Title:	**USB Device ESD Protection Change**		
Type of Notification:	**Component Change, Design Change**	**Updated:**	**n/a**
Affected Areas:	**USB Device**	**Superseded By:**	**n/a**
Original Notification Date:	**07 Apr 2015**	**Supersedes:**	**n/a**

Scope:	Power	BOM	Design	PCB	Mechanical	Software
	☐	☒	☒	☒	☐	☒

Summary:
A change is being made to the ESD protection circuit and TI TPD2E001 component on the affected products' USB Device circuit which improves the ability of software to detect attach/detach events.

Affected Products*:

Family	LCD Option(s)	Variant(s)	Version(s)	PCB Revision(s)	Serial Number(s)
SIM115	All	All	v2.0	PCB-000019-02	All within Version + PCB Revision scope
SIM225	All	A01,A02, A03,A04	V1.1	PCB-000010-02	All within Version + PCB Revision scope
SIM231	All	All	v2.0	PCB-000020-02	All within Version + PCB Revision scope
SIM535	All	All	v2.1	PCB-000018-03	All within Version + PCB Revision scope
			v2.2	PCB-000018-04	All within Version + PCB Revision scope

**See Identifying Affected Products (below) for more information.*

Detail/Root Cause
The current USB Device ESD protection chip, a Texas Instruments TPD2E001, on the affected products can sometimes cause issues with detection of insertion/removal of the device from the host due to the connection in the part to the VBUS signal. In production versions of the affected product, the VBUS capacitor in this circuit had previously been depopulated due to this issue and will be removed from the BOM and design permanently as part of this described change.

Workarounds and Software Implications
USB device stacks on the affected products will see improved ability to detect host connects/disconnects. No workaround or improvement to existing products is possible in software, nor is any change required to software to accommodate the change described herein.

Plans
New revisions of the affected products will migrate to the as inventory depletes to use the new TI TPD2E2U06DRLR part and remove the connection to the VBUS signal.

Identifying Affected Products:

Affected products can be identified in the following ways:

- PCB silk screen with product and version number
- PCB silk screen of PCB revision
- Through the product serial number, which encodes the product identification and version, and can be accessed:
  - at runtime by OEM custom software as described in the product's Technical Reference Manual (TRM),
  - at runtime in SHIP GUIs,
  - using SHIPTide, and,
  - from an attached controller using the SHIPBridge protocol.
- The Manufacturing ID (MID) 2D matrix barcode on all units can be submitted to Serious for determination

For Further Information

Contact your local Serious manufacturers' representative or Contact Serious.

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