## Overview

A Samsung Tab 4 (8" and 10.1") Tablet, which is powered off, cannot be charged or activated when a LAVA SimulCharge product is set to SimulCharge mode. SimulCharge mode is the desired operational state, as it permits a tablet to charge and operate with USB accessories.

These issues are unique to the Samsung Tab 4 (8" and 10") devices. To address the problem, the LAVA STS and STS-** SimulCharge products have the Charge-Only mode, which permits the Tab 4 Tablet to charge as well as be activated (hence powered on).

Once the tablet is active, then SimulCharge mode can be restored immediately. The tablet can optionally remain in Charge-Only mode, to charge the tablet battery at a higher rate. In Charge-Only mode, the tablet recognizes no USB accessories.

## STS-** SimulCharge Product Family – Default Operation

The LAVA STS-** SimulCharge products have a Mode button which toggles between the SimulCharge and Charge-Only mode. The power on default state is always SimulCharge.

When pressing the Mode Select button for at least ¼ second then releasing it, the Mode is toggled between SimulCharge Mode and Charge-Only Mode. If the button is pressed for more than 4 seconds, the button is ignored until released then pressed again.

The product status lights report which mode is active. The yellow indicator is for SimulCharge mode. The green indicator is for Charge-Only mode.

The products which have the Mode button include the STS-3U, STS-E, STS-PE, STS-2UE, STS-2UE+, STS-P2UE, and the STS-P2UE+.

## STS-** SimulCharge Product Family – Alternate Operation

The LAVA STS-** SimulCharge products have an internal jumper labeled "Type". This jumper is open as a manufacturing default. Shorting this jumper changes the Mode button from "edge sensitive" operation to "level sensitive" operation.

With the Type jumper shorted, pressing and holding the Mode button places the STS-** into Charge-Only Mode. Releasing the button returns the STS-** to SimulCharge mode. The button must be held for at least ¼ second for it to be recognized.

With the Mode button pressed, an inactive Samsung Tab 4 Tablet can be activated. Once the tablet starts to come up, the Mode button can be released. The tablet continues to power up and as SimulCharge mode is active, USB accessories can be accessed. As SimulCharge mode is active, the tablet is being powered and the tablet battery is being charged.

This configuration never allows the STS-** to be left in Charge-Only mode by accident, which is beneficial for a Kiosk application, and allows for an inactive Samsung 4 Tablet to be activated.

The state of the Type jumper is only sampled on power up. Once this jumper is applied, please power off the unit and then power it back on.

The product status lights report which mode is active, the same as they did for the default operation. The yellow indicator is for SimulCharge mode. The green indicator is for Charge-Only mode

The early STS-** production units do not have the Type jumper pins installed, but do have the pads on the board. If you are skilled with a soldering iron, the jumper pins can be added in a few minutes. If soldering on the pins, use standard measures to guard against static, and only used solder which is suitable for electronic work. Only use a low wattage solder iron to avoid the application of too much heat, which may damage the board.

The products that have the Mode button and Type jumper include the STS-3U, STS-E, STS-PE, STS-2UE, STS-2UE+, STS-P2UE, and the STS-P2UE+.

## STS : SimulCharge and 1-port USB Adapter (OEM Board)

The STS (formerly TL002C) is a board only product for OEM applications. This product is not provided with a Mode button, but instead has a Mode jumper. Shorting the Mode jumper is equivalent to pushing the Mode button on the STS-** SimulCharge products.

The STS board has a jumper labeled "Type". This jumper is open as a manufacturing default. Shorting this jumper changes the Mode button from "edge sensitive" operation to "level sensitive" operation.

This product has the Type pins installed by default. The Type pins simply need to be shorted with the provided jumper, to achieve the functionality described in the previous section. The state of the Type jumper is only sampled on power up. Once this jumper is applied, please power off the unit and then power it back on.

## TL-002 : SimulCharge Module and 1-port USB Adapter

The TL-002 does not support the Charge-Only mode of operation.

## PL-002 : SimulCharge Module and 1-port USB Adapter

The PL-002 is only for Samsung Mobile Phone operation, therefore is not applicable.

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