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Legend

General comment such as function title, configuration, ...
Text to be added to silkscreen
Warning text.
Notes to generate the board layout.

Open Platform License Agreement

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U_MB1428_Top
MB1428_Top.SchDoc
VREF at 3.25V (SB37 is not fitted).
To have VREF at 2.5V, fit SB37 and remove R138

Decoupling capacitors have to be as close as possible from the pins.

Both capacitors have to be as close as possible from the package and connected to VSSA.

Ceramic capacitor (Low ESR, ESR<1ohm)
USB-PD 5V Converter

WARNING:
Please respect following constraints or permanent damage could occur:
- USBPD_550mA_PROTECT can be activated only if USB Type-C Host is 1.5A capable
- 5V_USBPD_1A_PROTECT can be activated only if USB Type-C Host is 3A capable and if USBPD_VBUS setting is 5V or greater.

For 3A current, VBUS and GND tracks designed to be compatible with about 3A total current (1.5 A per pin).

5V_USBPD

USB-TYPE-C

USB_PD_TYPE-C

WARNING:
In any case, USBPD_VBUS voltage shall not exceed 3.75V to 15V setting

WARNING:
In any case, the total drawn current on USBPD_VBUS shall not exceed 3A

USB-PD Detach

Width Constraint [Pref Width = 7.5mm  Min Width = 5mm  Max Width = 10mm]

As close as possible from LTC3114-1

WARNING:
USBPD_VBUS shall not exceed 3A

In any case, USBPD_VBUS voltage shall not exceed 3A total current (1.5 A per pin).

Track width per each VBUS or GND pin

Width Constraint [Pref Width = 2.5mm  Min Width = 1mm  Max Width = 10mm]

USBPD_FS

USBPD_FS_DP

USBPD_FS_DM

USBPD_VIN

USB_DETACH

AVDD

USB_PD_TYPE-C

ESDA25P35-1U1M

100nf, 50V

USBPD_CC1

100pf, 50V

USBPD_VBUS

USB_PD_TYPE-C

USBPD_VBUS

USB_PD_TYPE-C

USB_PD_TYPE-C

USB_PD_TYPE-C

USB_PD_TYPE-C

USB_PD_TYPE-C

USB_PD_TYPE-C

USB_PD_TYPE-C
WARNING:
For eyes protection, in case BUCK_GREEN_DRIVE or BUCK_GREEN_SENSE PIOs (PC8, PA0) are used by another function of the design, it is very important to remove R72 and R78.

WARNING:
For eyes protection, in case BUCK_RED_DRIVE or BUCK_RED_SENSE PIOs (PC6, PA7) are used by another function of the design, it is very important to remove R65 and R69.

WARNING:
For eyes protection, it is recommended to keep unchanged the RGB LED current limits examples set in the Software DEMO Mode.

WARNING:
For eyes protection, in case RGB LED and diffuser are not used, it is recommended to remove the LED connections and to connect AGND instead.
32 pin Extension Connectors

Extension Connectors distance : 17x2.54 mm = 43.18 mm. All components on Bottom side shall have their height < 2.4 mm (including tolerance)

GND spacers

*Used as spacers: each one must be placed in same alignment than Extension Connectors at a distance multiple of 2.54 mm