Overview

A Samsung Tab 4 8" and 10.1" Tablet with **Android KitKat**, 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. The Tab 4 7" device has not been tested. 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, 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.

Although SimulCharge can be restored immediately after the tablet powers up, waiting 15 to 20 minutes allows some battery charge to build up to avoid a return to the problem state if the charging power source is interrupted.

When a powered LAVA SimulCharge product is in SimulCharge mode and connected to a Samsung Tab 4 tablet, which is turned off, the tablet screen may flicker every 2 or 3 seconds.

The Charge-Only mode can be used as a recovery mode for a Samsung Tab 4 tablet, which has been turned off or has completely discharged.

NOTE: The tablet behavior with **Android Lollipop** differs from KitKat. The tablet will charge in SimulCharge mode, but does not always recognize the external USB devices on start up. Unlike KitKat, the Lollipop build allows the tablet to be started in SimulCharge mode. On startup the tablet may not recognize that it can be charged. A tablet with the Lollipop build can be placed into Charge-Only mode using the Charge Mode button, and then returned to SimulCharge with charging support and Ethernet operation.

STS-** SimulCharge Product Family

The majority of LAVA 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. A yellow indicator reports SimulCharge mode is active. A green indicator reports Charge-Only mode is active.

The STS-** products which have the Mode button include the STS-3U, STS-E, STS-PE, STS-2UE, STS-2UE+, STS-P2UE, and the STS-P2UE+. These products are intended for a specific set of Samsung Tablets.

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. This product is intended for a specific set of Samsung Tablets.

The STS Type jumper configures the Mode jumper for level sensitive or edge sensitive operation. Please consult the product specific documentation for further details on the STS Mode and Type jumper behavior. With the Type jumper removed, the board operates the same as a STS-** product.

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

The TL002 product is a user level product that provides SimulCharge support and adapts the Tablet Micro USB-B receptacle to a USB-A receptacle. This product does not support the Charge-Only mode. This product is intended for a specific set of Samsung Tablets.

With a Samsung USB Charger applied to the TL002, the tablet is placed in SimulCharge mode and any attached USB accessory draws power from the external supply. In this state the tablet is being charged by the external supply. The power rating of the external supply must be adequate for the tablet and the USB accessories combined.

With no power applied to the TL-002, the module simply acts as a Micro USB-B to USB-A OTG Host adapter. Any USB accessory plugged into the tablet draws power from the tablet battery. The STS and STS-** products all require power to permit operation with USB accessories.

A Samsung Tab 4, which is turned off, can only be turned back on if the TL-002 is unplugged from the tablet, or the power to the TL-002 is turned off. If the tablet battery has been completely discharged, the tablet must be plugged directly into a Samsung Charger to build up a minimum battery charge, before reconnecting the TL-002.

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

The PL-002 physically resembles the TL-002, but is designed for a specific set of Samsung Mobile Telephones. The PL-002 operates in the same manner as the TL-002. The LAVA Web site contains a compatibility table to identify which Samsung devices are supported.

Do not use a PL-002 with a Samsung Tablet. Using a PL-002 with a Samsung Tablet will do no harm. However the desired charging modes will not work.

Using a TL-002 with a Samsung Mobile Telephone will do no harm. However the desired charging modes will not work.

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