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(54) **MULTI-CORE INTEGRATED CIRCUITS
HAVING ASYMMETRIC PERFORMANCE
BETWEEN CORES**

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(57) **ABSTRACT**

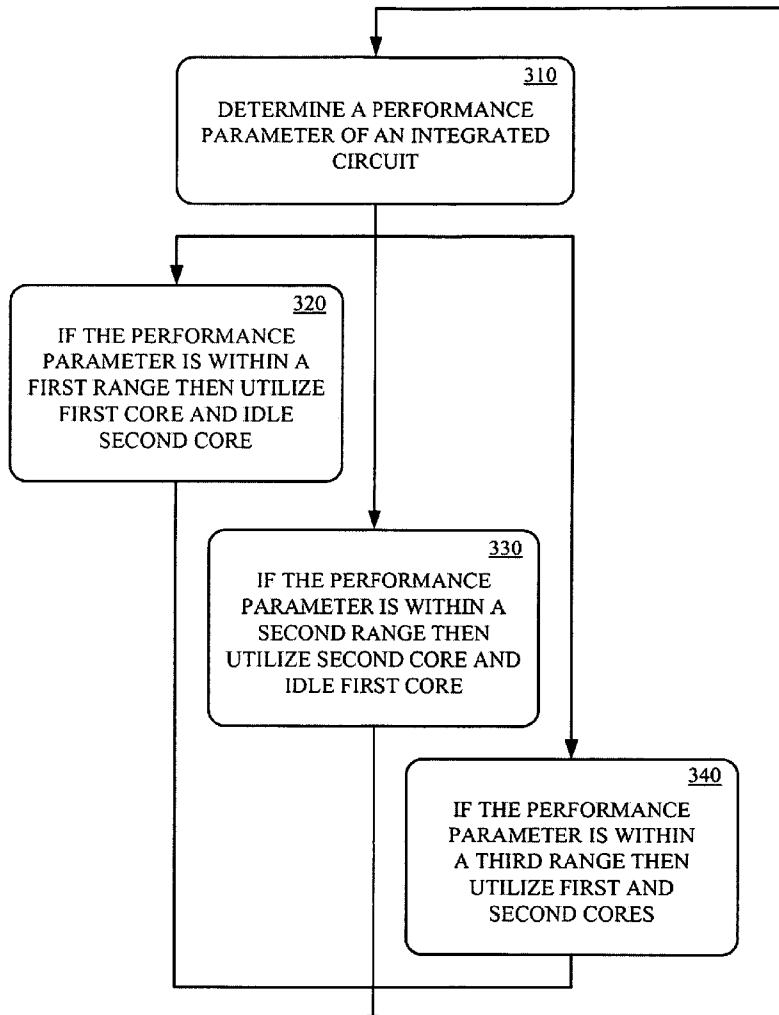
An integrated circuit in one embodiment includes asymmetric cores and an asymmetric core control circuit. At least one of the asymmetric cores is a different implementation of substantially the same function or subset of functionality as another core. The asymmetric core control circuit determines a performance parameter of an integrated circuit. The performance parameter may be the workload, the operating frequency, power consumption, quality of service, operating temperature or the like of the integrated circuit or a given portion of the integrated circuit. If the performance parameter is within a first range, the asymmetric core control circuit utilizes a first core to perform a function of the integrated circuit and idles a second core that is a different implementation of substantially the same function. If the performance parameter is within a second range, the core control circuit utilizes the second core to perform the function and idles the first core.

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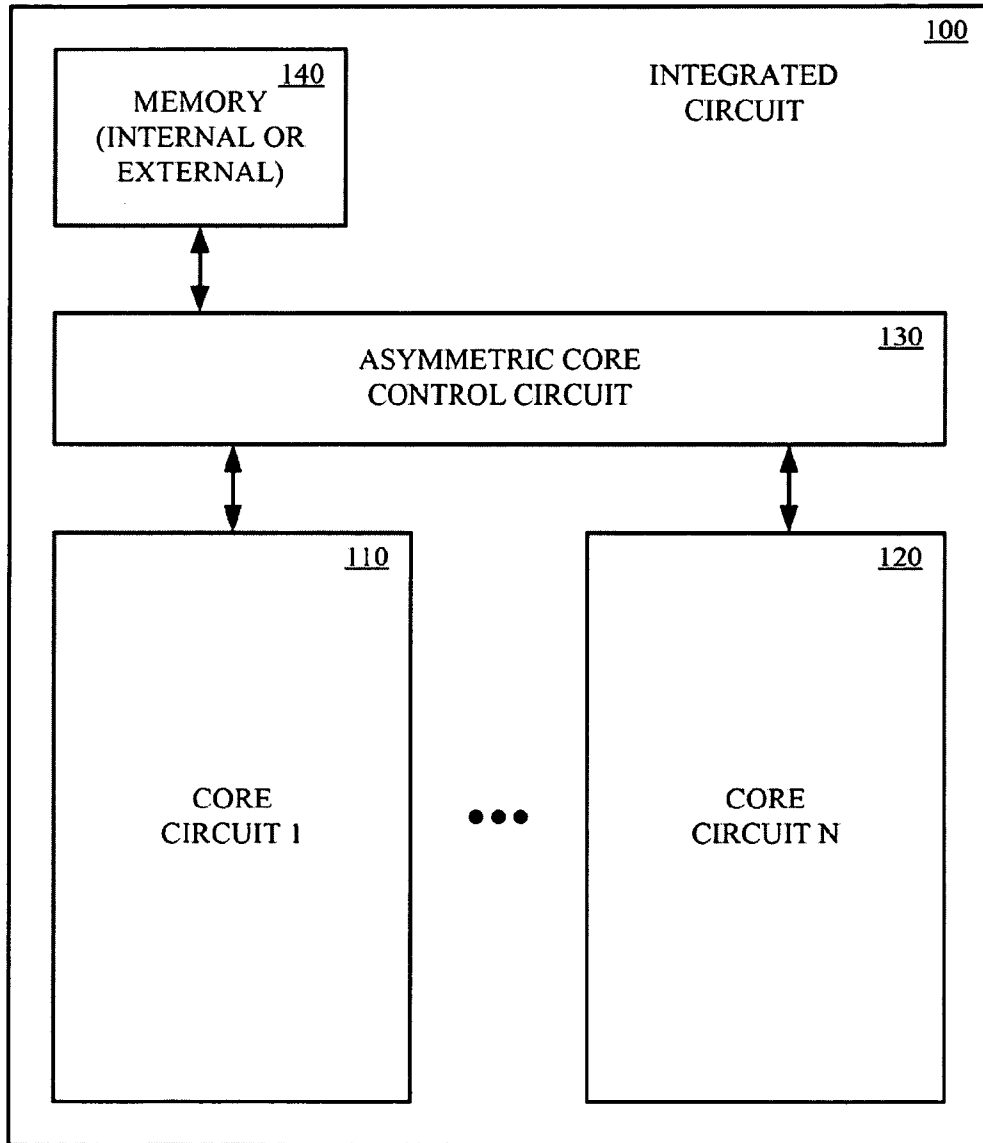


Figure 1

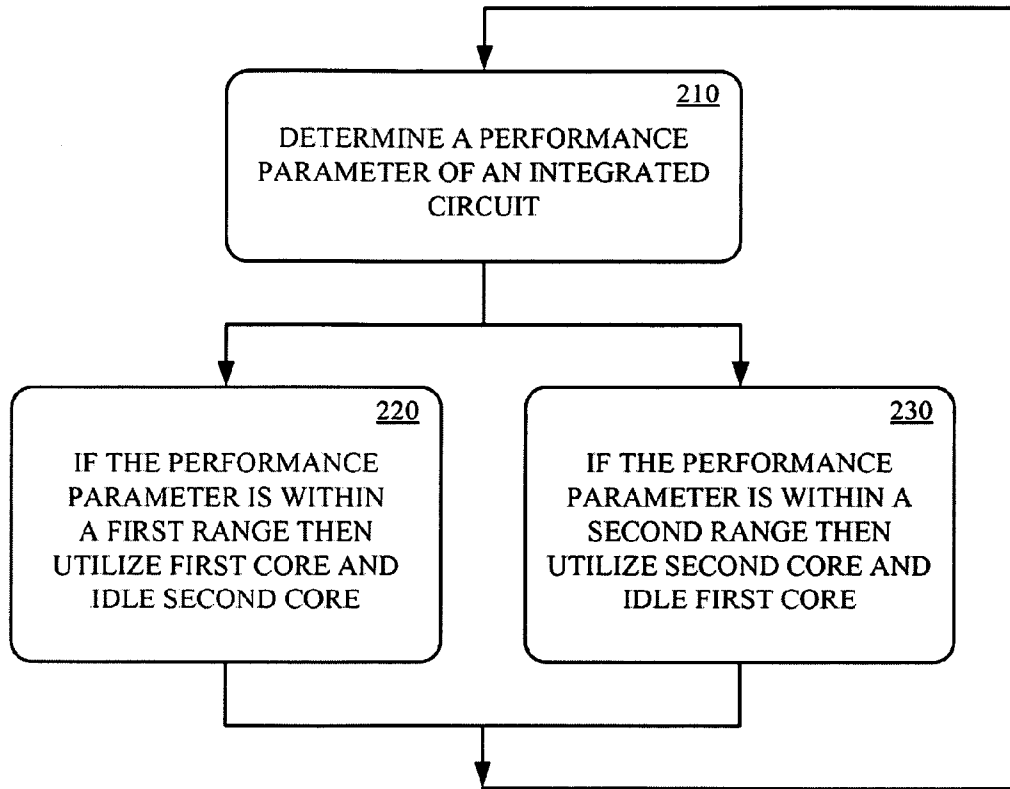


Figure 2

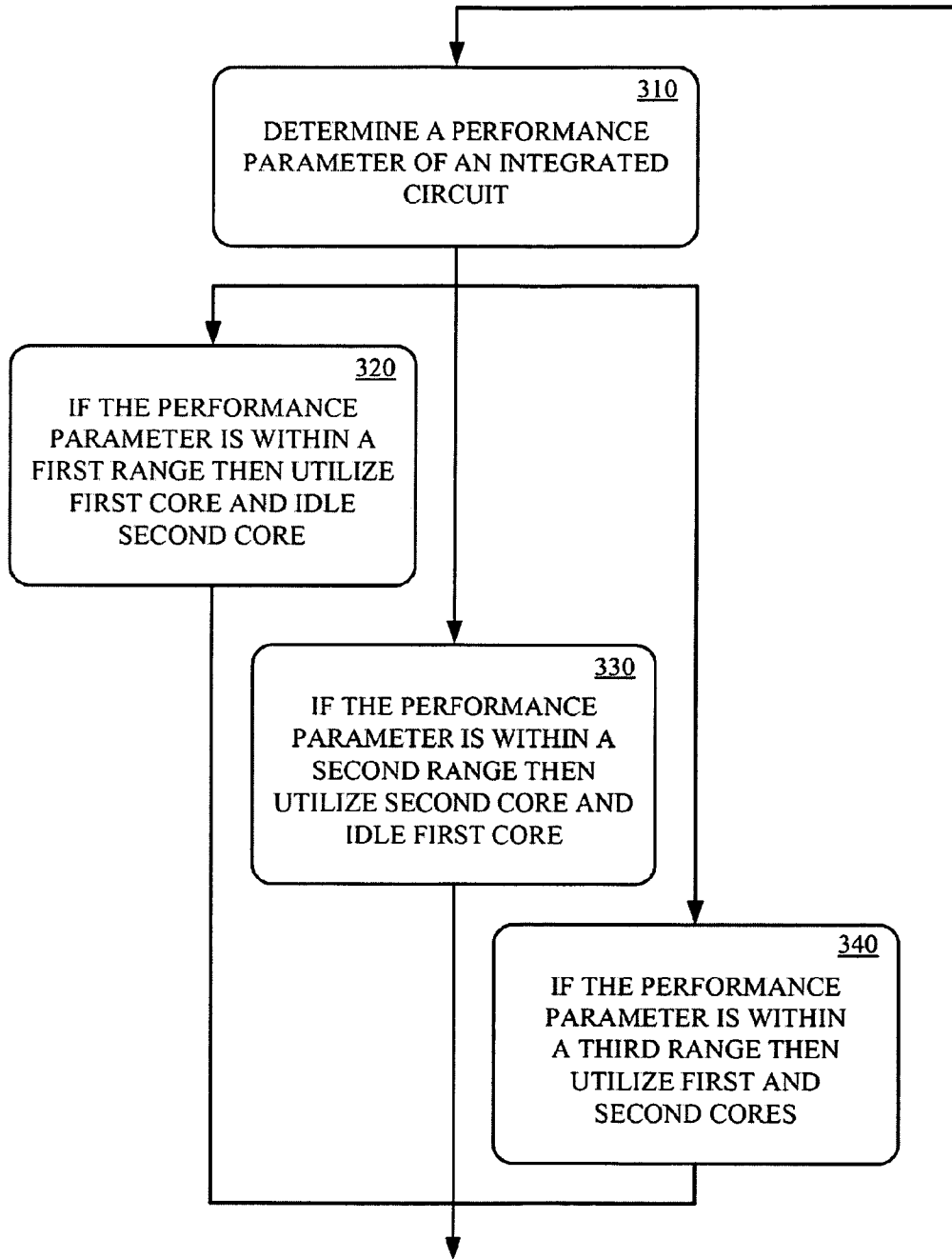


Figure 3

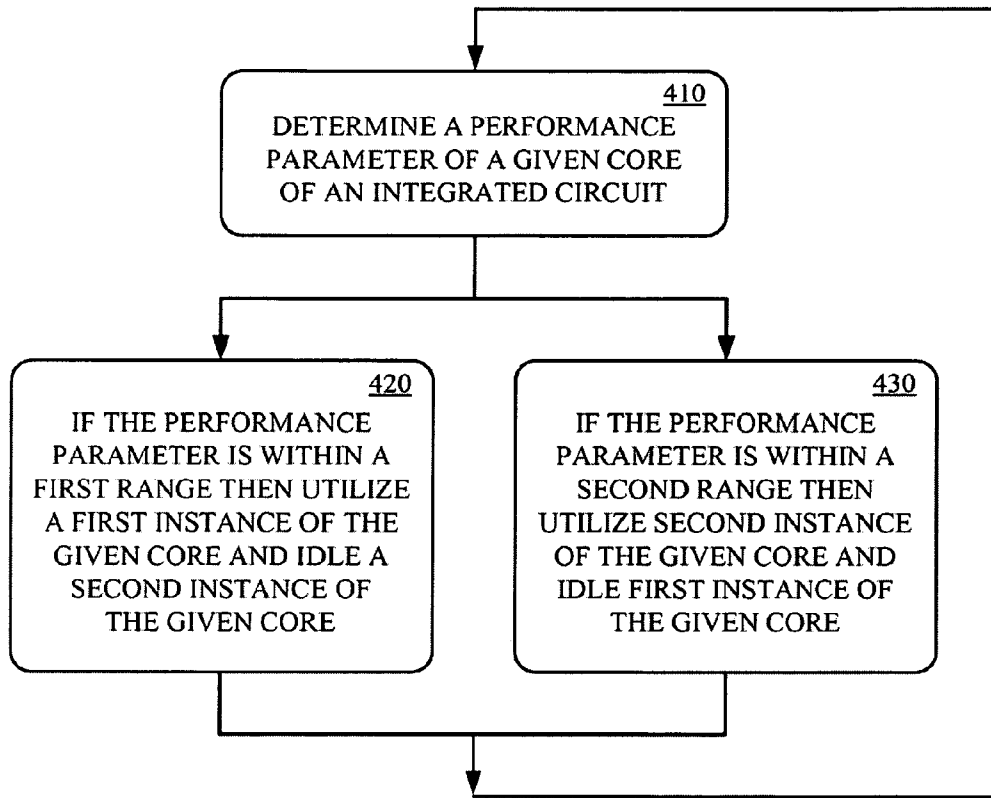


Figure 4

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