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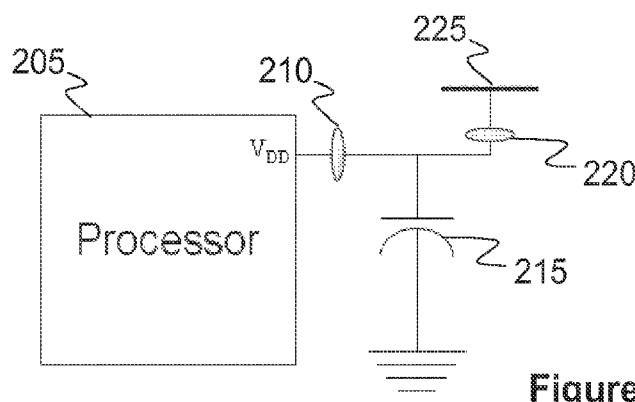
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**Figure 2**

(57) Abstract: Procedures are described for enhancing target system execution integrity determined by power fingerprinting (PFP): by integrating PFP into the detection phase of comprehensive defense-in-depth security; by deploying a network of PFP enabled nodes executing untrusted devices with predefined inputs forcing a specific state sequence and specific software execution; by embedding module identification information into synchronization signaling; by combining signals from different board elements; by using malware signatures to enhance PFP performance; by automatic characterization and signature extraction; by providing secure signature updates; by protecting against side-channel attacks; performing real-time integrity assessment in embedded platform by monitoring their dynamic power consumption and comparing it against signatures from trusted code, including pre-characterizing power consumption of the platform by concentrating on trace sections carrying the most information about the internal execution status; by using PFP from sequence of bit transitions to detect deviations from authorized execution of software in a digital processor.

