solution for CVE-2023-39539 and CVE-2023-39538.

R02

1. [Feature] Modify the Best Performance Profile.

R01

1. [Feature] Update RC 107.D20 (EagleStream BKC 2023 WW45).

2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a10001d1.pdb .pdb ; EMR Production A0-Stepping:m_87_c06f2_210001B0.pdb; SPR Production E-Stepping:m_87_806f8_2b000571.pdb;SPR HBM Production B-Stepping:m_87_806f8_2c000351.pdb;

3. [Feature] Update SPS to SPS_E5_06.01.04.005.0.

4. [Feature] Update RSTe VROC driver to v8.5.0.1096.

T08

1. [Bug Fix] Fix ES EMR CPU can't power on.

T07

1. [Feature] Update RC 105.D74 (EagleStream BKC 2023 WW41).

2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a1000190.pdb ; EMR Production A0-Stepping:m_87_c06f2_21000190.pdb; SPR Production E-Stepping:m_87_806f8_2b000541.pdb;SPR HBM Production B-Stepping:m_87_806f8_2c000321.pdb;

3. [Feature] Update SPS to SPS_E5_06.01.04.003.0.

4. [Feature] Update AST2600 vga/dp driver to 1.13.03 version.

T06

1. [Feature] Base on 2023 WW37 BKC release PC version BIOS.

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T05

1. [Feature] Update RC 105.D74 (EagleStream BKC 2023 WW37).
 2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a1000161.pdb ; EMR Production A0-Stepping:m_87_c06f2_21000161.pdb;
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T04

1. [Feature] Update RC 105.D48 (EagleStream BKC 2023 WW35).
 2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a1000160.pdb ; EMR Production A0-Stepping:m_87_c06f2_21000160.pdb;
 3. [Feature] Update VROC driver to v8.5.0.1074
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T03

1. [Feature] Update RC 105.D20 (EagleStream BKC 2023 WW33).
 2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a1000150.pdb ; EMR Production A0-Stepping:m_87_c06f2_21000140.pdb;
 3. [Feature] Update EMR SPS version to SPS_E5_06.01.03.011.0.
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T02

1. [Feature] Update RC 103.D70 (EagleStream BKC 2023 WW27).
 2. [Feature] Update EMR Microcode : EMR A0-Stepping: m_87_c06f2_a1000100.pdb ; EMR Production A0-Stepping:m_87_c06f2_210000e0.pdb;
 3. [Feature] Update EMR SPS version to SPS_E5_06.01.02.048.0.
 4. [Feature] Update VROC driver to v8.5.0.1042.
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T01

1. [Feature] Update RC 102.D37 (EagleStream BKC 2023 WW21).
 2. [Feature] Update EMR Microcode : EMR A0-Stepping: EMR A0-Stepping: m_87_c06f2_a10000a0.pdb ; EMR Production A0-Stepping:m_87_c06f1_21000070.pdb;
 3. [Feature] Update EMR SPS version to SPS_E5_06.01.02.009.0.
 4. [Feature] Update VROC driver to v8.5.0.1020.
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