

CLAIMS

We claim:

1. An apparatus comprising:

5 a docking station;

a computing system removably coupled to the docking station and having a plurality of components and a power delivery subsystem to deliver power to integrated circuit (IC) components under direction of a controller, the controller being communicably coupled to the docking station when the docking station is coupled to the computing system to cause power
10 from the docking station to be delivered to at least one of the IC components along with power from the power delivery system, wherein the at least one IC component comprises a configurable load line that is changed in response to the computing system being docked in the docking station or undocked from the docking station,

wherein the configurable load line has a load degradation that is reduced in response to the
15 computing system being docked in the docking station by connecting the at least one IC component to a path, between the docking station and the at least one IC component, having reduced impedance with respect to another path between the power delivery subsystem and the at least one IC component, and

wherein the at least one IC component has a current limit that is reset in response to the
20 computing system being docked in the docking station.

2. The apparatus defined in Claim 1 further comprising a bus coupling the at least one IC component and the controller to enable the at least one IC component to control the controller based on the load line.

3. The apparatus defined in Claim 2 wherein the bus comprises a Serial Voltage Identification (SVID) bus.

4. The apparatus defined in Claim 1 wherein the at least one IC component has a
30 current limit that is removed in response to the computing system being docked in the docking station.

5. The apparatus defined in Claim 3 wherein the at least one IC component includes an input to receive an indication as to whether the computing system is docked in the docking station and configures the load line and controls the controller based on the indication.
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6. The apparatus defined in Claim 1 wherein the docking station is coupled to provide power to the at least one IC component and signaling with the controller through a connector.

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7. The apparatus defined in Claim 6 wherein the connector comprises a flexible printed circuit (FPC) cable.

8. The apparatus defined in Claim 6 wherein the connector includes contacts that
10 mate with contacts of the computing system when the computing system is docked with the docking station.

9. The apparatus defined in Claim 1 wherein the at least one IC component
comprises a processor or a system-on-a-chip (SoC) and the power delivery subsystem includes a
15 voltage regulator, wherein the controller is operable to control the voltage regulator.

10. A method comprising:
signaling that a computing system has been docked to a docking station, wherein the
computing system has a plurality of components and a power delivery subsystem to deliver
20 power to integrated circuit (IC) components under direction of a controller;
in response to the signaling, controlling a power stage to deliver power from the docking
station to at least one of the IC components along with power from the power delivery system;
and
changing the load line of the at least one IC component in response to the computing
25 system being docked in the docking station or undocked from the docking station, including
connecting the at least one IC component to a path, between the docking station
and the at least one IC component, having reduced impedance with respect to another path
between the power delivery subsystem and the at least one IC component to reduce load
degradation of the load line, and
30 resetting a current limit of the at least one IC component.

11. The method defined in Claim 10 further comprising controlling the controller
based on the load line using a bus coupling the at least one IC component and the controller.

12. The method defined in Claim 11 wherein the bus comprises a Serial Voltage Identification (SVID) bus.

13. The method defined in Claim 10 further comprising removing a current limit in response to the computing system being docked in the docking station.

14. The method defined in Claim 10 further comprising receiving an indication, by the at least one IC component, as to whether the computing system is docked in the docking station and changing the load line and controlling the controller based on the indication.

15. The method defined in Claim 10 further comprising signaling between the docking station and the controller through a connector that is coupled to provide power to the at least one IC component from the docking station.

16. The method defined in Claim 15 wherein the connector comprises a flexible printed circuit (FPC) cable.

17. The method defined in Claim 15 wherein the connector includes contacts that mate with contacts of the computing system when the computing system is docked with the docking station.

18. The method defined in Claim 10 wherein the at least one IC component comprises a processor or a system-on-a-chip (SoC) and the power delivery subsystem includes a voltage regulator, wherein the controller is operable to control the voltage regulator.

19. An article of manufacture having one or more non-transitory computer readable media storing instructions which, when executed by a system, cause the system to perform a method comprising:

receiving, by an integrated circuit (IC), an indication that a computing system in which the IC resides as to whether the computing system is docked to a docking station;

changing a load line of the IC in response to the indication indicating that the computing system is docked in the docking station, including

connecting the IC to a path, between the docking station and the at least one IC component, having reduced impedance with respect to another path between the power delivery subsystem and the IC to reduce load degradation of the configurable line, and

resetting a current limit of the IC; and

controlling, by the IC, a controller in the computing system that controls a power delivery subsystem that delivers power to the IC based on whether the computing system is docked to a docking station.

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20. The article of manufacture defined in Claim 19 wherein the method further comprises signaling a power stage in the docking station to provide power from the docking station to the IC in response to a control signal sent from the IC to the controller.

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21. The article of manufacture defined in Claim 20 wherein the method further comprises providing power to the IC from the docking station while the IC also receives power from a power delivery system of the computing system.