

SB-UCM

BOARD REVISION: 1.0

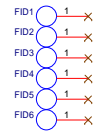
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CARRIER BOARD PRIMARY I2C BUS SLAVES (7bit address):

0b010,0000 - Carrier GPIO Expander
0b011,0110 - DS2786 Battery Supervisor
0b011,1001 - DVI Transmitter
0b101,0000..0b1010011 - Carrier ID EEPROM
0b110,1011 - BQ24161 battery charger & power-path
0b111,1000 - LI-OV5640 default slave address (sccb slave ID)

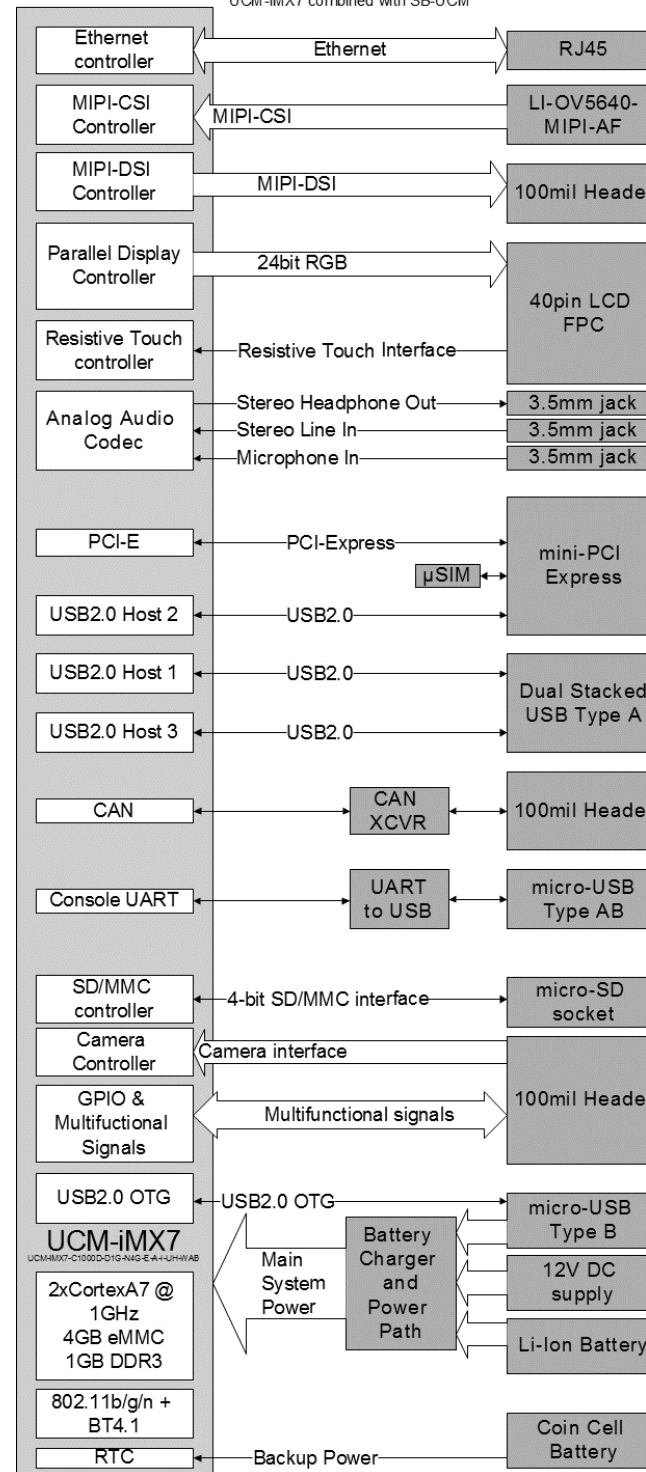
PCB1
PCB, SB-UCM Rev 1.0

ZZ1
PARSER_VERSION_1.0




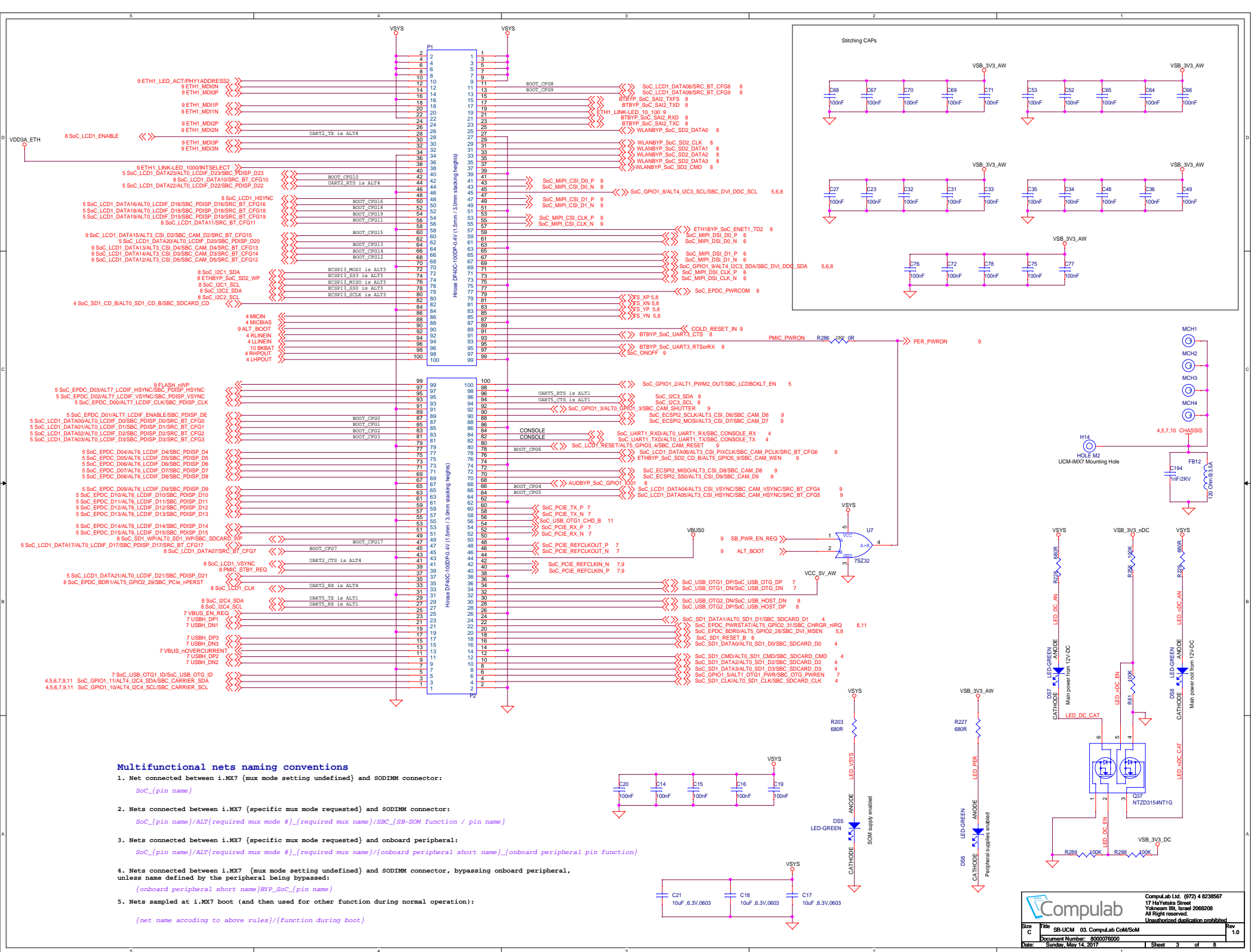
SB-UCM

UCM-IMX7 combined with SB-UCM

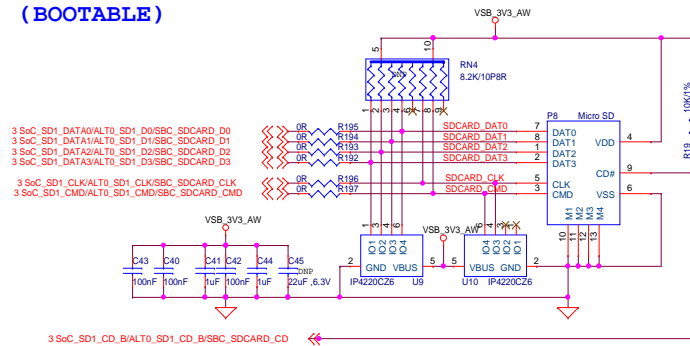


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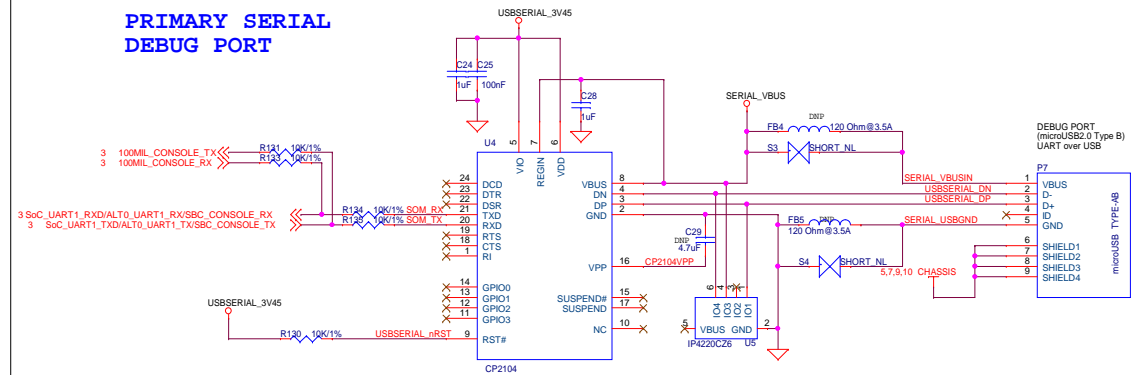
 CompuLab		CompuLab Ltd. (972) 4 8238567 17 HaYetsira Street Yokneam Illit, Israel 2069208 All Right reserved. Unauthorized duplication prohibited
Size A	Title SB-UCM 02. Board Revision History Document Number: 8000076000	Rev 1.0
Date: Sunday, May 14, 2017		Sheet 2 of 8



micro SD SLOT
(BOOTABLE)



PRIMARY SERIAL
DEBUG PORT

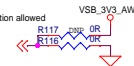


POWER/RESET/BOOT SWITCHES

module onboard EEPROM/SPI-Flash write protection feature
(Signal pulled high onboard module):

Low - EEPROM write-protected. SPI flash write protection allowed

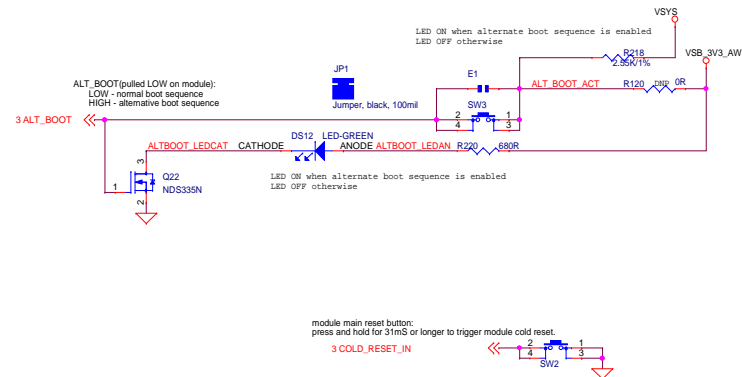
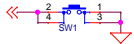
High - EEPROM & SPI-Flash writeable
3 FLASH_nWP



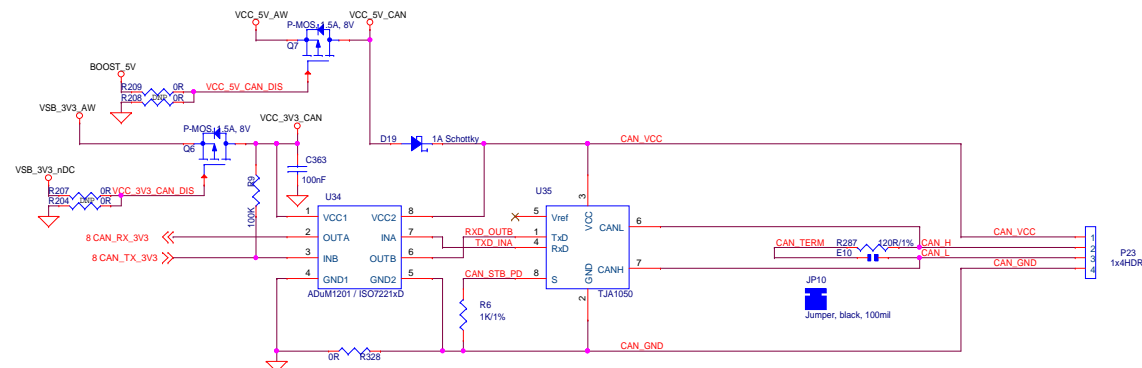
Module ON/OFF button

While module is in OFF state:
A. short press triggers module transition to ON state.

While module is in ON state:
A. Short press generates interrupt (intended for SW controlled power down).
B. Long (above ~5s) press and hold forces module immediate unconditional transition to OFF state



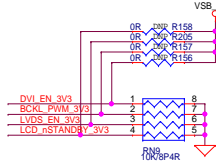
CAN TRANSCEIVER



3SoC_LCD1_DATA0/ALT0_LCDF_D0/SBC_PDISP_D0/SRC_BT_CFG0
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 3SoC_LCD1_DATA0/ALT0_LCDF_D2/SBC_PDISP_D2/SRC_BT_CFG2
 3SoC_LCD1_DATA0/ALT0_LCDF_D3/SBC_PDISP_D3/SRC_BT_CFG3
 3SoC_EPDC_D0/ALT6_LCDF_D4/SBC_PDISP_D4
 3SoC_EPDC_D0/ALT6_LCDF_D5/SBC_PDISP_D5
 3SoC_EPDC_D0/ALT6_LCDF_D6/SBC_PDISP_D6
 3SoC_EPDC_D0/ALT6_LCDF_D7/SBC_PDISP_D7
 3SoC_EPDC_D0/ALT6_LCDF_D8/SBC_PDISP_D8
 3SoC_EPDC_D0/ALT6_LCDF_D9/SBC_PDISP_D9
 3SoC_EPDC_D0/ALT6_LCDF_D10/SBC_PDISP_D10
 3SoC_EPDC_D0/ALT6_LCDF_D11/SBC_PDISP_D11
 3SoC_EPDC_D0/ALT6_LCDF_D12/SBC_PDISP_D12
 3SoC_EPDC_D0/ALT6_LCDF_D13/SBC_PDISP_D13
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 3SoC_EPDC_D0/ALT6_LCDF_D15/SBC_PDISP_D15

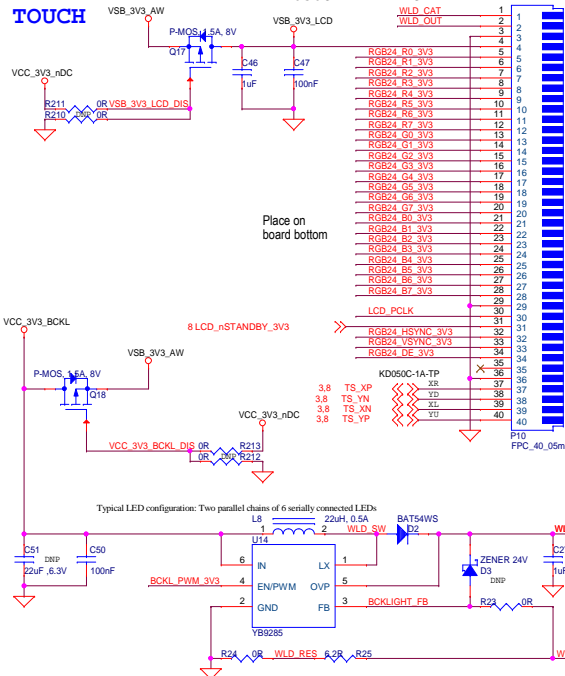


3SoC_LCD1_DATA16/ALT0_LCDF_D16/SBC_PDISP_D16/SRC_BT_CFG16
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 3SoC_LCD1_DATA18/ALT0_LCDF_D18/SBC_PDISP_D18/SRC_BT_CFG18
 3SoC_LCD1_DATA19/ALT0_LCDF_D19/SBC_PDISP_D19/SRC_BT_CFG19
 3SoC_LCD1_DATA20/ALT0_LCDF_D20/SBC_PDISP_D20
 3SoC_LCD1_DATA21/ALT0_LCDF_D21/SBC_PDISP_D21
 3SoC_LCD1_DATA22/ALT0_LCDF_D22/SBC_PDISP_D22
 3SoC_LCD1_DATA23/ALT0_LCDF_D23/SBC_PDISP_D23
 3SoC_EPDC_D0/ALT7_LCDF_ENABLE/SBC_PDISP_DE
 3SoC_EPDC_D0/ALT7_LCDF_VSYNC/SBC_PDISP_VSYNC
 3SoC_EPDC_D0/ALT7_LCDF_HSYNC/SBC_PDISP_HSYNC
 3SoC_GPIO1_2/ALT1_PWM2_OUT/SBC_LCDBCKLT_EN

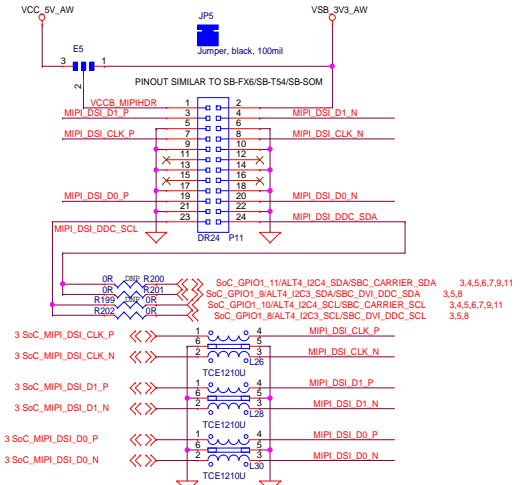


PARALLEL RGB LCD & TOUCH

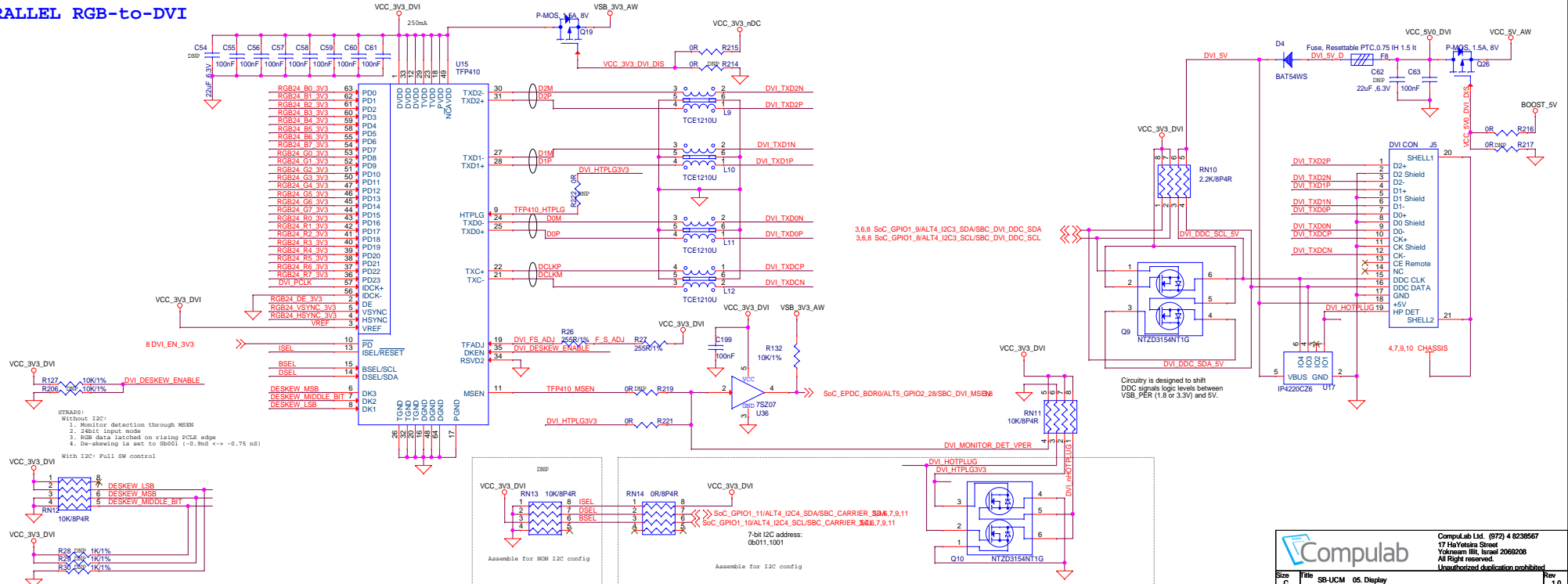
SHENZHEN STARTER
 ELECTRONIC TECHNOLOGY
 KD050C-1A-TP LCD



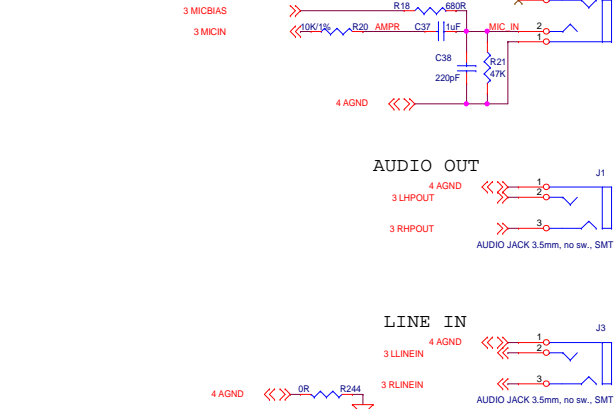
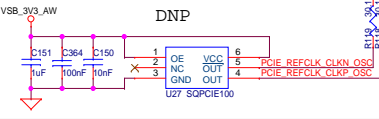
MIPI-DSI HEADER



PARALLEL RGB-to-DVI

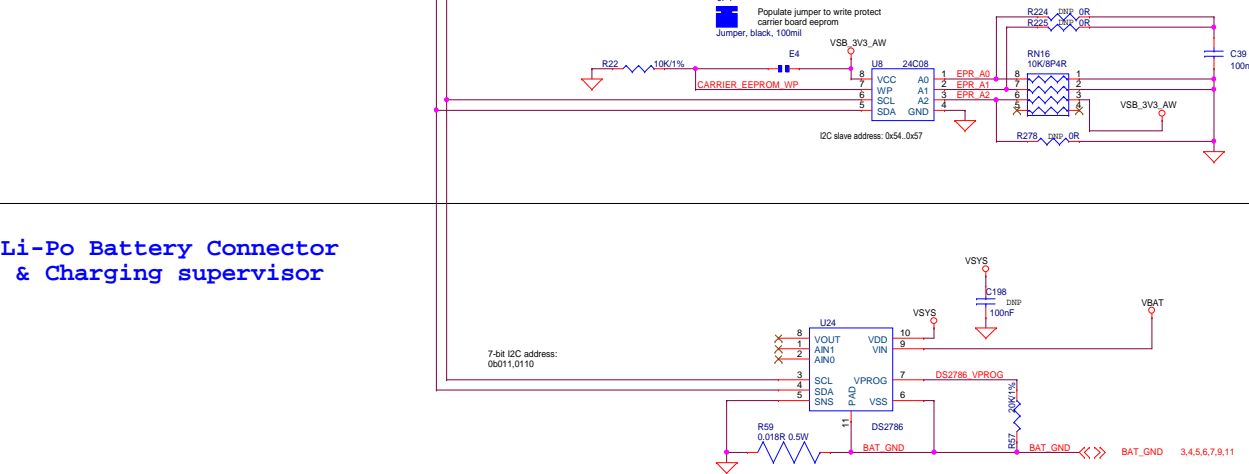


PCIE REFCLK PROVISION

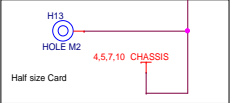
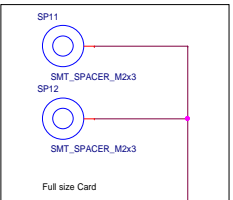
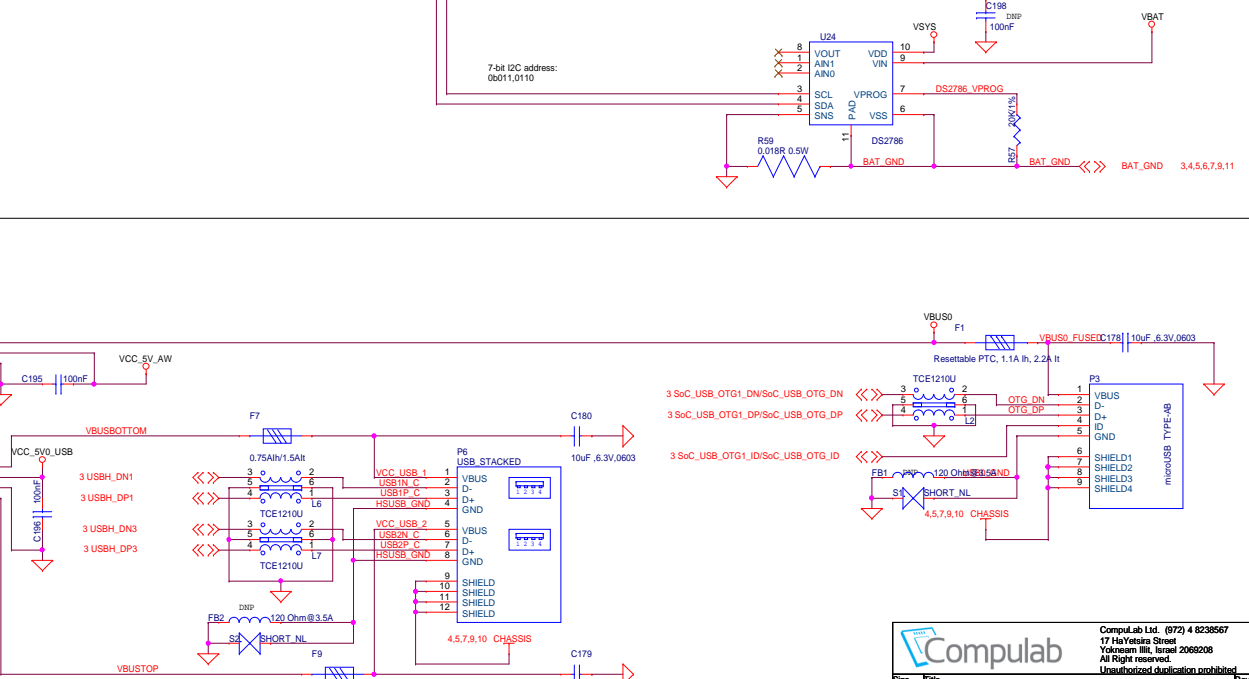


Circuitry makes sure we keep onboard VBUS load switch (L11) turned off in case SoM board draws its main power (VCC_CM) from that same VBUS rail (preventing circular power dependency).

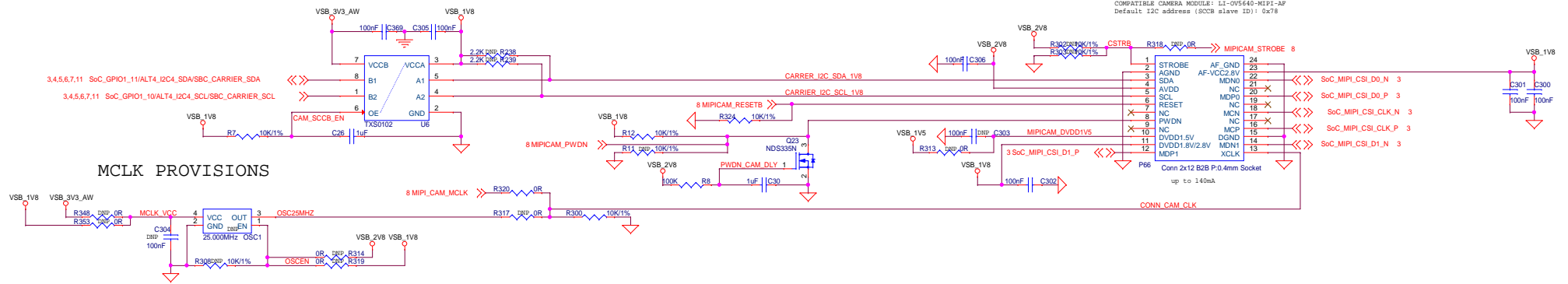
VCC_5V0_USB, VCC_5V_AW, P-MOS, 1.5A, 8V, Q30, VCC_5V0_USB_DIS, BOOST_5V, VSB_3V3_AW, R141, 10K/1%, R142, 10K/1%, R143, 10K/1%, R144, 10K/1%, R145, 10K/1%, R146, 10K/1%, R147, 10K/1%, R148, 10K/1%, R149, 10K/1%, R150, 10K/1%, R151, 10K/1%, R152, 10K/1%, R153, 10K/1%, R154, 10K/1%, R155, 10K/1%, R156, 10K/1%, R157, 10K/1%, R158, 10K/1%, R159, 10K/1%, R160, 10K/1%, R161, 10K/1%, R162, 10K/1%, R163, 10K/1%, R164, 10K/1%, R165, 10K/1%, R166, 10K/1%, R167, 10K/1%, R168, 10K/1%, R169, 10K/1%, R170, 10K/1%, R171, 10K/1%, R172, 10K/1%, R173, 10K/1%, R174, 10K/1%, R175, 10K/1%, R176, 10K/1%, R177, 10K/1%, R178, 10K/1%, R179, 10K/1%, R180, 10K/1%, R181, 10K/1%, R182, 10K/1%, R183, 10K/1%, R184, 10K/1%, R185, 10K/1%, R186, 10K/1%, R187, 10K/1%, R188, 10K/1%, R189, 10K/1%, R190, 10K/1%, R191, 10K/1%, R192, 10K/1%, R193, 10K/1%, R194, 10K/1%, R195, 10K/1%, R196, 10K/1%, R197, 10K/1%, R198, 10K/1%, R199, 10K/1%, R200, 10K/1%, R201, 10K/1%, R202, 10K/1%, R203, 10K/1%, R204, 10K/1%, R205, 10K/1%, R206, 10K/1%, R207, 10K/1%, R208, 10K/1%, R209, 10K/1%, R210, 10K/1%, R211, 10K/1%, R212, 10K/1%, R213, 10K/1%, R214, 10K/1%, R215, 10K/1%, R216, 10K/1%, R217, 10K/1%, R218, 10K/1%, R219, 10K/1%, R220, 10K/1%, R221, 10K/1%, R222, 10K/1%, R223, 10K/1%, R224, 10K/1%, R225, 10K/1%, R226, 10K/1%, R227, 10K/1%, R228, 10K/1%, R229, 10K/1%, R230, 10K/1%, R231, 10K/1%, R232, 10K/1%, R233, 10K/1%, R234, 10K/1%, R235, 10K/1%, R236, 10K/1%, R237, 10K/1%, R238, 10K/1%, R239, 10K/1%, R240, 10K/1%, R241, 10K/1%, R242, 10K/1%, R243, 10K/1%, R244, 10K/1%, R245, 10K/1%, R246, 10K/1%, R247, 10K/1%, R248, 10K/1%, R249, 10K/1%, R250, 10K/1%, R251, 10K/1%, R252, 10K/1%, R253, 10K/1%, R254, 10K/1%, R255, 10K/1%, R256, 10K/1%, R257, 10K/1%, R258, 10K/1%, R259, 10K/1%, R260, 10K/1%, R261, 10K/1%, R262, 10K/1%, R263, 10K/1%, R264, 10K/1%, R265, 10K/1%, R266, 10K/1%, R267, 10K/1%, R268, 10K/1%, R269, 10K/1%, R270, 10K/1%, R271, 10K/1%, R272, 10K/1%, R273, 10K/1%, R274, 10K/1%, R275, 10K/1%, R276, 10K/1%, R277, 10K/1%, R278, 10K/1%, R279, 10K/1%, R280, 10K/1%, R281, 10K/1%, R282, 10K/1%, R283, 10K/1%, R284, 10K/1%, R285, 10K/1%, R286, 10K/1%, R287, 10K/1%, R288, 10K/1%, R289, 10K/1%, R290, 10K/1%, R291, 10K/1%, R292, 10K/1%, R293, 10K/1%, R294, 10K/1%, R295, 10K/1%, R296, 10K/1%, R297, 10K/1%, R298, 10K/1%, R299, 10K/1%, R300, 10K/1%, R301, 10K/1%, R302, 10K/1%, R303, 10K/1%, R304, 10K/1%, R305, 10K/1%, R306, 10K/1%, R307, 10K/1%, R308, 10K/1%, R309, 10K/1%, R310, 10K/1%, R311, 10K/1%, R312, 10K/1%, R313, 10K/1%, R314, 10K/1%, R315, 10K/1%, R316, 10K/1%, R317, 10K/1%, R318, 10K/1%, R319, 10K/1%, R320, 10K/1%, R321, 10K/1%, R322, 10K/1%, R323, 10K/1%, R324, 10K/1%, R325, 10K/1%, R326, 10K/1%, R327, 10K/1%, R328, 10K/1%, R329, 10K/1%, R330, 10K/1%, R331, 10K/1%, R332, 10K/1%, R333, 10K/1%, R334, 10K/1%, R335, 10K/1%, R336, 10K/1%, R337, 10K/1%, R338, 10K/1%, R339, 10K/1%, R340, 10K/1%, R341, 10K/1%, R342, 10K/1%, R343, 10K/1%, R344, 10K/1%, R345, 10K/1%, R346, 10K/1%, R347, 10K/1%, R348, 10K/1%, R349, 10K/1%, R350, 10K/1%, R351, 10K/1%, R352, 10K/1%, R353, 10K/1%, R354, 10K/1%, R355, 10K/1%, R356, 10K/1%, R357, 10K/1%, R358, 10K/1%, R359, 10K/1%, R360, 10K/1%, R361, 10K/1%, R362, 10K/1%, R363, 10K/1%, R364, 10K/1%, R365, 10K/1%, R366, 10K/1%, R367, 10K/1%, R368, 10K/1%, R369, 10K/1%, R370, 10K/1%, R371, 10K/1%, R372, 10K/1%, R373, 10K/1%, R374, 10K/1%, R375, 10K/1%, R376, 10K/1%, R377, 10K/1%, R378, 10K/1%, R379, 10K/1%, R380, 10K/1%, R381, 10K/1%, R382, 10K/1%, R383, 10K/1%, R384, 10K/1%, R385, 10K/1%, R386, 10K/1%, R387, 10K/1%, R388, 10K/1%, R389, 10K/1%, R390, 10K/1%, R391, 10K/1%, R392, 10K/1%, R393, 10K/1%, R394, 10K/1%, R395, 10K/1%, R396, 10K/1%, R397, 10K/1%, R398, 10K/1%, R399, 10K/1%, R400, 10K/1%, R401, 10K/1%, R402, 10K/1%, R403, 10K/1%, R404, 10K/1%, R405, 10K/1%, R406, 10K/1%, R407, 10K/1%, R408, 10K/1%, R409, 10K/1%, R410, 10K/1%, R411, 10K/1%, R412, 10K/1%, R413, 10K/1%, R414, 10K/1%, R415, 10K/1%, R416, 10K/1%, R417, 10K/1%, R418, 10K/1%, R419, 10K/1%, R420, 10K/1%, R421, 10K/1%, R422, 10K/1%, R423, 10K/1%, R424, 10K/1%, R425, 10K/1%, R426, 10K/1%, R427, 10K/1%, R428, 10K/1%, R429, 10K/1%, R430, 10K/1%, R431, 10K/1%, R432, 10K/1%, R433, 10K/1%, R434, 10K/1%, R435, 10K/1%, R436, 10K/1%, R437, 10K/1%, R438, 10K/1%, R439, 10K/1%, R440, 10K/1%, R441, 10K/1%, R442, 10K/1%, R443, 10K/1%, R444, 10K/1%, R445, 10K/1%, R446, 10K/1%, R447, 10K/1%, R448, 10K/1%, R449, 10K/1%, R450, 10K/1%, R451, 10K/1%, R452, 10K/1%, R453, 10K/1%, R454, 10K/1%, R455, 10K/1%, R456, 10K/1%, R457, 10K/1%, R458, 10K/1%, R459, 10K/1%, R460, 10K/1%, R461, 10K/1%, R462, 10K/1%, R463, 10K/1%,



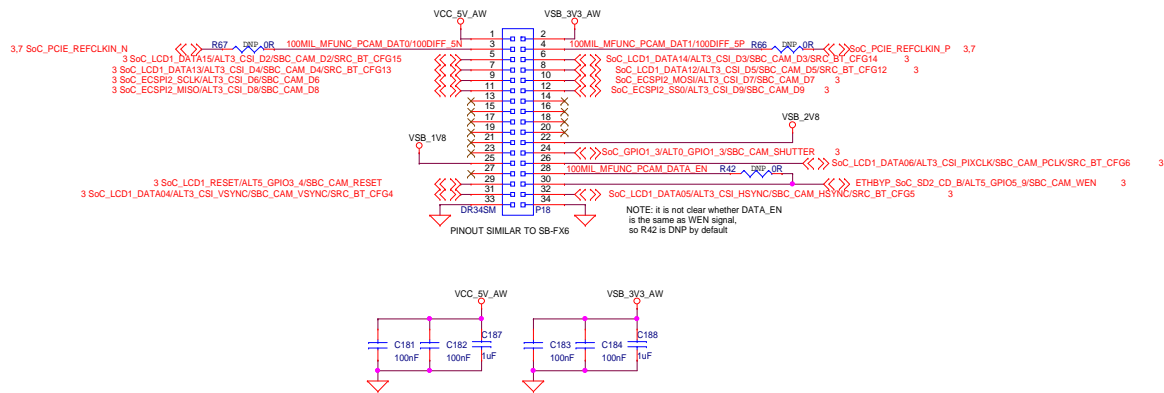
Li-Po Battery Connector & Charging supervisor



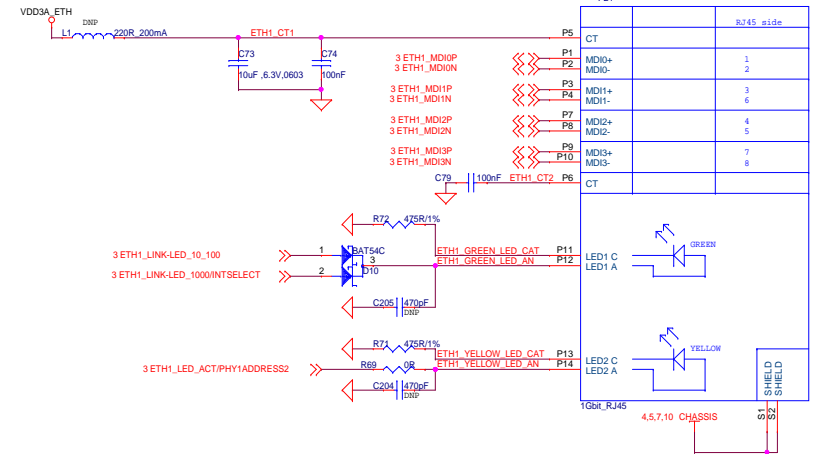
MIPI-CSI MODULE



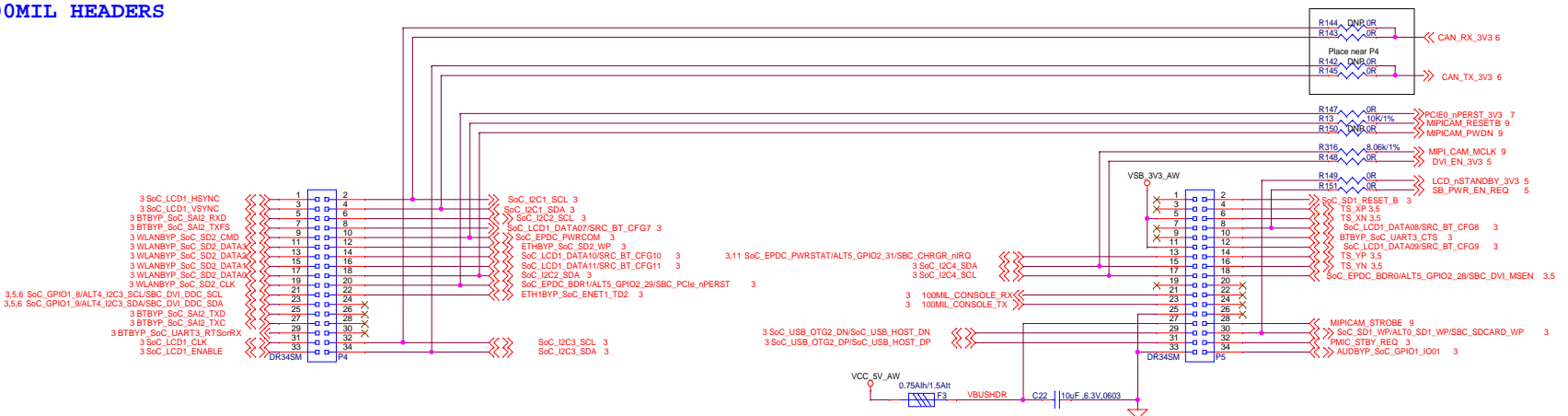
PARALLEL CAMERA HEADER



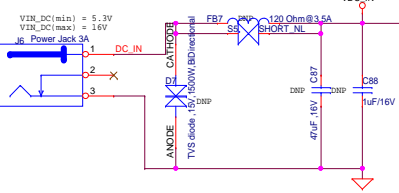
SOM ETHERNET RJ45



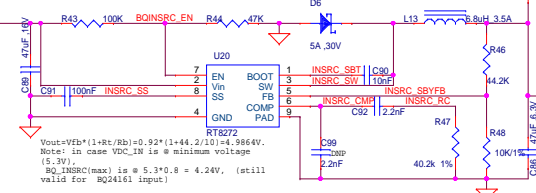
AUXILIARY 100MIL HEADERS



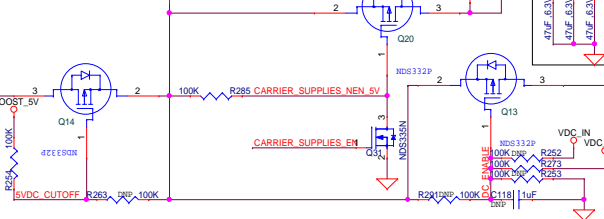
DC INPUT



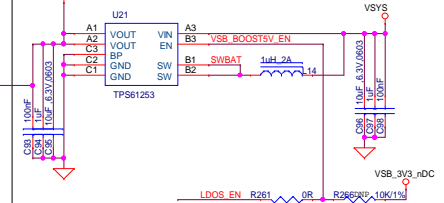
DC-to-5.25V (5VDC_SOURCE)



VSb_5V_AW SOURCE

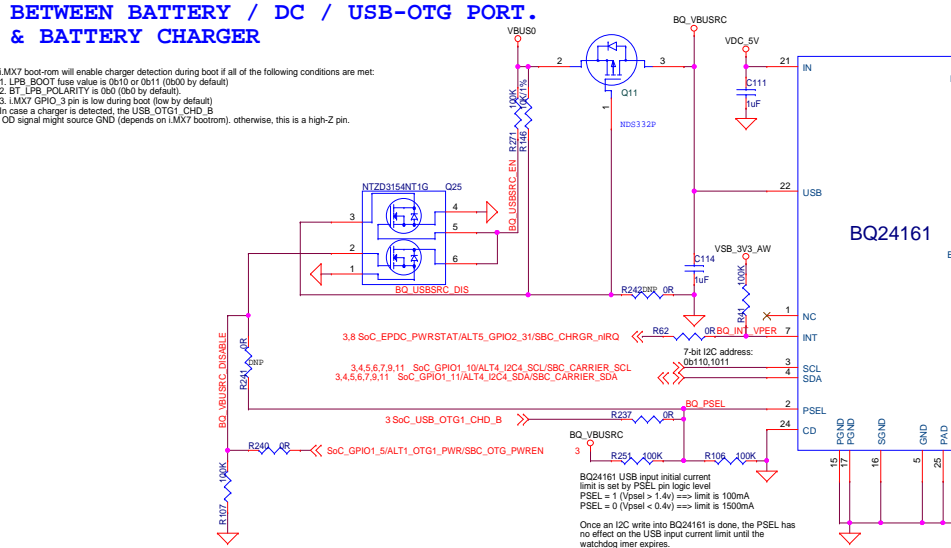


BOOST_5V source

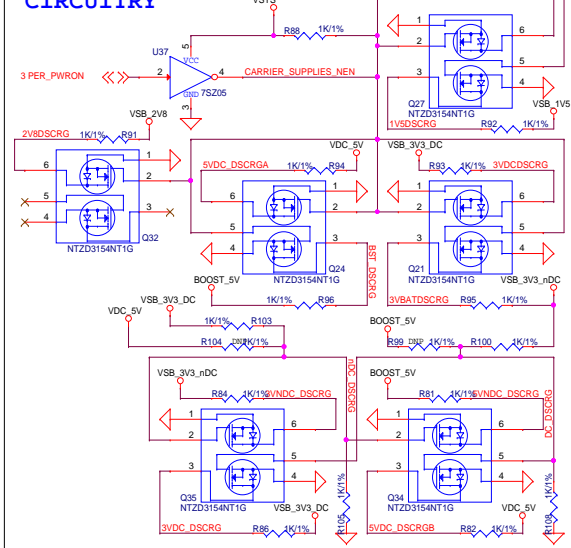


AUTOMATIC POWER SOURCE SWITCHING BETWEEN BATTERY / DC / USB-OTG PORT. & BATTERY CHARGER

LMX7 boot-com will enable charger detection during boot if all of the following conditions are met:
1. LPS_BOOT fuse value is 0b10 or 0b11 (0b00 by default)
2. BT_LPS POLARITY is 0b0 (0b0 by default)
3. LMX7 GPIO_3 pin is low during boot (low by default)
In case a charger is detected, the USB_OTG1_CHD_B
OD signal might source GND (depends on LMX7 bootcom). otherwise, this is a high-Z pin.



RAIL DISCHARGE CIRCUITRY



VSb_1V5, VSb_1V8 & VCC_2V8 sources

