

Advantech AE Technical Share Document

Date	2024/01/24	Release Note	□Internal ■ External	
Category	■ FAQ □ SOP	Related OS	N/A	
Abstract	How to solve the problem of BIOS abnormally displaying CPU P-core and E-core			
Keyword	P-core, E-core, core, abnorm, Raptor Lake, ADL-S, CPU			
Related Product	AIMB-308, AIMB-508, AIMB-588, AIMB-708, AIMB-788, ASMB-588, ASMB-788, MIC-			
	770V3, PCE-2033, PCE-2133, PCE-5033, PCE-5133			

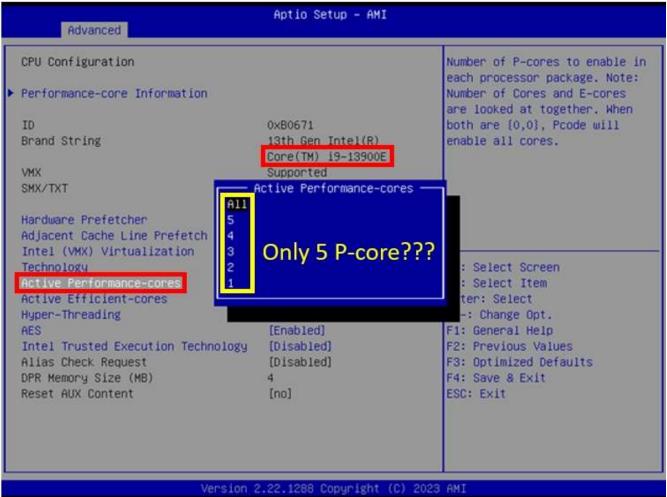
Problem Description:

When change CPU between i9-12900E and i9-13900E, the "Active Performance-cores" and "Active Efficient-cores" options will be abnormal.

CPU spec:

Processor	i9-12900E	i9-13900E
Total cores	16	24
Performance-cores	8	8
Effcient-cores	8	16

Example (i9-13900E) abnormal case:





Problem Analysis:

The system BIOS detect the processor capabilities and configures it for best performance or max power saving per user preference. In most of the case, the BIOS is able to detect a new processor being installed via CPUID signature. However, if the new processor had identical CPUID signatures as the one being replaced, the BIOS is unable to tell the processor has been swapped.

Solution:

Clear CMOS after HW configuration changes!

If the newly installed processor has different capabilities than the old one, clear CMOS procedure is performed, it restores the BIOS default setting and prevents BIOS accidently applying invalid settings to new HW obtained from the onec previously installed on the system.

Example (i9-13900E), after clear CMOS, P-core displays normally.

