- **Applicable platform**: SDM660/SDM670/MSM8998/SDM845

- **Issue/problem description**:

Issue reproduce steps:

1. power off SDM660.

2. SDM660 connects SDP/CDP port and charge through the USB line.

3. The charge current <=100mA.

- **Issue Analysis:**

  When connect to SDP/CDP, the charge current depends on USB bus status. As per USB specification, device can draw no more than 100mA if connected but not configured, and can draw >=500mA if device configured and USB bus is active, and no more than 2mA if bus suspended. We need check USB bus status accordingly for the charge current setting.

- **Solution**

We can follow below steps to check:

1. Check the USB enumeration. Ensure that the enumeration is completed and usb bus not suspended.
2. If USB bus suspend, follow "KBA-171218012414 How to change charger current when usb bus suspend while connect to SDP/CDP?" to step forward.
3. if USB device not enumerated, check if composition set properly. Because USB enumeration depends on the property settings, thus cannot works if property set/access fail. Here take SDM660 for example, we can make below changes to enable usb storage device on power off charge mode.

File init.qcom.usb.sh

......

```
on charger
- setprop sys.usb.config mass_storage
+ mount configfs none /config
+ mkdir /config/usb_gadget/g1 0770 shell shell
+ mkdir /config/usb_gadget/g1/strings/0x409 0770 shell shell
+ write /config/usb_gadget/g1/bcdUSB 0x0200
+ write /config/usb_gadget/g1/os_desc/use 1
+ write /config/usb_gadget/g1/strings/0x409/serialnumber ${ro.serialno}
```

+ write /config/usb_gadget/g1/strings/0x409/manufacturer ${ro.product.manufacturer}

+ write /config/usb_gadget/g1/strings/0x409/product ${ro.product.model}

+ mkdir /config/usb_gadget/g1/functions/mass_storage.0

+ mkdir /config/usb_gadget/g1/configs/b.1 0770 shell shell

+ mkdir /config/usb_gadget/g1/configs/b.1/strings/0x409 0770 shell shell

+ write /config/usb_gadget/g1/os_desc/b_vendor_code 0x1

+ write /config/usb_gadget/g1/os_desc/qw_sign "MSFT100"

+ symlink /config/usb_gadget/g1/configs/b.1 /config/usb_gadget/g1/os_desc/b.1

+ write /config/usb_gadget/g1/configs/b.1/strings/0x409/configuration "msc"

+ write /config/usb_gadget/g1/idVendor 0x05C6

+ write /config/usb_gadget/g1/idProduct 0xF000

+ symlink /config/usb_gadget/g1/functions/mass_storage.0 /config/usb_gadget/g1/configs/b.1/f1

+ setprop sys.usb.controller "a800000.dwc3"

+ write /config/usb_gadget/g1/UDC ${sys.usb.controller}

+ setprop sys.usb.state ${sys.usb.config}

- **Risks & Side effects**
  - None.

- **Q&A**
  - [Q] Why does the USB not enumeration when the composition on USB does not take effect?

[A] USB enumeration depends on the property settings, thus cannot works if property access fail.