

Asus TUF Gaming Z690-PLUS WIFI D4 Bios Setting (**changed values in Bold**)

Bios Version: 0707 x64

Notable points:

- No CFG-Lock Parameter -> Checked via ControlMsrE2.efi and bios has it **ENABLED**, so for now this has to be fixed via OC Quirks
- No S3 setting in BIOS
- No SGX in BIOS
- Uncertain about Platform Misc Config settings, since provided BIOS settings (by Middleman) mention setting PEG ASPM -> Enabled, but while the setting exists for me, I have options (e.g. L0s, L1, L0sL1). Similar for most other ASPM settings, I can generally choose between Disabled, Auto, and L1(or something equiv.)

Main -> All Defaults

Ai Tweaker -> Ai Overclock Tuner -> XMP I

Tuner switch changed:

BCLK Frequency [100.0000]->[Auto]

DRAM Frequency [Auto] -> [DDR4-3200 MHz]

DRAM CAS# Latency [Auto] -> [16]

DRAM RAS# to CAS# Delay [Auto] -> [18]

DRAM RAS# PRE Time [Auto] -> [18]

DRAM RAS# ACT Time [Auto] -> [38]

DRAM Voltage [Auto] -> [1.35000]

Advanced -> Platform Misc Configuration -> Platform Misc Config. -> PCI Express Native Power Management -> Enabled

Advanced -> Platform Misc Configuration -> Platform Misc Config -> Native ASPM -> Disabled

Advanced -> Platform Misc Configuration -> PCH - PCI Express -> DMI Link ASPM Control -> Disabled

Advanced -> Platform Misc Configuration -> PCH - PCI Express -> ASPM -> Auto

Advanced -> Platform Misc Configuration -> PCH - PCI Express -> L1 Substates -> Disabled

Advanced -> Platform Misc Configuration -> SA - PCI Express -> DMI ASPM -> Disabled

Advanced -> Platform Misc Configuration -> SA - PCI Express -> DMI Gen 3 ASPM -> Disabled

Advanced -> Platform Misc Configuration -> SA - PCI Express -> PEG ASPM -> Disabled

Advanced -> Platform Misc Configuration -> SA - PCI Express -> PCI Express Clock Gating -> Enabled

Advanced -> CPU Configuration -> Hardware Prefetcher -> Enabled

Advanced -> CPU Configuration -> Adjacent Cache Line Prefetch -> Enabled

Advanced -> CPU Configuration -> Intel (VMX) Virtualization Technology -> Enabled

Advanced -> CPU Configuration -> Per P-Core Control -> Disabled

Advanced -> CPU Configuration -> Per C-Core Control -> Disabled

Advanced -> CPU Configuration -> Active Performance Cores -> All

Advanced -> CPU Configuration -> Active Efficient Cores -> All

Advanced -> CPU Configuration -> Hyper-Threading -> Enabled

Advanced -> CPU Configuration -> Per Core Hyper-Threading -> [Cores 0-5] Enabled

Advanced -> CPU Configuration -> Total Memory Encryption -> Disabled

Advanced -> CPU Configuration -> Legacy Game Compatibility Mode -> Disabled

Advanced -> CPU Configuration -> CPU Power Management Control -> Boot performance mode -> Auto

Advanced -> CPU Configuration -> CPU Power Management Control -> Intel(R) SpeedStep™ -> Enabled

Advanced -> CPU Configuration -> CPU Power Management Control -> Intel® Speed Shift Technology -> Enabled

Advanced -> CPU Configuration -> CPU Power Management Control -> Turbo Mode -> Enabled

Advanced -> CPU Configuration -> CPU Power Management Control -> Acoustic Noise Settings -> Acoustic Noise Mitigation -> Disabled

Advanced -> CPU Configuration -> CPU Power Management Control -> CPU C-states -> Auto
Advanced -> CPU Configuration -> CPU Power Management Control -> Thermal Monitor -> Enabled
Advanced -> CPU Configuration -> CPU Power Management Control -> Dual Tau Boost -> Disabled

Advanced -> System Agent Configuration -> VT-d -> Enabled
Advanced -> System Agent Configuration -> Control Iommu Pre-boot Behavior -> Disable IOMMU
Advanced -> System Agent Configuration -> Memory Configuration -> Memory Remap -> Enabled
Advanced -> System Agent Configuration -> Graphics Configuration -> Primary Display -> Auto
Advanced -> System Agent Configuration -> Graphics Configuration -> iGPU Multi-Monitor -> Disabled
Advanced -> System Agent Configuration -> Graphics Configuration -> DVMT Pre-Allocated -> 64M
Advanced -> System Agent Configuration -> Graphics Configuration -> RC6(Render Standby) -> Enabled
Advanced -> System Agent Configuration -> VMD setup menu -> Enable VMD controller -> Enabled
Advanced -> System Agent Configuration -> VMD setup menu -> Map PCIE Storage under VMD -> Disabled
Advanced -> System Agent Configuration -> VMD setup menu -> Map SATA Controller under VMD -> Disabled
Advanced -> System Agent Configuration -> PCI Express Configuration -> M.2_1 Link Speed -> Auto
Advanced -> System Agent Configuration -> PCI Express Configuration -> PCIEX15(G5) Link Speed -> Auto

Advanced -> PCH Configuration -> PCI Express Configuration -> [All] Auto
Advanced -> PCH Storage Configuration -> SATA Controllers -> Enabled
Advanced -> PCH Storage Configuration -> Aggressive LPM Support -> Disabled
Advanced -> PCH Storage Configuration -> SMART Self Test -> Enabled
Advanced -> PCH Storage Configuration -> SATA6G_[1-4] -> SATA6G_# -> Enabled
Advanced -> PCH Storage Configuration -> SATA6G_[1-4] -> SATA6G_# Hot Plug -> Disabled
Advanced -> PCH-FW Configuration -> PTT -> Enable

Advanced -> Thunderbolt™ Configuration -> PCIe Tunneling over USB4 -> Disabled

Advanced -> Thunderbolt™ Configuration -> Discrete Thunderbolt™ Support -> Disabled

Advanced -> Trusted Computing -> Security Device Support -> Enable
Advanced -> Trusted Computing -> SHA-1 PCR Bank -> Disable (Greyed out)
Advanced -> Trusted Computing -> SHA256 PCR Bank -> Enabled
Advanced -> Trusted Computing -> Pending operation -> None
Advanced -> Trusted Computing -> Platform Hierarchy -> Enabled
Advanced -> Trusted Computing -> Storage Hierarchy -> Enabled
Advanced -> Trusted Computing -> Endorsement Hierarchy -> Enabled
Advanced -> Trusted Computing -> Physical Presence Spec Version -> 1.3
Advanced -> Trusted Computing -> TPM 2.0 UEFI Spec Version -> TCG_2
Advanced -> Trusted Computing -> Disable Block Sid -> Disabled

Advanced -> PCI Subsystem Settings -> Above 4G Decoding -> Enabled

Advanced -> PCI Subsystem Settings -> Resize BAR Support -> Enabled

Advanced -> PCI Subsystem Settings -> SR-IOV Support -> Disabled

Advanced -> USB Configuration -> Legacy USB Support -> Enabled
Advanced -> USB Configuration -> XHCI Handoff -> Enabled
Advanced -> USB Configuration -> USB Single Port Control -> {ALL 15 ports listed} Enabled

Advanced -> Network Stack Configuration -> Network Stack -> Disabled
Advanced -> NVME Configuration -> {Defaults}

Advanced -> APM Configuration -> Restore AC Power Loss -> Power Off

Advanced -> APM Configuration -> Max Power Saving -> Disabled
Advanced -> APM Configuration -> ErP Ready -> Disabled
Advanced -> APM Configuration -> Power On By PCI-E -> Disabled
Advanced -> APM Configuration -> Power On By RTC -> Disabled

Advanced -> Onboard Devices Configuration -> PCIe Bandwidth Bifurcation Configuration -> Auto
Advanced -> Onboard Devices Configuration -> HD Audio -> Enabled
Advanced -> Onboard Devices Configuration -> Intel LAN -> Enabled
Advanced -> Onboard Devices Configuration -> USB power delivery in Soft Off state (S5) -> Enabled
Advanced -> Onboard Devices Configuration -> Connectivity mode (Wi-Fi & Bluetooth) -> Enabled
Advanced -> Onboard Devices Configuration -> LED lighting -> When system is in working state -> All On

Advanced -> Onboard Devices Configuration -> LED lighting -> When system is in sleep, hibernate, etc. -> Stealth Mode

Advanced -> Onboard Devices Configuration -> M.2_2 Configuration -> Auto
Advanced -> Onboard Devices Configuration -> U32G2_9 Type C Power Mode -> Auto
Advanced -> Onboard Devices Configuration -> GNA Device -> Disabled

Advanced -> Onboard Devices Configuration -> Serial Port Configuration -> Serial Port -> Disabled

Monitor -> All default settings

Boot -> CSM (Compatibility Support Module) -> Launch CSM -> Disabled (Greyed out)

Boot -> Secure Boot -> OS Type -> Other OS

Boot -> Secure Boot -> Secure Boot Mode -> Custom

Boot -> Boot Configuration -> Fast Boot -> Disabled

Boot -> Boot Configuration -> Boot Logo Display -> Auto

Boot -> Boot Configuration -> Post Delay Time -> 3 sec

Boot -> Boot Configuration -> Bootup NumLock State -> On

Boot -> Boot Configuration -> Wait form 'F1' If Error -> Enabled

Boot -> Boot Configuration -> Option ROM Message -> Force BIOS

Boot -> Boot Configuration -> Interrupt 19 Capture -> Disabled

Boot -> Boot Configuration -> AMI Native NVMe Driver Support -> Enabled

Boot -> Boot Configuration -> Setup Mode -> EZ Mode

Boot -> Boot Configuration -> Boot Sector (MBR/GPT) Recovery Policy -> Local User Control

Boot -> Boot Configuration -> Next Boot Recovery Action -> Skip