

**THIS PCB HAS
RED SOLDER
MASK**

QUASAR-NGWTQCS4490

MB EV1 V19

| REVISIONS | | | | | |
|----------------|------|-----------------------------------------|------|----|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | DATE |
| <STI_FIRSTREV> | | RELEASE PER PPD # <STI_FIRSTREL NUMBER> | | | |

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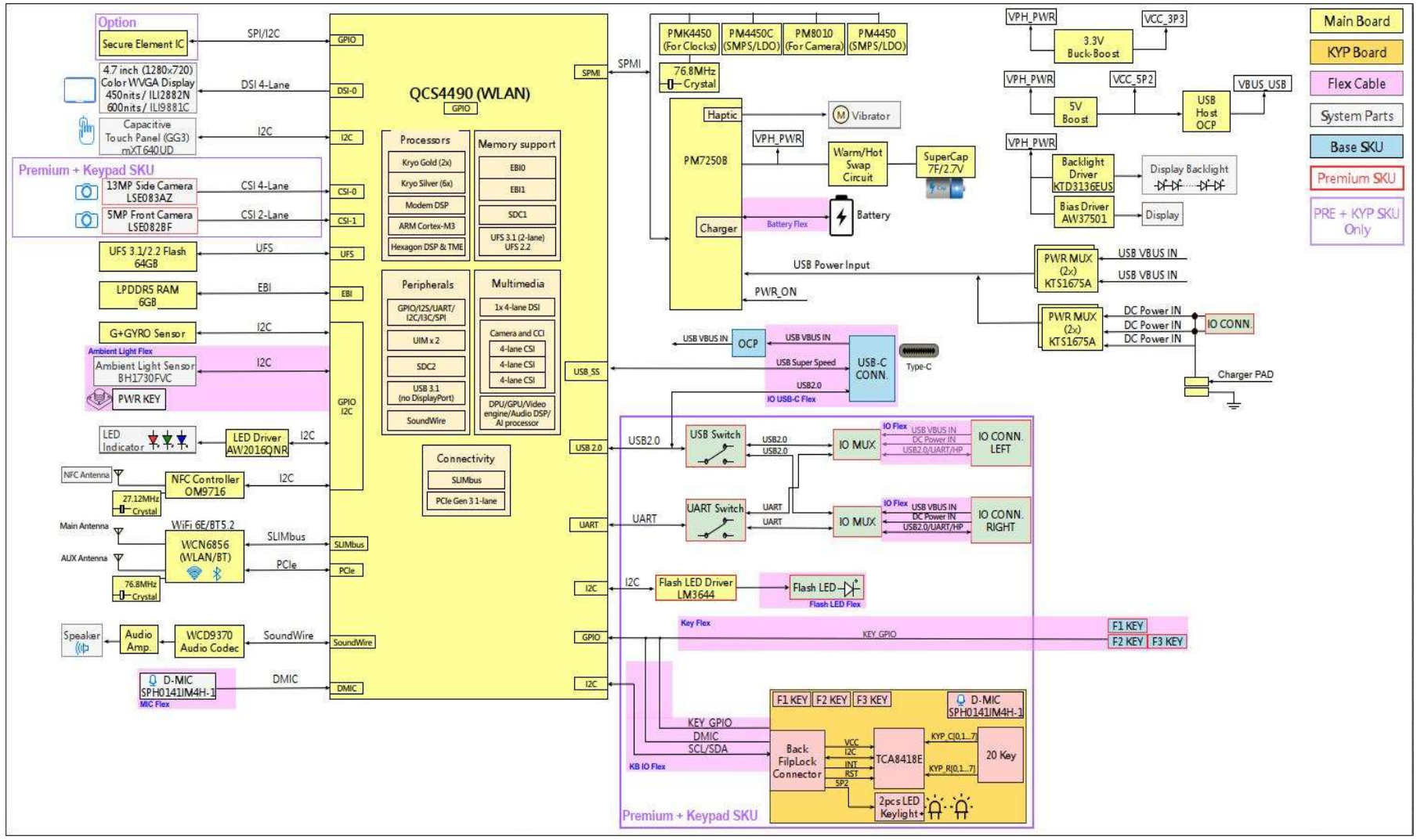
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| ZEBRA CONFIDENTIAL | | | | | | | | | | | | |
|--------------------------------|-----|----------|----------------------------|--|----------------------|--|-----------|--------------------|------|--|--------------------------------------------------------|--|
| ITEM | QTY | PART NO. | PARTS LIST | | | | | REMARKS/REF SYMBOL | | | | |
| ZEBRA TECHNOLOGIES CORPORATION | | | DIMENSIONS ARE IN | | INCHES | | APPROVALS | | DATE | | ZEBRA TECHNOLOGIES CORP. HOLTSVILLE, NEW YORK 11742 | |
| CONFIDENTIAL RESTRICTED | | | UNLESS OTHERWISE SPECIFIED | | DRAWN | | CHECKED | | DATE | | QUASAR MAIN BOARD | |
| | | | XX | | MM | | INCH | | DATE | | TITLE PAGE | |
| | | | XXX | | - | | - | | DATE | | REV V18 | |
| | | | ANGLES | | ° | | MFG ENG | | DATE | | TBD | |
| | | | MATERIAL | | PRODUCT | | QUALITY | | DATE | | Thu Nov 02 16:49:39 2023 | |
| | | | FINISH | | TEST ENG | | | | DATE | | SHEET 1 OF 61 | |
| NEXT ASSY | | | USED ON | | DO NOT SCALE DRAWING | | | | | | | |

BLOCK DIAGRAM

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
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| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |



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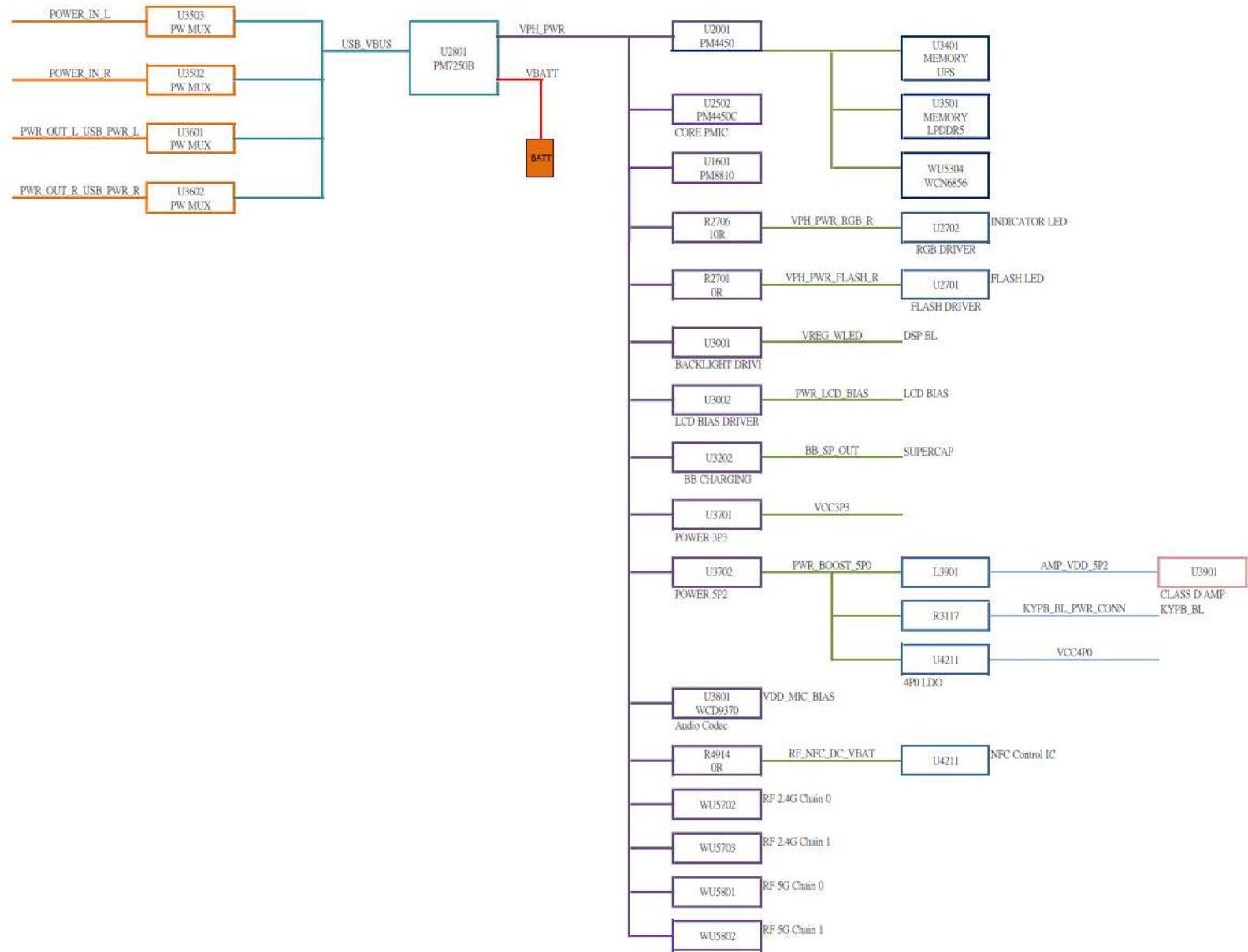
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HOLTSVILLE, NEW YORK, 11742

SSTI_TITLE_1
BLOCK DIAGRAM

| | | |
|-------------------|-----------------|-------------------------|
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPAGES |

POWER DIAGRAM

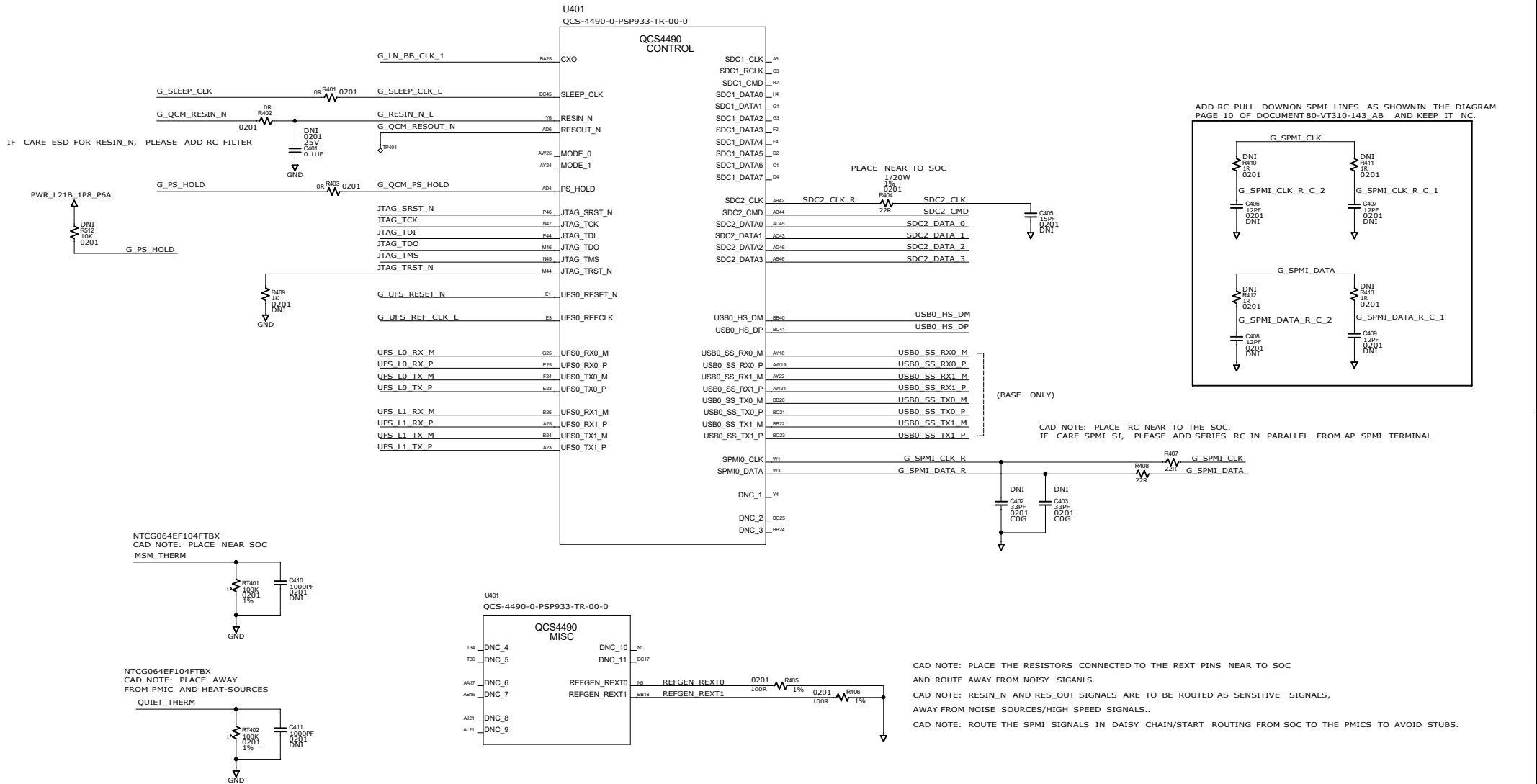
| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



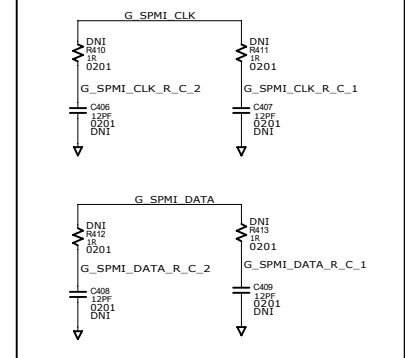
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| POWER DIAGRAM | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

QCS4490:CONTROL

| REV | | ZONE | REVISIONS | DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|-------------|------|----|-------|------|
| | | | SEE SHEET 1 | | | | | |



ADD RC PULL DOWN ON SPMI LINES AS SHOWN IN THE DIAGRAM
PAGE 10 OF DOCUMENT 80-VT310-143_AB AND KEEP IT NC.



CAD NOTE: PLACE RC NEAR TO THE SOC.
IF CARE SPMI SI, PLEASE ADD SERIES RC IN PARALLEL FROM AP SPMI TERMINAL

CAD NOTE: PLACE THE RESISTORS CONNECTED TO THE NEXT PINS NEAR TO SOC AND ROUTE AWAY FROM NOISY SIGNALS.
CAD NOTE: RESIN_N AND RES_OUT SIGNALS ARE TO BE ROUTED AS SENSITIVE SIGNALS, AWAY FROM NOISE SOURCES/HIGH SPEED SIGNALS.
CAD NOTE: ROUTE THE SPMI SIGNALS IN DAISY CHAIN/START ROUTING FROM SOC TO THE PMICS TO AVOID STUBS.

| | | | |
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| SSTI_TITLE_1 | | | |
| QCS4490:CONTROL | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/PAGES | |

QCS4490:GPIOs

| REV | | ZONE | REVISIONS | DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|--|------|-----------|-------------|------|----|-------|------|
| | | | | SEE SHEET 1 | | | | |

U401
QCS-4490-0-PSP933-TR-00-0

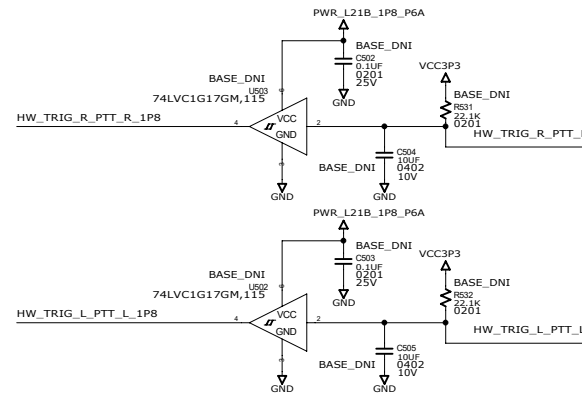
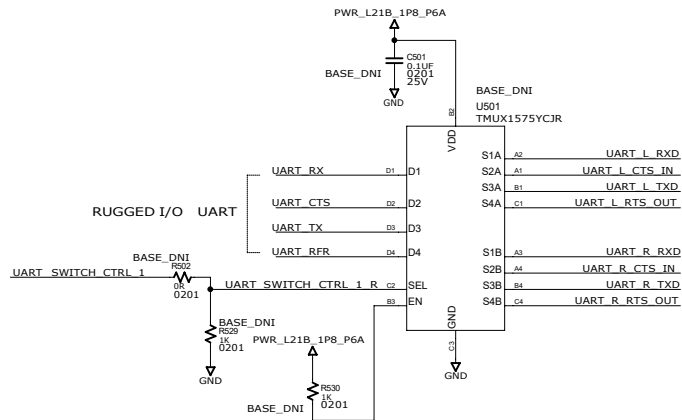
QCS4490
GPIO1

| Signal | Pin | Signal | Pin | Signal | Pin | Signal | Pin |
|------------------|------|---------|---------|----------------------|------|------------|---------------------|
| NFC_ESE_SPI_MISO | J47 | GPIO_0 | GPIO_37 | G_CAM_MCLK1 | AE1 | (NOT USED) | 4490_GPIO_74 |
| NFC_ESE_SPI_MOSI | H46 | GPIO_1 | GPIO_38 | LCM_1P8_EN | AC3 | (NOT USED) | PA_MUTING |
| NFC_ESE_SPI_SCLK | L47 | GPIO_2 | GPIO_39 | BT_EN | AB2 | (NOT USED) | MOS_AS_EN |
| NFC_ESE_SPI_CS_N | K46 | GPIO_3 | GPIO_40 | CAM0_RESET_N | AC5 | (NOT USED) | LAA_RX |
| I2C_NFC_RTC_SDA | AF44 | GPIO_4 | GPIO_41 | CAM1_RESET_N | AB6 | (NOT USED) | 4490_GPIO_78 |
| I2C_NFC_RTC_SCL | AD44 | GPIO_5 | GPIO_42 | 4490_GPIO_42 | AB4 | (NOT USED) | 4490_GPIO_79 |
| NFC_EN | AK44 | GPIO_6 | GPIO_43 | WLAN_EN | AA1 | (NOT USED) | 4490_GPIO_80 |
| NFC_CLK_REQ | AK46 | GPIO_7 | GPIO_44 | I2C_FRONTCAM_SDA | AF6 | (NOT USED) | 4490_GPIO_81 |
| I2C_BATT_SDA | AL43 | GPIO_8 | GPIO_45 | I2C_FRONTCAM_SCL | AE5 | (NOT USED) | UART_SWITCH_CTRL_1 |
| I2C_BATT_SCL | AK42 | GPIO_9 | GPIO_46 | I2C_REARCAM_SDA | AF4 | (NOT USED) | HW_TRIG_L_PTT_L_1P8 |
| I2C_TS_SDA | AL47 | GPIO_10 | GPIO_47 | I2C_REARCAM_SCL | AE3 | (NOT USED) | HW_TRIG_R_PTT_R_1P8 |
| I2C_TS_SCL | AM46 | GPIO_11 | GPIO_48 | NFC_SE_RST | AS2 | (NOT USED) | HEADSET_DET_N |
| TS_RESET_N | AM44 | GPIO_12 | GPIO_49 | 4490_GPIO_49 | AC1 | (NOT USED) | DETECT_ACC_R_EN_N |
| TS_INT_N | AM42 | GPIO_13 | GPIO_50 | SEL0_OTG | AM3 | (NOT USED) | SELS_R |
| BT_UART_CTS | AW7 | GPIO_14 | GPIO_51 | SEL1_OTG | AM2 | (NOT USED) | SELS_R |
| BT_UART_RFR | AW6 | GPIO_15 | GPIO_52 | PM8010_INT_1 | AM13 | (NOT USED) | LED_SOFT_KEY* |
| BT_UART_TX | AL45 | GPIO_16 | GPIO_53 | KEY_VOLUME_UP | GM7 | ==> F1 | OTG_OUT_EN |
| BT_UART_RX | AW4 | GPIO_17 | GPIO_54 | I2C_DETECT_R_CPU | BC13 | (NOT USED) | I2C_FREE_SCL |
| UART_CTS | AW43 | GPIO_18 | GPIO_55 | I2C_DETECT_L_CPU | BB13 | (NOT USED) | I2C_FREE_SDA |
| UART_RFR | AW42 | GPIO_19 | GPIO_56 | WCN_SW_CTRL | BB14 | (NOT USED) | DISP_RESET_N |
| UART_TX | AW44 | GPIO_20 | GPIO_57 | USBIN_L_DET | AY14 | (NOT USED) | BATT_PRESENCE_SM |
| UART_RX | AT42 | GPIO_21 | GPIO_58 | ALSP_INT_N | AW13 | (NOT USED) | USB0_CC_DIR |
| DBG_UART_TX | AD42 | GPIO_22 | GPIO_59 | ACCEL_GYRO_DRDY_INT | B45 | (NOT USED) | PTT_TRIG |
| DBG_UART_RX | AE43 | GPIO_23 | GPIO_60 | DCIN_R_DET | BB26 | (NOT USED) | WCD_RESET_N |
| I2C_APPS_SDA | AM46 | GPIO_24 | GPIO_61 | ACCEL_GYRO_EVENT_INT | AW47 | (NOT USED) | 4490_GPIO_97 |
| I2C_APPS_SCL | AM47 | GPIO_25 | GPIO_62 | DCIN_L_DET | EA7 | (NOT USED) | BB_VOLTAGE_DET |
| NFC_DWL_REQ | AD45 | GPIO_26 | GPIO_63 | MUX_ENABLE_L* | AK47 | (NOT USED) | 4490_GPIO_99 |
| NFC_INT | AM44 | GPIO_27 | GPIO_64 | MUX_ENABLE_R* | AL47 | (NOT USED) | SELS_R |
| KEY_VOL_DOWN_N | BC11 | GPIO_28 | GPIO_65 | SEL1_L | AT46 | (NOT USED) | 4490_GPIO_101 |
| PM8010_1_RESET_N | BC9 | GPIO_29 | GPIO_66 | SEL2_L | AC9 | (NOT USED) | LED_SOFT_KEY* |
| TS_ANALOG_EN | BA9 | GPIO_30 | GPIO_67 | SEL3_L | AT44 | (NOT USED) | DISP_RESET_N |
| PCIE0_WAKE_N | AS43 | GPIO_31 | GPIO_68 | DETECT_ACC_L_EN_N | AL43 | (NOT USED) | FORCED_USB_BOOT |
| PCIE0_RESET_N | AF42 | GPIO_32 | GPIO_69 | SEL5_L | AK45 | (NOT USED) | GLOBAL_GPIO_EN |
| DISPLAY_ID0 | AS47 | GPIO_33 | GPIO_70 | KEYPAD_BL_EN* | AL45 | (NOT USED) | KYPD_INT |
| HOST2WLAN_SOL | AE47 | GPIO_34 | GPIO_71 | 4490_GPIO_71 | BB46 | (NOT USED) | USB_SS_REDRI_PWR_EN |
| WLAN2HOST_SOL | AF46 | GPIO_35 | GPIO_72 | 4490_GPIO_72 | BA47 | (NOT USED) | PCIE0_CLK_REQ_N |
| G_CAM_MCLK0 | AF2 | GPIO_36 | GPIO_73 | 4490_GPIO_73 | BB44 | (NOT USED) | |

U401
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QCS4490
GPIO2

| Signal | Pin | Signal | Pin | Signal | Pin | Signal | Pin |
|------------|---------------------|--------|----------|----------|------|-----------------------|------------|
| (NOT USED) | 4490_GPIO_74 | BC54 | GPIO_74 | GPIO_108 | BA11 | KYPD_RST_QCS | 0201 R501 |
| (NOT USED) | PA_MUTING | BA41 | GPIO_75 | GPIO_109 | L7 | G_WCD_SWR_TX_CLK | OR |
| (NOT USED) | MOS_AS_EN | BA43 | GPIO_76 | GPIO_110 | R1 | G_WCD_SWR_TX_DATA0 | |
| (NOT USED) | LAA_RX | AV42 | GPIO_77 | GPIO_111 | P2 | G_WCD_SWR_TX_DATA1 | |
| (NOT USED) | 4490_GPIO_78 | AW45 | GPIO_78 | GPIO_112 | PA | G_WCD_SWR_RX_CLK | |
| (NOT USED) | 4490_GPIO_79 | AV40 | GPIO_79 | GPIO_113 | PE | G_WCD_SWR_RX_DATA0 | |
| (NOT USED) | 4490_GPIO_80 | AW41 | GPIO_80 | GPIO_114 | M2 | G_WCD_SWR_RX_DATA1 | |
| (NOT USED) | 4490_GPIO_81 | AW27 | GPIO_81 | GPIO_115 | Y2 | SM_DMIC01_CLK | |
| (NOT USED) | UART_SWITCH_CTRL_1 | AV46 | GPIO_82 | GPIO_116 | V2 | SM_DMIC01_DATA | (NOT USED) |
| (NOT USED) | HW_TRIG_L_PTT_L_1P8 | AV26 | GPIO_83 | GPIO_117 | UE | G_SM_DMIC2_CLK | |
| (NOT USED) | HW_TRIG_R_PTT_R_1P8 | BA27 | GPIO_84 | GPIO_118 | TE | G_SM_DMIC2_DATA | |
| (NOT USED) | HEADSET_DET_N | AV28 | GPIO_85 | GPIO_119 | MA | 3V3_PWR_L_EN | |
| (NOT USED) | DETECT_ACC_R_EN_N | BC27 | GPIO_86 | GPIO_120 | MA | SEL1_R | |
| (NOT USED) | SELS_R | BC29 | GPIO_87 | GPIO_121 | R3 | USBIN_R_DET | |
| (NOT USED) | LED_SOFT_KEY* | AW28 | GPIO_88 | GPIO_122 | RE5 | SCAP_RST | |
| (NOT USED) | OTG_OUT_EN | BB29 | GPIO_89 | GPIO_123 | N6 | 4490_GPIO_123 | (NOT USED) |
| (NOT USED) | I2C_FREE_SCL | AA6 | GPIO_90 | GPIO_124 | UM | RF_45_BT_SLIMBUS_CLK | |
| (NOT USED) | I2C_FREE_SDA | W5 | GPIO_91 | GPIO_125 | UM | RF_45_BT_SLIMBUS_DATA | |
| (NOT USED) | DISP_RESET_N | BA6 | GPIO_92 | GPIO_126 | TA | VIBRATOR | |
| (NOT USED) | BATT_PRESENCE_SM | D46 | GPIO_93 | GPIO_127 | U1 | SEL2_R | |
| (NOT USED) | USB0_CC_DIR | BA46 | GPIO_94 | GPIO_128 | J3 | I3C_ACCELANGYRO_SDA | |
| (NOT USED) | PTT_TRIG | AV44 | GPIO_95 | GPIO_129 | J1 | I3C_ACCELANGYRO_SCL | |
| (NOT USED) | WCD_RESET_N | AV10 | GPIO_96 | GPIO_130 | KA | I2C_ALPSANDPRESS_SDA | |
| (NOT USED) | 4490_GPIO_97 | AM41 | GPIO_97 | GPIO_131 | MA | I2C_ALPSANDPRESS_SCL | |
| (NOT USED) | BB_VOLTAGE_DET | AV40 | GPIO_98 | GPIO_132 | L5 | BLE_UART_TX | |
| (NOT USED) | 4490_GPIO_99 | AV44 | GPIO_99 | GPIO_133 | L3 | BLE_UART_RX | |
| (NOT USED) | SELS_R | AV46 | GPIO_100 | GPIO_134 | K2 | USB_MUX_EN_N | |
| (NOT USED) | 4490_GPIO_101 | F46 | GPIO_101 | GPIO_135 | L1 | 3V3_PWR_R_EN | |
| (NOT USED) | DISPLAY_TE* | J45 | GPIO_102 | | | | |
| (NOT USED) | FORCED_USB_BOOT | H44 | GPIO_103 | | | | |
| (NOT USED) | GLOBAL_GPIO_EN | F44 | GPIO_104 | | | | |
| (NOT USED) | KYPD_INT | AW45 | GPIO_105 | | | | |
| (NOT USED) | USB_SS_REDRI_PWR_EN | BB10 | GPIO_106 | | | | |
| (NOT USED) | PCIE0_CLK_REQ_N | AV14 | GPIO_107 | | | | |



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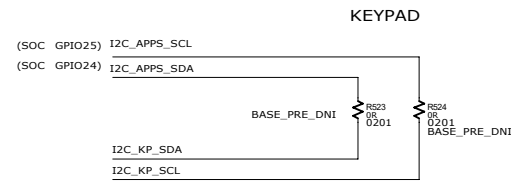
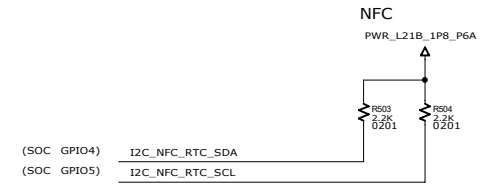
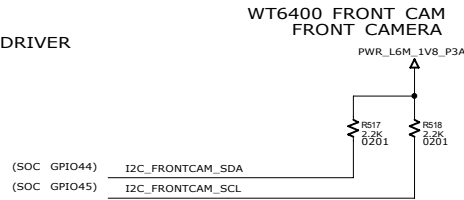
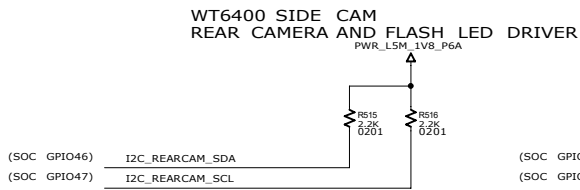
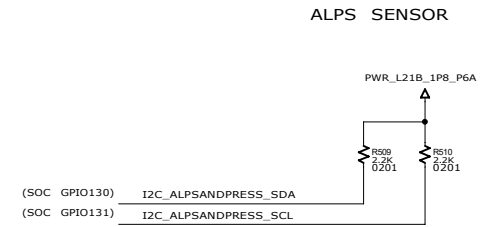
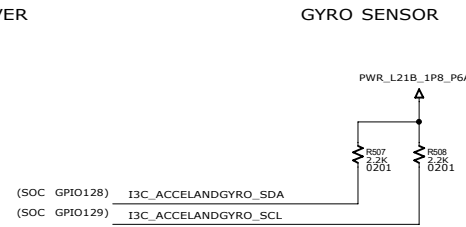
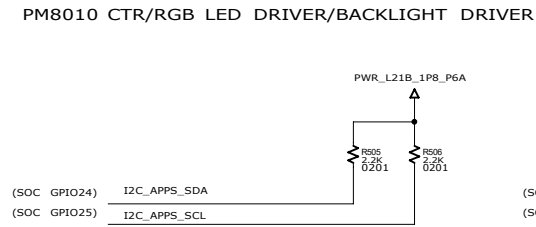
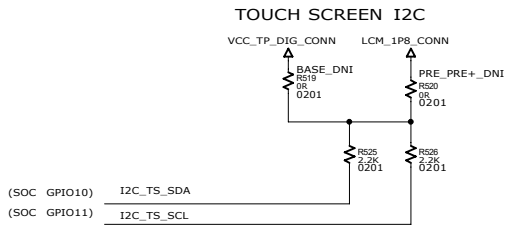
\$\$\$TITLE_1
QCS4490:GPIOs

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| SIZE | DWG. NO. | REV. |
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SCN_LAST_MODIFIED SCN_LAST_MODIFIED

QCS4490:I2C PULL UPS

| REVISIONS | | | | E.C. | BY | APVD. | DATE |
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| REV | ZONE | DESCRIPTION | SEE SHEET 1 | | | | |



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\$\$TI_TITLE_1
QCS4490:I2C PULL UPS

| | | |
|-------------------|-------------------|------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$TI_DRAWING_NO | \$\$TI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALLOCS |

QCS4490:DSI/CSI/PCIE

| REVISIONS | | | | |
|-----------|------|-------------|------|---------------|
| REV | ZONE | DESCRIPTION | E.C. | BY APVD. DATE |
| | | SEE SHEET 1 | | |

U401
QCS-4490-0-PSP933-TR-00-0

QCS4490
MIPI1

U401
QCS-4490-0-PSP933-TR-00-0

QCS4490
PCIE

SIDE CAMERA

| | | |
|-------------------|-----|---------------|
| CAM_CSI0_NC_CLK_P | AJ1 | CSI0_NC_CLK_P |
| CAM_CSI0_A0_CLK_M | AJ2 | CSI0_A0_CLK_M |
| CAM_CSI0_B0_LN0_P | AJ4 | CSI0_B0_LN0_P |
| CAM_CSI0_C0_LN0_M | AJ6 | CSI0_C0_LN0_M |
| CAM_CSI0_A1_LN1_P | AJ3 | CSI0_A1_LN1_P |
| CAM_CSI0_B1_LN1_M | AJ5 | CSI0_B1_LN1_M |
| CAM_CSI0_C1_LN2_P | AJ8 | CSI0_C1_LN2_P |
| CAM_CSI0_A2_LN2_M | AJ4 | CSI0_A2_LN2_M |
| CAM_CSI0_B2_LN3_P | AJ2 | CSI0_B2_LN3_P |
| CAM_CSI0_C2_LN3_M | AJ1 | CSI0_C2_LN3_M |

FRONT CAMERA

| | | |
|-------------------|-----|---------------|
| CAM_CSI1_NC_CLK_P | AK1 | CSI1_NC_CLK_P |
| CAM_CSI1_A0_CLK_M | AK2 | CSI1_A0_CLK_M |
| CAM_CSI1_B0_LN0_P | AK4 | CSI1_B0_LN0_P |
| CAM_CSI1_C0_LN0_M | AK6 | CSI1_C0_LN0_M |
| CAM_CSI1_A1_LN1_P | AK3 | CSI1_A1_LN1_P |
| CAM_CSI1_B1_LN1_M | AK5 | CSI1_B1_LN1_M |
| CAM_CSI1_C1_LN2_P | AK8 | CSI1_C1_LN2_P |
| CAM_CSI1_A2_LN2_M | AK4 | CSI1_A2_LN2_M |
| CAM_CSI1_B2_LN3_P | AK2 | CSI1_B2_LN3_P |
| CAM_CSI1_C2_LN3_M | AK1 | CSI1_C2_LN3_M |

(NOT USED)

SCANNRT
(NOT USED)

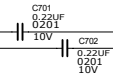
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|--------------------|-----|---------------|
| SCAN_CSI2_NC_CLK_P | AK1 | CSI2_NC_CLK_P |
| SCAN_CSI2_A0_CLK_M | AK2 | CSI2_A0_CLK_M |
| SCAN_CSI2_B0_LN0_P | AK4 | CSI2_B0_LN0_P |
| SCAN_CSI2_C0_LN0_M | AK6 | CSI2_C0_LN0_M |
| SCAN_CSI2_A1_LN1_P | AK3 | CSI2_A1_LN1_P |
| SCAN_CSI2_B1_LN1_M | AK5 | CSI2_B1_LN1_M |
| SCAN_CSI2_C1_LN2_P | AK8 | CSI2_C1_LN2_P |
| SCAN_CSI2_A2_LN2_M | AK4 | CSI2_A2_LN2_M |
| SCAN_CSI2_B2_LN3_P | AK2 | CSI2_B2_LN3_P |
| SCAN_CSI2_C2_LN3_M | AK1 | CSI2_C2_LN3_M |

| | | |
|------------------|-----|-------------------|
| DSIO_A0_LN0_P | Y43 | LCM_DSIO_A0_LN0_P |
| DSIO_B0_LN0_M | Y42 | LCM_DSIO_B0_LN0_M |
| DSIO_C0_LN1_P | Y44 | LCM_DSIO_C0_LN1_P |
| DSIO_A1_LN1_M | Y43 | LCM_DSIO_A1_LN1_M |
| DSIO_B1_CLK_P | Y46 | LCM_DSIO_B1_CLK_P |
| DSIO_C1_CLK_M | Y46 | LCM_DSIO_C1_CLK_M |
| DSIO_A2_LN2_P | Y46 | LCM_DSIO_A2_LN2_P |
| DSIO_B2_LN2_M | Y44 | LCM_DSIO_B2_LN2_M |
| DSIO_C2_LN3_P | Y45 | LCM_DSIO_C2_LN3_P |
| DSIO_A3_LN3_M | Y46 | LCM_DSIO_A3_LN3_M |
| DSIO_B3_SL_CLK_P | Y44 | DSIO_B3_SL_CLK_P |
| DSIO_C3_SL_CLK_M | Y42 | DSIO_C3_SL_CLK_M |

DISPLAY

(NOT USED)

| | | |
|---------------------------|------|----------------|
| RF_100_WL_PCIE20_RFECLK_M | AW15 | PCIE0_REFCLK_M |
| RF_100_WL_PCIE20_RFECLK_P | AY16 | PCIE0_REFCLK_P |
| RF_100_WL_PCIE20_TXM_1 | AJ15 | PCIE0_RX0_M |
| RF_100_WL_PCIE20_TXP_1 | AV16 | PCIE0_RX0_P |
| RF_100_WL_PCIE20_RXM | BC15 | PCIE0_TX0_M |
| RF_100_WL_PCIE20_RXP | BB16 | PCIE0_TX0_P |



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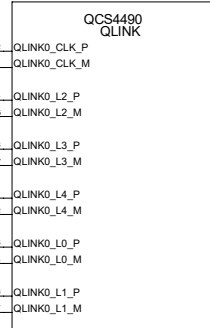
\$\$TI_TITLE_1
QCS4490:DSI/CSI/PCIE

| | | |
|-------------------|-------------------|-------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$TI_DRAWING_NO | \$\$TI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALDRGES |

QCS4490:RF QLINK INTERFACE

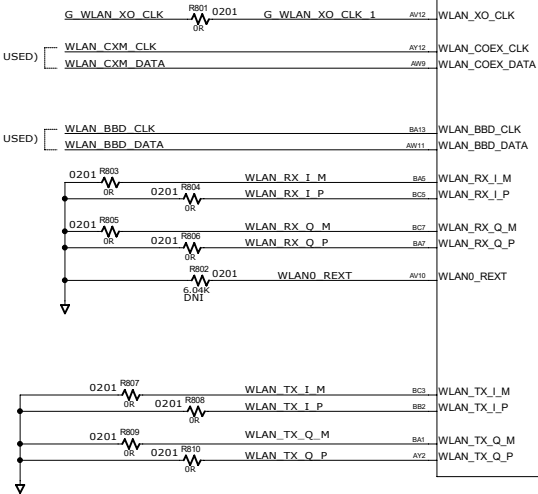
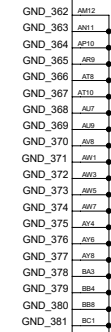
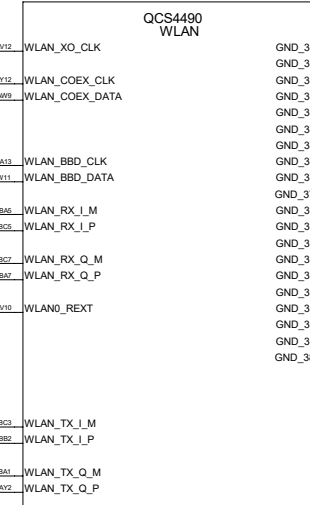
| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |

U401
QCS-4490-0-PS933-TR-00-0



(NOT USED)

U401
QCS-4490-0-PS933-TR-00-0



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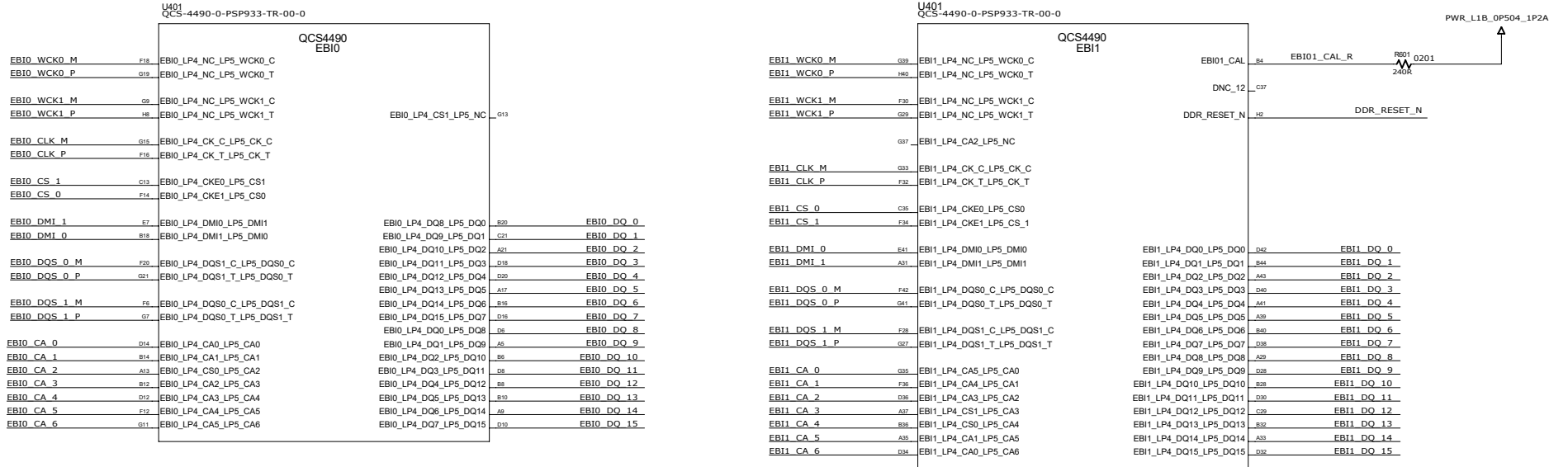
ZEBRA TECHNOLOGIES CORP.
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\$STI_TITLE_1
QCS4490:QLINK

| SIZE | DWG. NO. | REV. |
|-------------------|------------------|-------------------------|
| D | \$STI_DRAWING_NO | \$STI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALDRGES |

QCS4490 EBIO/1

| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



ZEBRA CONFIDENTIAL

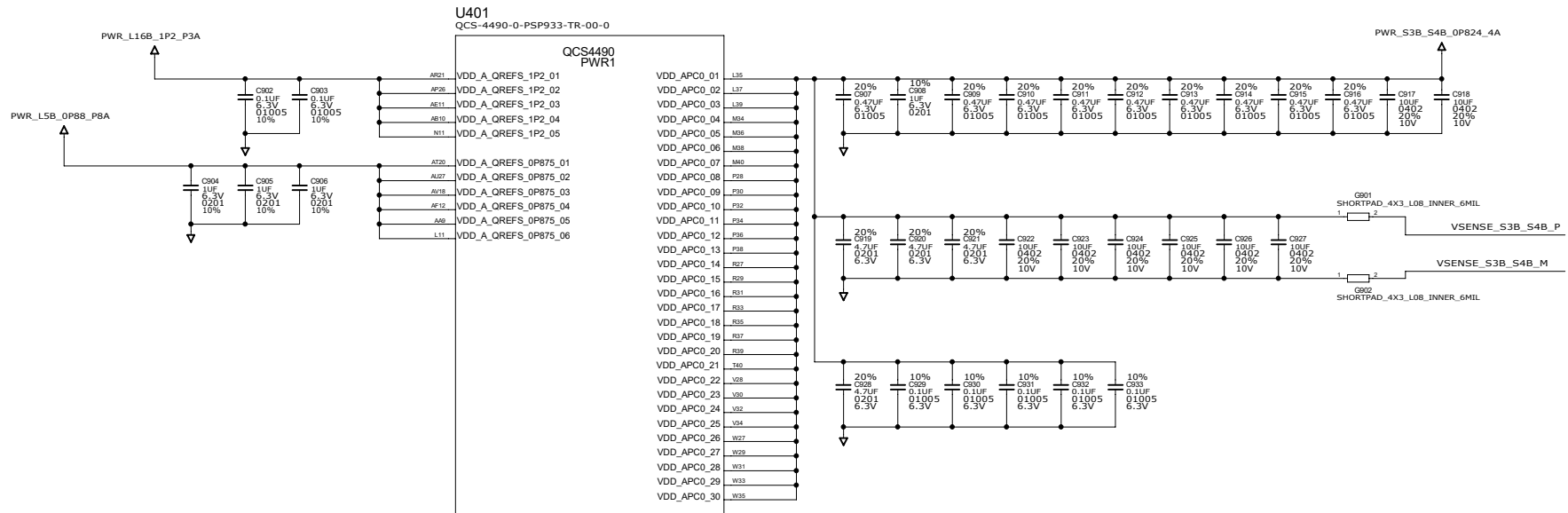
ZEBRA TECHNOLOGIES CORP.
HOLTSVILLE, NEW YORK 11742

\$STI_TITLE_1
QCS4490:EBIO/1

| | | |
|-------------------|------------------|-------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$STI_DRAWING_NO | \$STI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALG/REV |

QCS4490: PWR1

| REVISIONS | | | | | |
|-----------|------|-------------|------|----|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | DATE |
| | | SEE SHEET 1 | | | |



ZEBRA CONFIDENTIAL

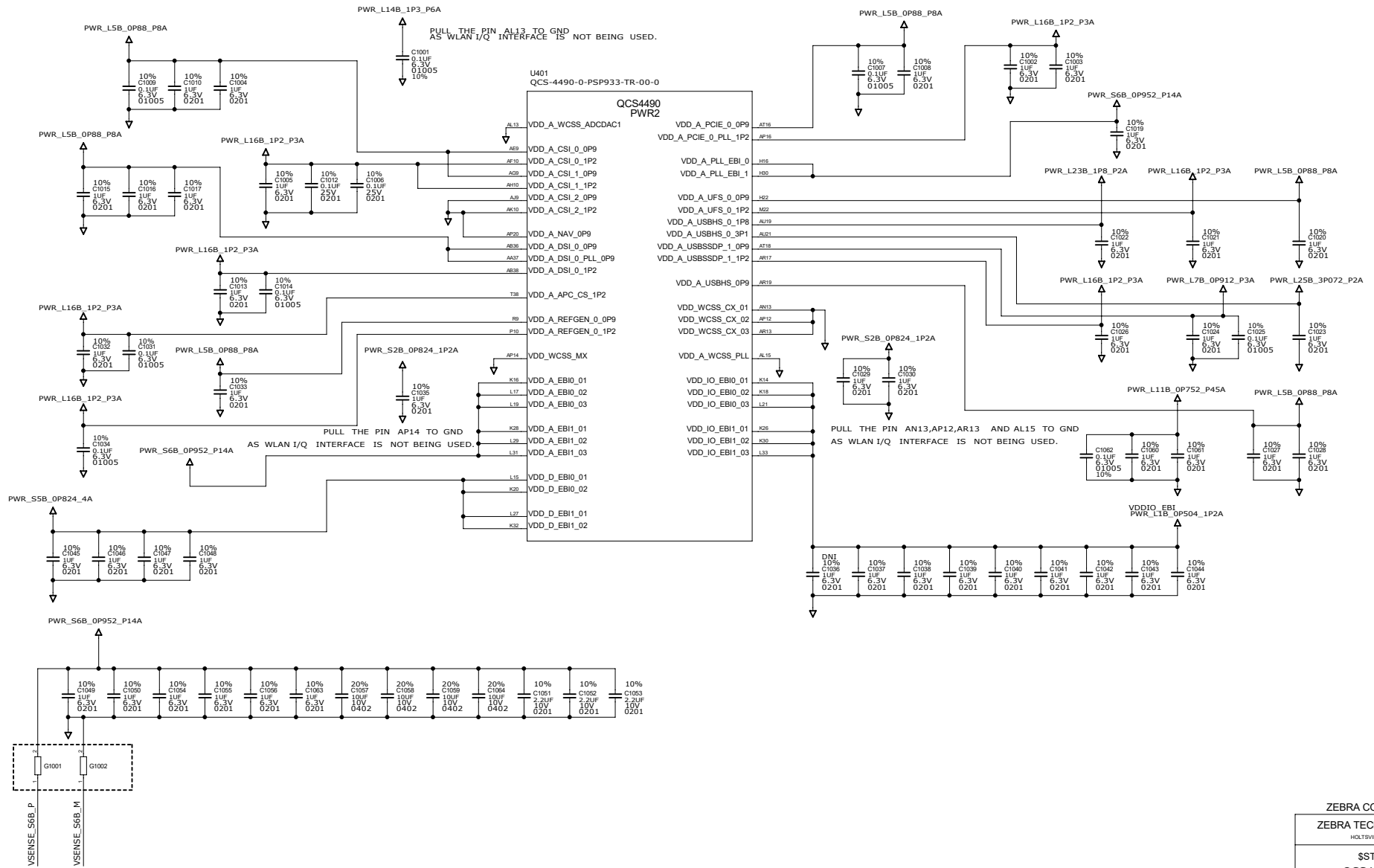
ZEBRA TECHNOLOGIES CORP.
HOLTSVILLE, NEW YORK, 11742

\$\$TI_TITLE_1
QCS44990: POWER

| | | |
|-------------------|-------------------|------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$TI_DRAWING_NO | \$\$TI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS |

QCS4490: PWR2

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |



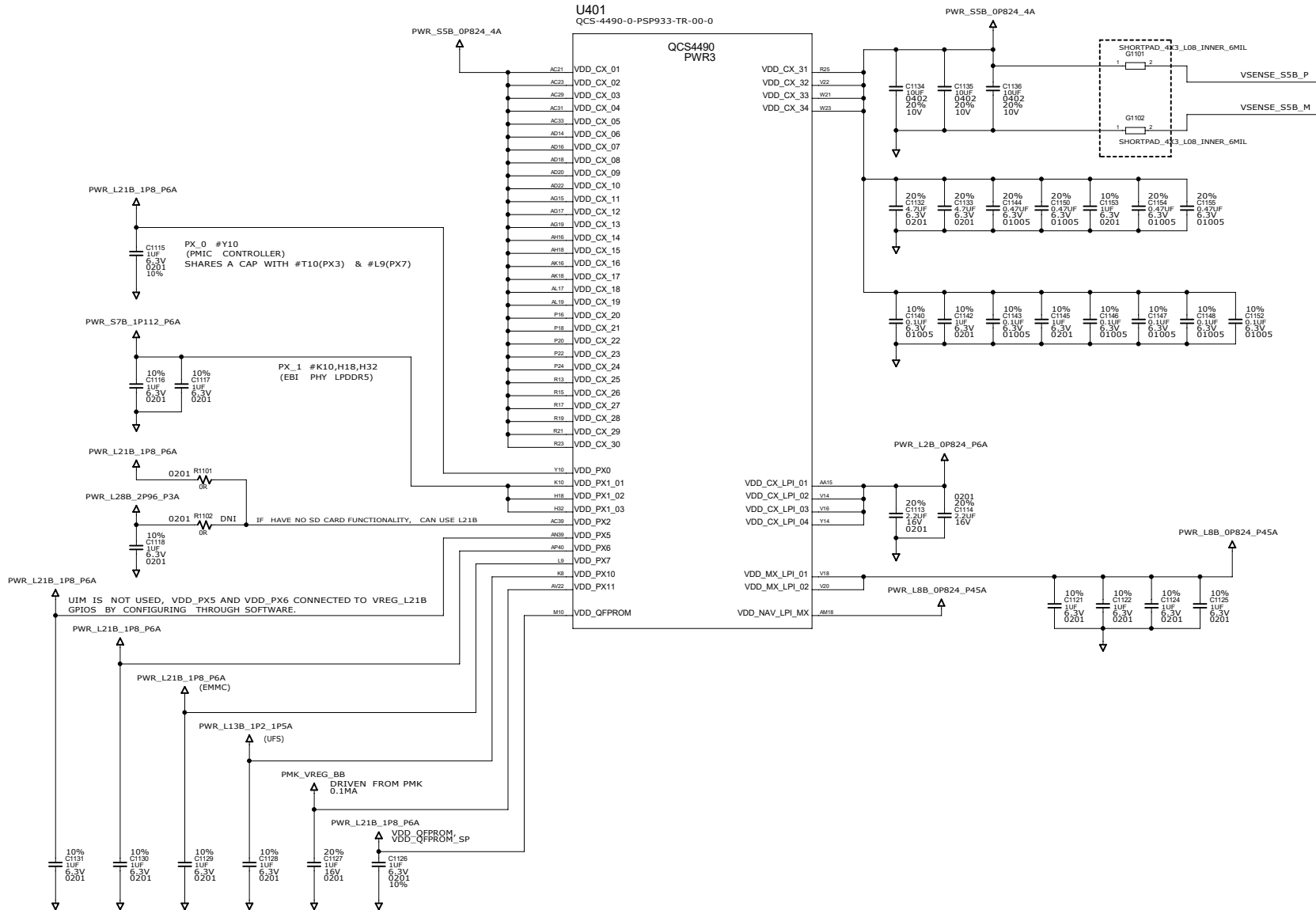
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|-----------------------------|-----------------|----------------------|----------|
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| QCS4490: POWER | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCON_LAST_MODIFIED | | SCON_CREATED/REVISED | |

QCS4490:PWR3

| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |

U401
QCS-4490-0-PSP933-TR-00-0

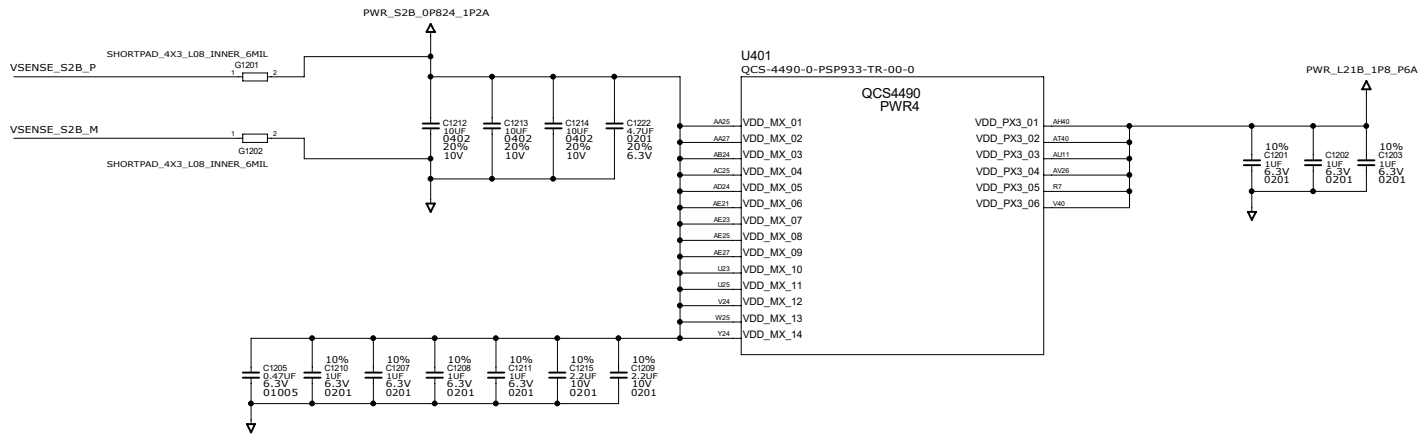
QCS4490
PWR3



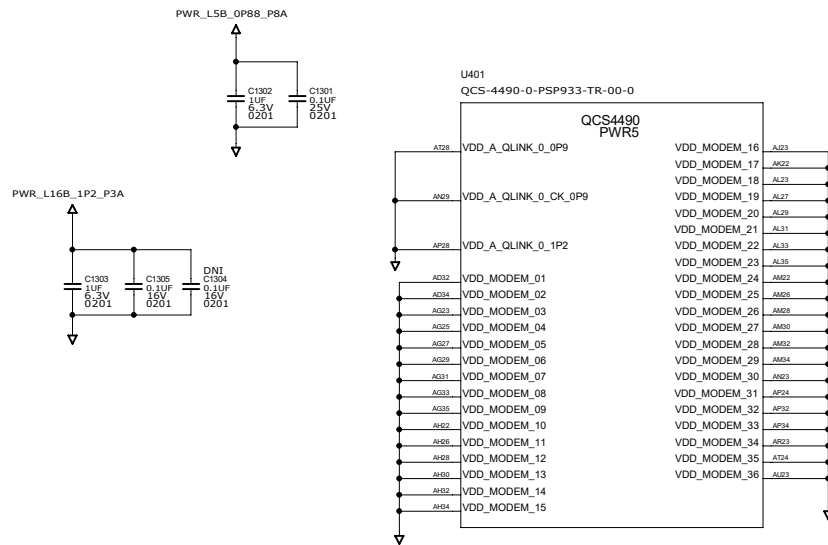
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| QCS4490:POWER | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

QCM/QCS4490 PWR4

| REVISIONS | | | | | | |
|-----------|------|-------------|------|----|-------|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | APVD. | DATE |
| | | SEE SHEET 1 | | | | |



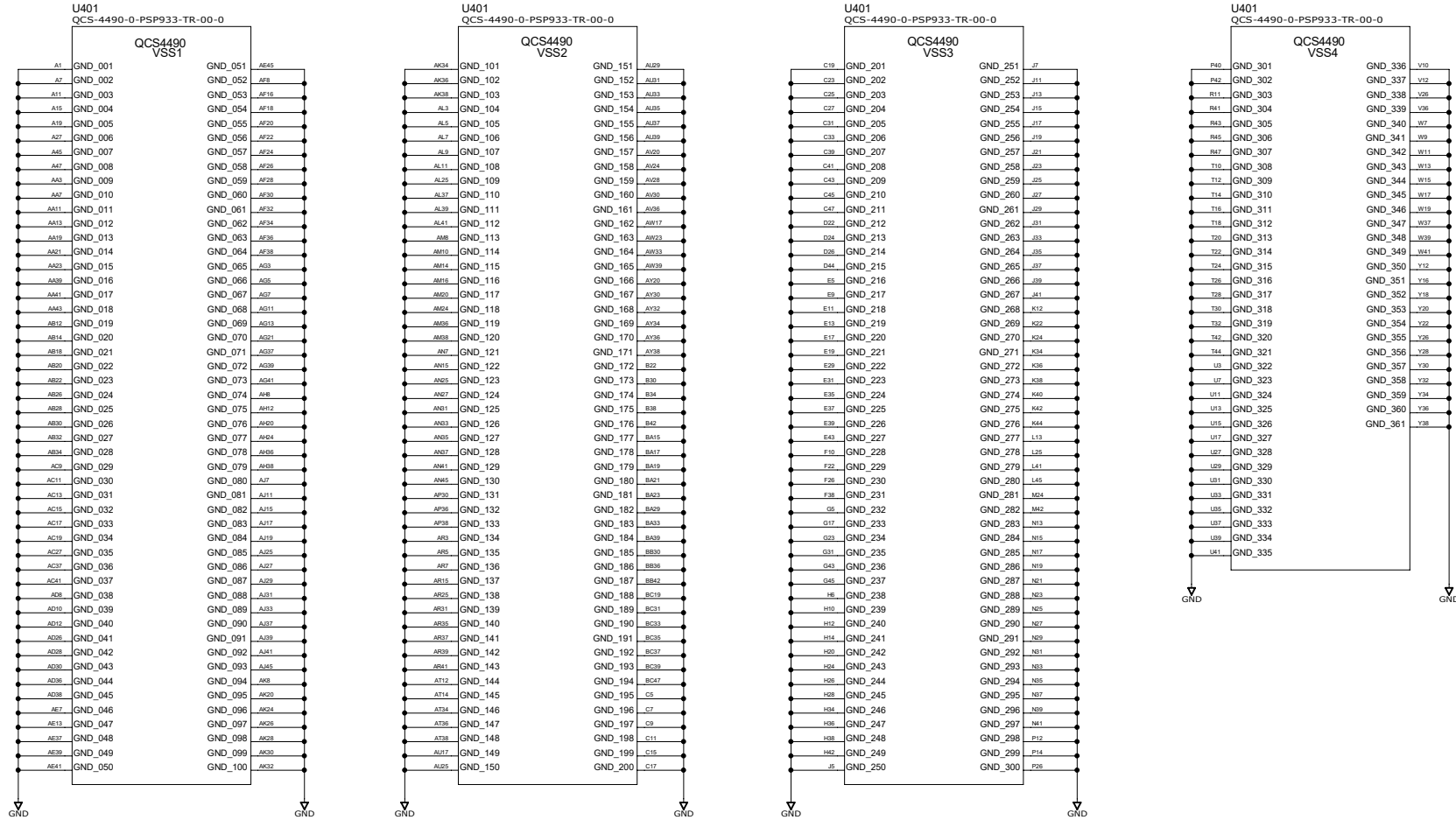
QCM/QCS4490 PWR5



| | | | |
|---------------------------------------------------------|-----------------------------|-------------------------|--|
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| SSTI_TITLE_1 QCS4490:POWER | | | |
| SIZE D | DWG. NO. SSTI_DRAWING_NO | REV. SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPAGES | |

QCS4490:GND

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |



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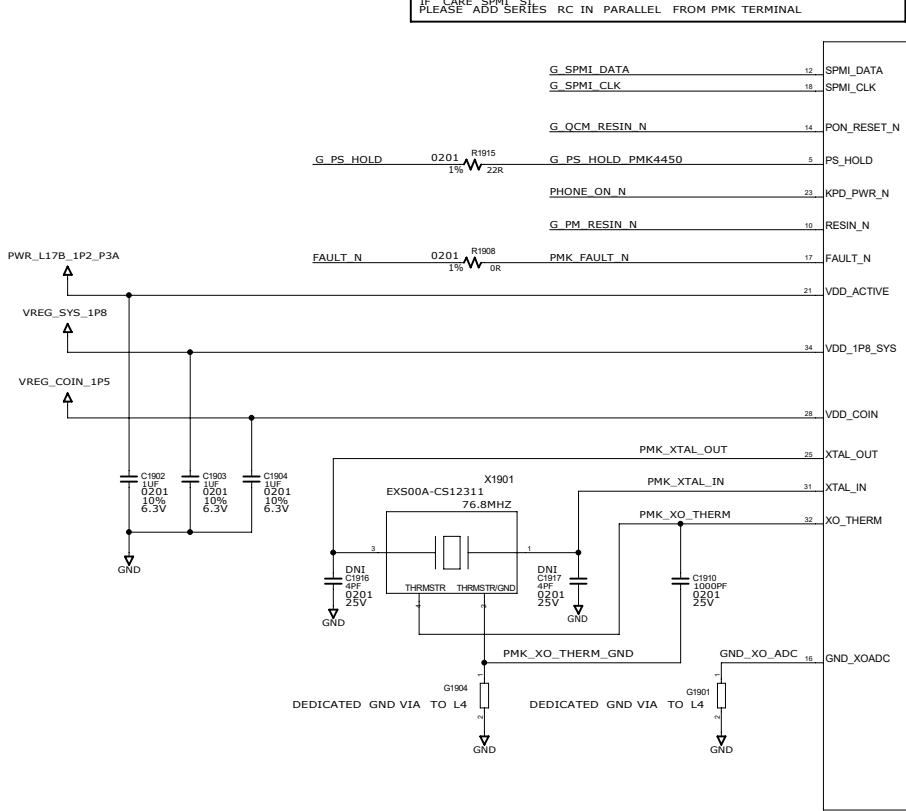
SSTI_TITLE_1
 QCS4490:GROUND

| | | |
|--------------------|-----------------|--------------------------|
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCON_LAST_MODIFIED | | SCON_CREATED/REV/ALPAGES |

PMK4450

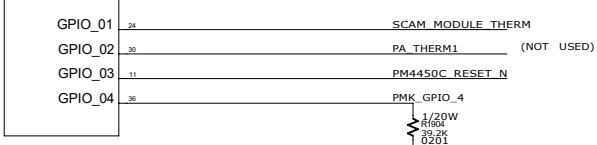
| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |

SPMI_CLK & SPMI_DATA SHOULD BE ROUTED AWAY FROM NOISY TRACES
 ROUTE SIGNALS AS A DIFF PAIR AS MUCH AS POSSIBLE
 IF CARE SPMI_S1 PLEASE ADD SERIES RC IN PARALLEL FROM PMK TERMINAL



NOTE : FOR LAYOUT GUIDELINES , SEE PMK4450 POWER MANAGEMENTIC DESIGN GUIDELINES/TRAINING SLIDES (80-PW238-5)

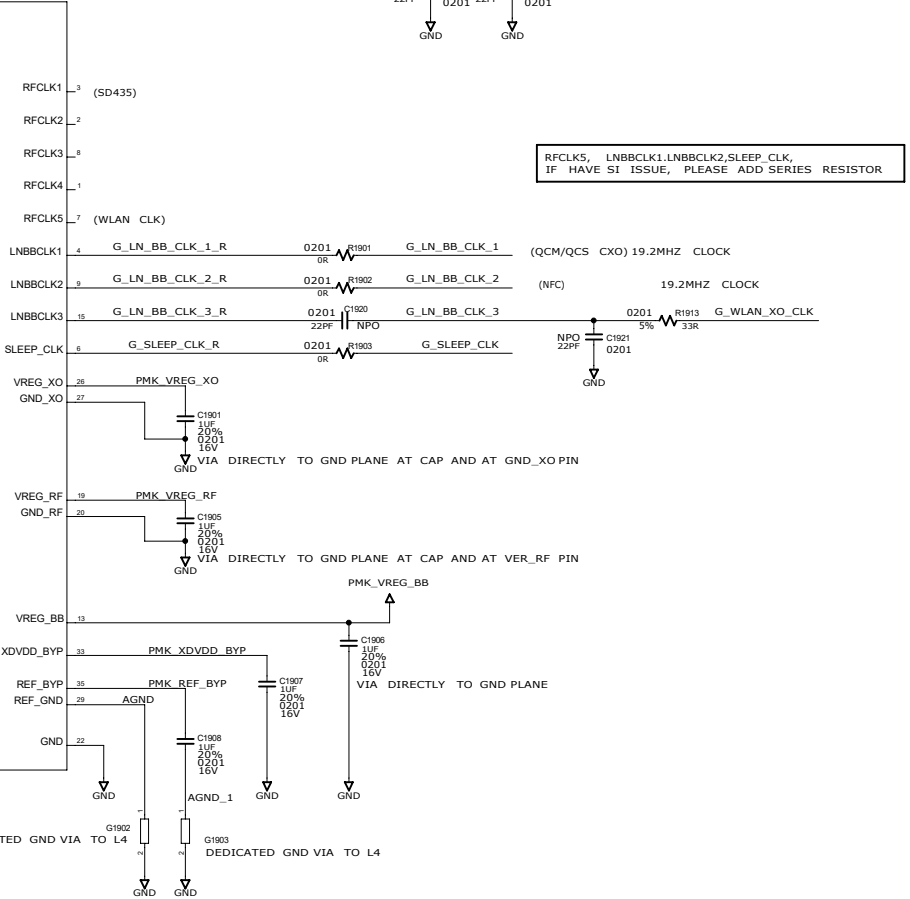
U1901
 PMK-4450-0-FOWPSP36-MT-01-0



NOTE : REFER - OPTION PIN STATE (PMK4450) TABLE FROM 80-PW238-1

| Options | Resistor values (Ω) | LPDDR options | UFS option | SD card option |
|---------|---------------------|---------------|------------|-------------------------|
| 1 | 3240 | LPDDR5 | USF2.2 | SD card LDO enabled |
| 2 | 10200 | LPDDR5 | USF2.2 | Skip SD Card LDO enable |
| 3 | 18700 | LPDDR5 | USF2.2 | SD card LDO enabled |
| 4 | 28000 | LPDDR5 | USF2.2 | Skip SD Card LDO enable |
| 5 | 39200 | LPDDR5 | UFS3.1 | SD card LDO enabled |
| 6 | 52300 | LPDDR5 | UFS3.1 | Skip SD Card LDO enable |
| 7 | 68100 | LPDDR5 | UFS3.1 | SD card LDO enabled |
| 8 | 88700 | LPDDR5 | UFS3.1 | Skip SD Card LDO enable |

U1901
 PMK-4450-0-FOWPSP36-MT-01-0



RFCLKs, LNBCLK1, LNBCLK2, SLEEP_CLK, IF HAVE SI ISSUE, PLEASE ADD SERIES RESISTOR

ZEBRA CONFIDENTIAL

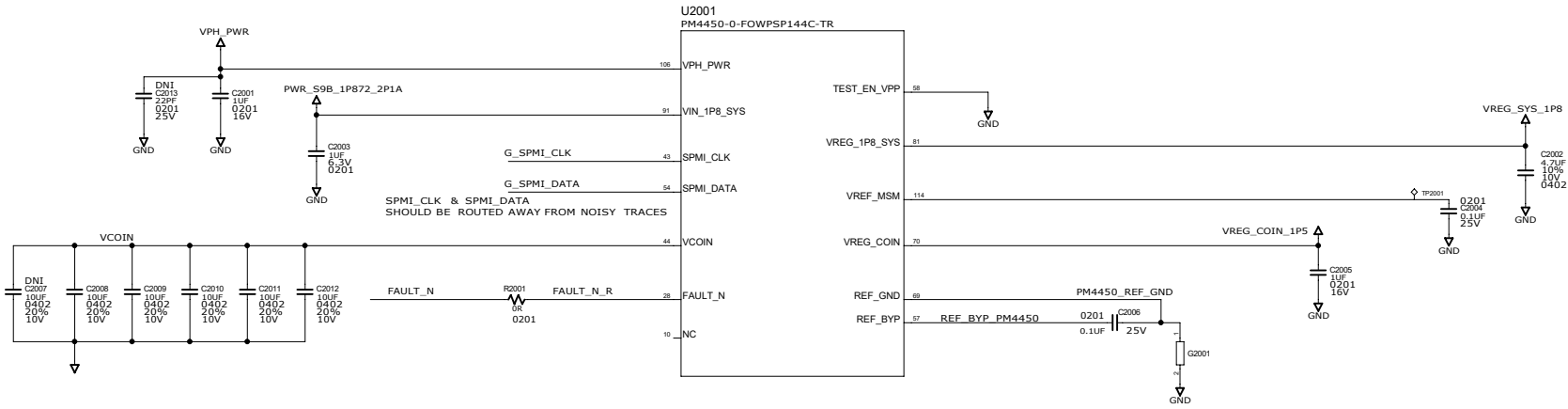
ZEBRA TECHNOLOGIES CORP.
 HOLTSVILLE, NEW YORK 11742

\$\$\$TI_TITLE_1
 PMK4450

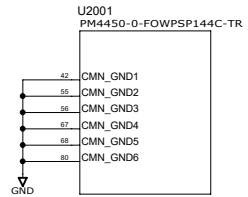
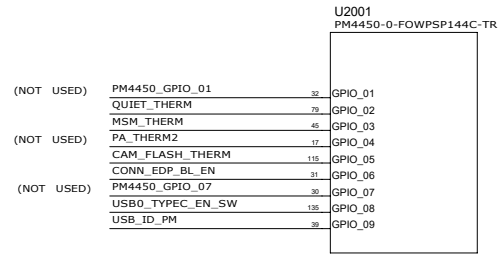
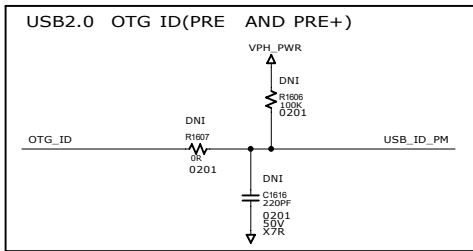
| | | |
|-------------------|---------------------|---------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$\$TI_DRAWING_NO | \$\$\$TI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REVISED |

PM4450:CONTROL/GPIOS/GND

| REVISIONS | | | | | | |
|-----------|------|-------------|------|----|------|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | APD. | DATE |
| | | SEE SHEET 1 | | | | |



DEDICATED TRACE FROM REF_BYP TO CAP.
 DEDICATED TRACE FROM REF_GND TO CAP.
 DEDICATED VIA TO MAIN GROUND PLANE RIGHT UNDER PMIC PIN (REF_GND) OR AS CLOSE TO THE PIN AS POSSIBLE.
 DO NOT ADD VIA AT CAP.
 REF_BYP AND REF_GND SHOULD BE ROUTED AWAY FROM NOISY TRACES



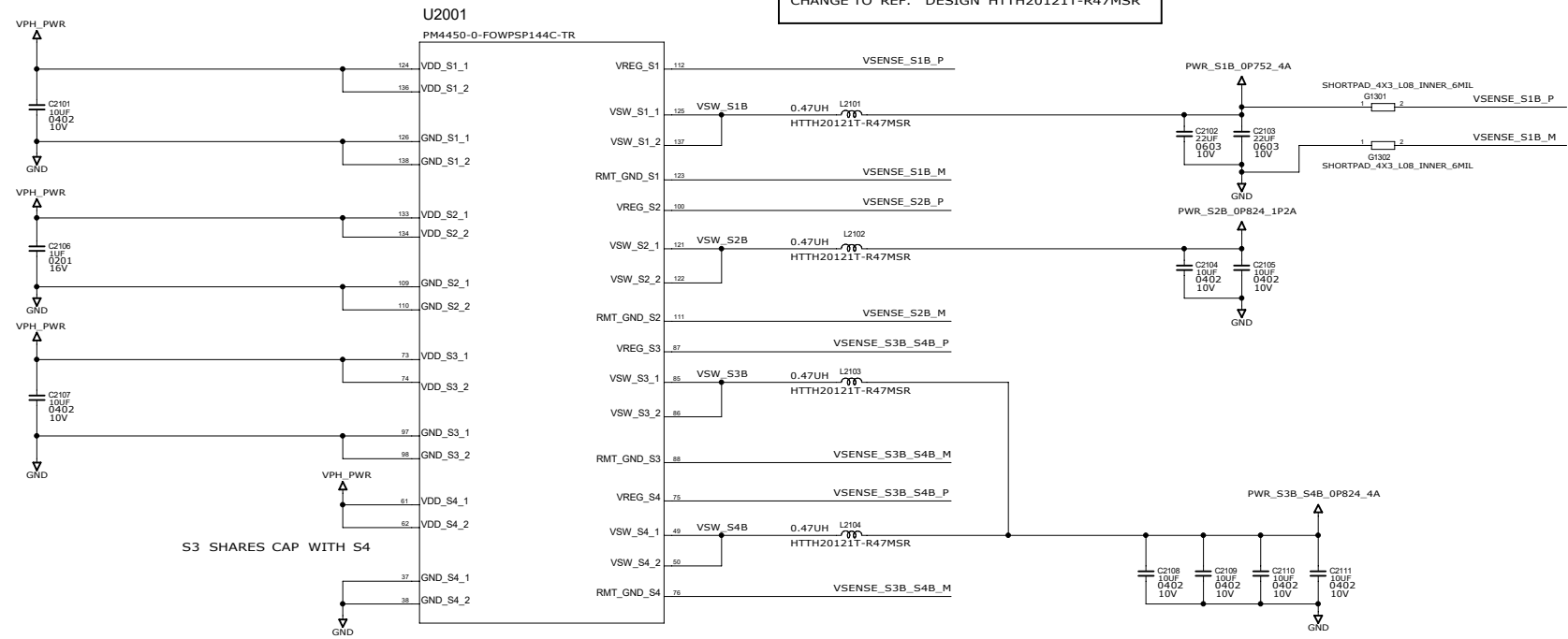
NOTE : FOR LAYOUT GUIDELINES , SEE PM4450 POWER MANAGEMENTIC DESIGN GUIDELINES/TRAINING SLIDES : 80-36266-5

| | | | |
|---------------------------------------------------------|------------------|------------------------|-----------|
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| \$STI_TITLE_1 | | | |
| PM4450:CONTROL/GPIOS/GND | | | |
| SIZE | DWG. NO. | REV. | |
| D | \$STI_DRAWING_NO | | \$STI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

PM4450:SMPS1-4/VREG S1B-S4B

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |

NOTE: 0.47UH/HTQL20120H-R47MSR-39
CHANGE TO REF. DESIGN HTTH20121T-R47MSR



S3 SHARES CAP WITH S4

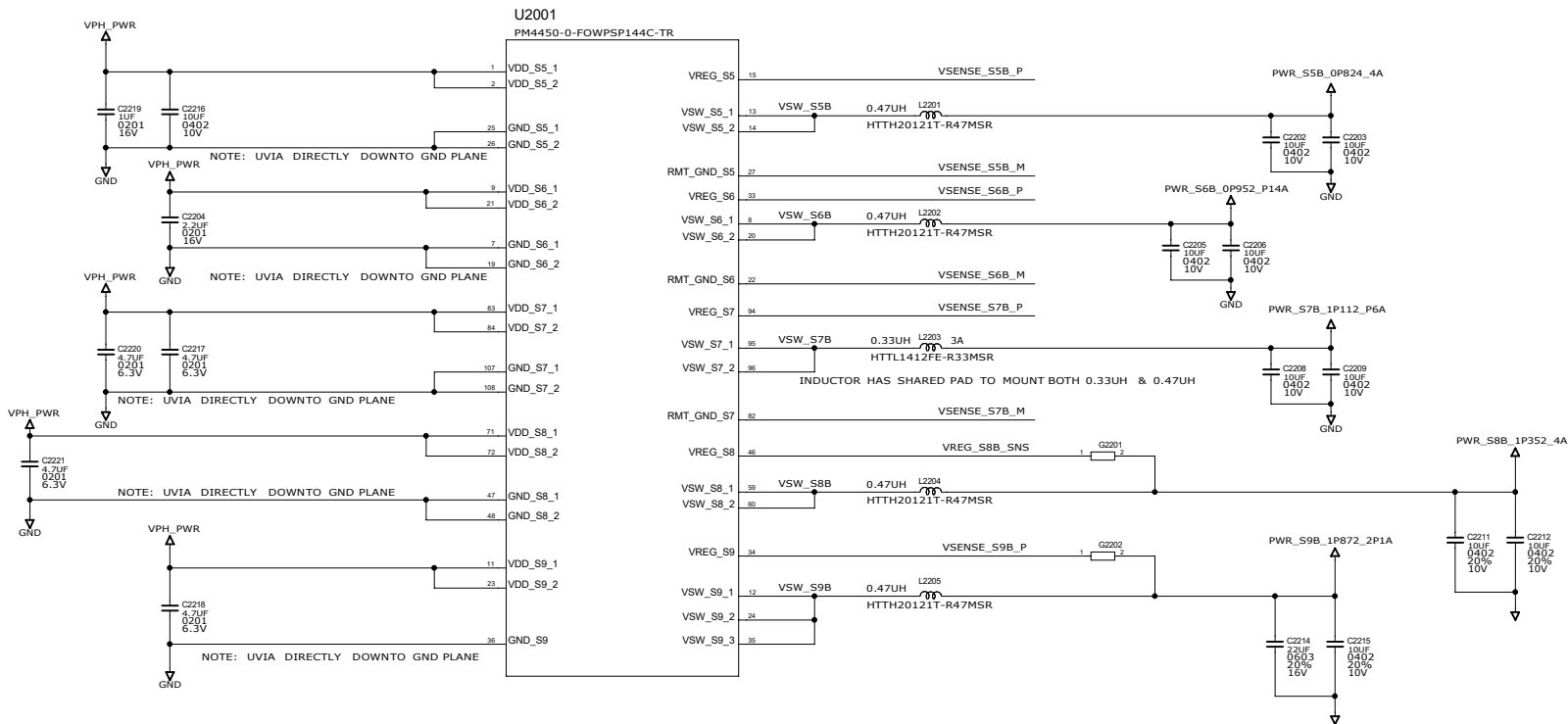
THE BUCK FEEDBACK LINES MUST BE SHORTED UNDER THE PMIC FOR MULTI-PHASE BUCKS.
THE REFERENCE LAYOUT WILL NOT HAVE THIS SHORT UNDER THE PMIC; A GENERIC BREAKOUT.

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| HOLTSVILLE, NEW YORK, 11742 | |
| SSTI_TITLE_1 | |
| PM4450:S1-S4/S1B-S4B | |
| SIZE | DWG. NO. |
| D | SSTI_DRAWING_NO |
| SCALE | REV |
| LAST_MODIFIED | SCALE |

PM4450:SMPS5-9/VREG S5B-S9B

| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



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\$STI_TITLE_1
PM4450:S5-9/S5B-S9B

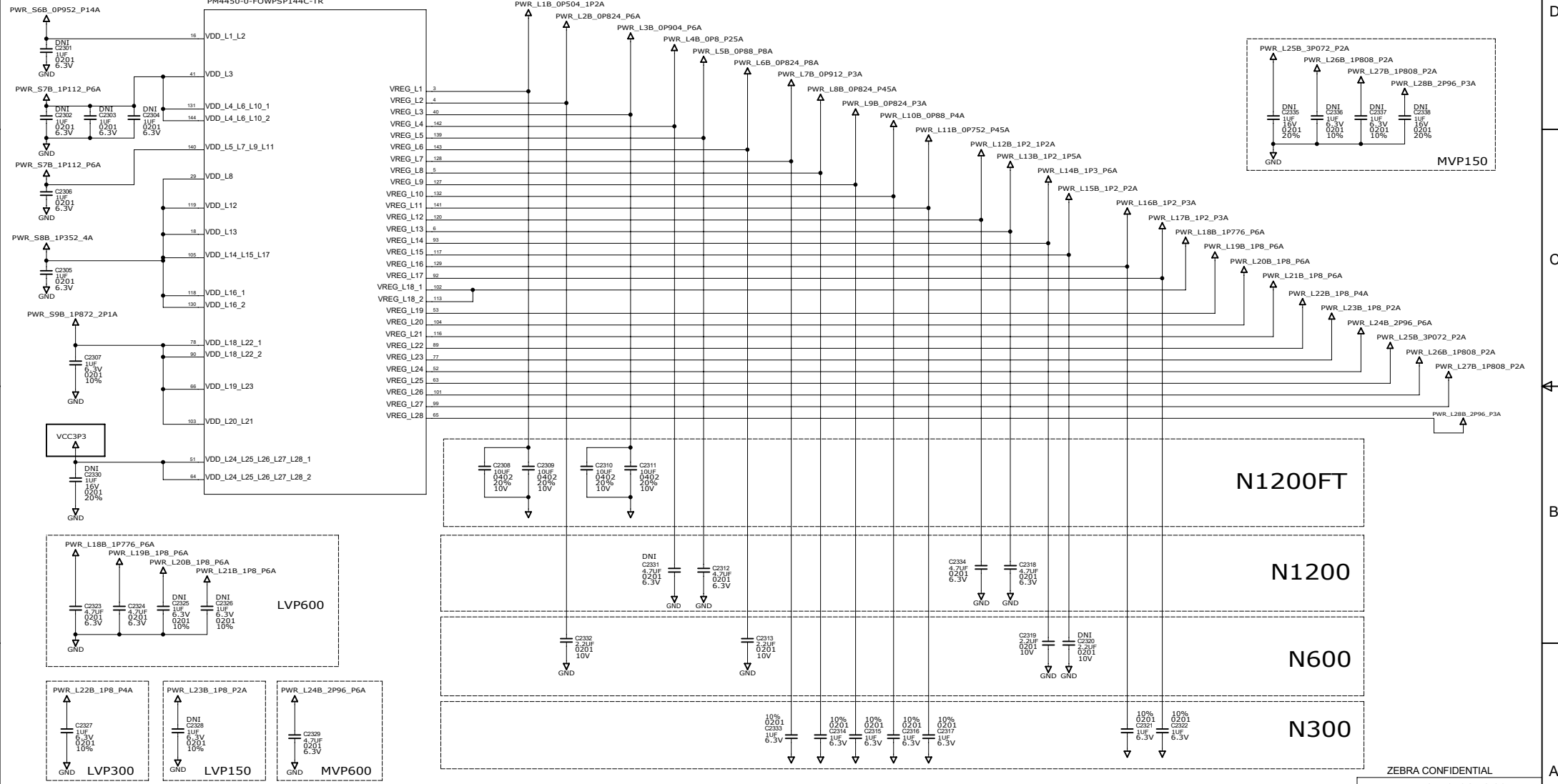
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|-------------------|------------------|------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$STI_DRAWING_NO | \$STI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALLOCS |

PM4450:LDOS/L1B-L28B

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |

L4B, L9B PLEASE MAKE SURE THAT THE LDO NOT USE AND SW ALSO NOT TO OPEN IT, THEN YOU CAN REMOVE THE COUT

U2001
PM4450-0-FOWPSP144C-TR



N1200FT

N1200

N600

N300

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\$\$TI_TITLE_1
PM4450:LDOS/L1B-L28B

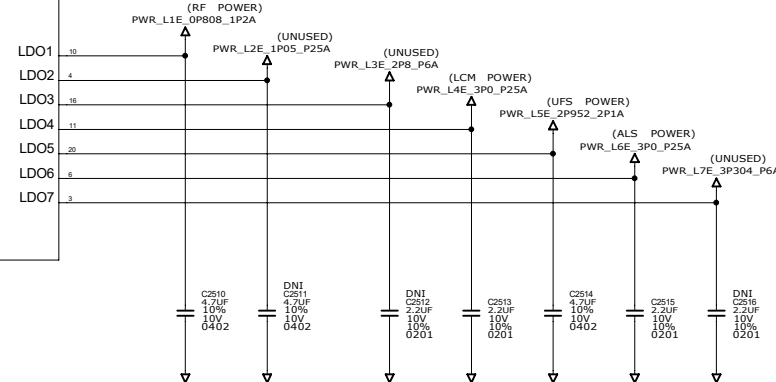
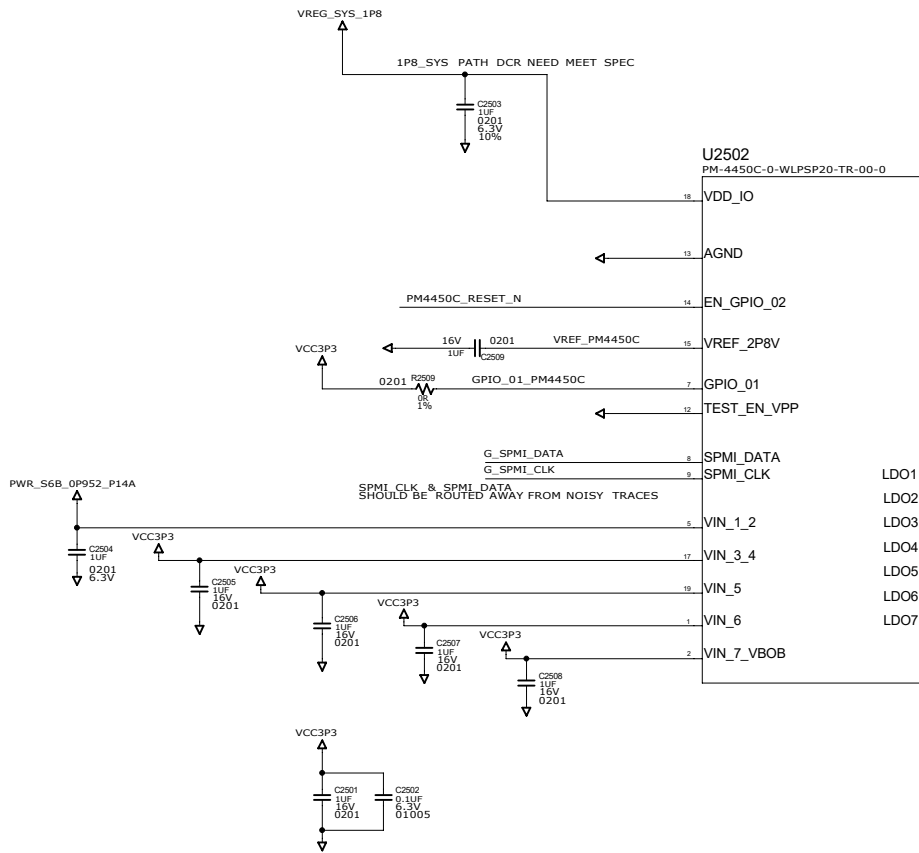
| SIZE | DWG. NO. | REV |
|-------------------|-------------------|------------------------|
| D | \$\$TI_DRAWING_NO | REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/VALUES |

PM4450C CORE PMIC

| REV | | ZONE | REVISIONS | DESCRIPTION | | E.C. | BY | APVD. | DATE |
|-----|--|------|-----------|-------------|--|------|----|-------|------|
| | | | | SEE SHEET 1 | | | | | |

| Regulator | Circuit type | I _{rated} (mA) | Specified/ programmable range (V) | Expected use |
|-----------|-----------------|-------------------------|-----------------------------------|-----------------|
| L1 | Linear NMOS LDO | 1200 | 0.528 to 1.504 | SDR VDDCX |
| L2 | Linear NMOS LDO | 1200 | 0.528 to 1.504 | Unused |
| L3 | Linear PMOS LDO | 300 | 1.808 to 3.312 | VDD |
| L4 | Linear PMOS LDO | 300 | 1.808 to 3.312 | Touch_AVDD |
| L5 | Linear PMOS LDO | 600 | 1.2, 1.504 to 3.544 ^a | FS VCC/eMMC VCC |
| L6 | Linear PMOS LDO | 300 | 1.808 to 3.312 | VLED |
| L7 | Linear PMOS LDO | 600 | 1.2, 1.504 to 3.544 ^b | WCN 3P3 |

^a To configure L5 to 1.2 V, set register 0x4454 bit 1 to 1
^b To configure L7 to 1.2 V, set register 0x4654 bit 1 to 1



CAD NOTE: PLACE THESE CAPACITORS CLOSE TO PMIC, DIRECTLY CONNECTED ON THE POWER PATH, NOT WITH SKINNY TRACE.

NOTE: FOR LAYOUT GUIDELINES, SEE PM4450C POWER MANAGEMENTIC DESIGN GUIDELINES/TRAINING SLIDES: 80-48924-5

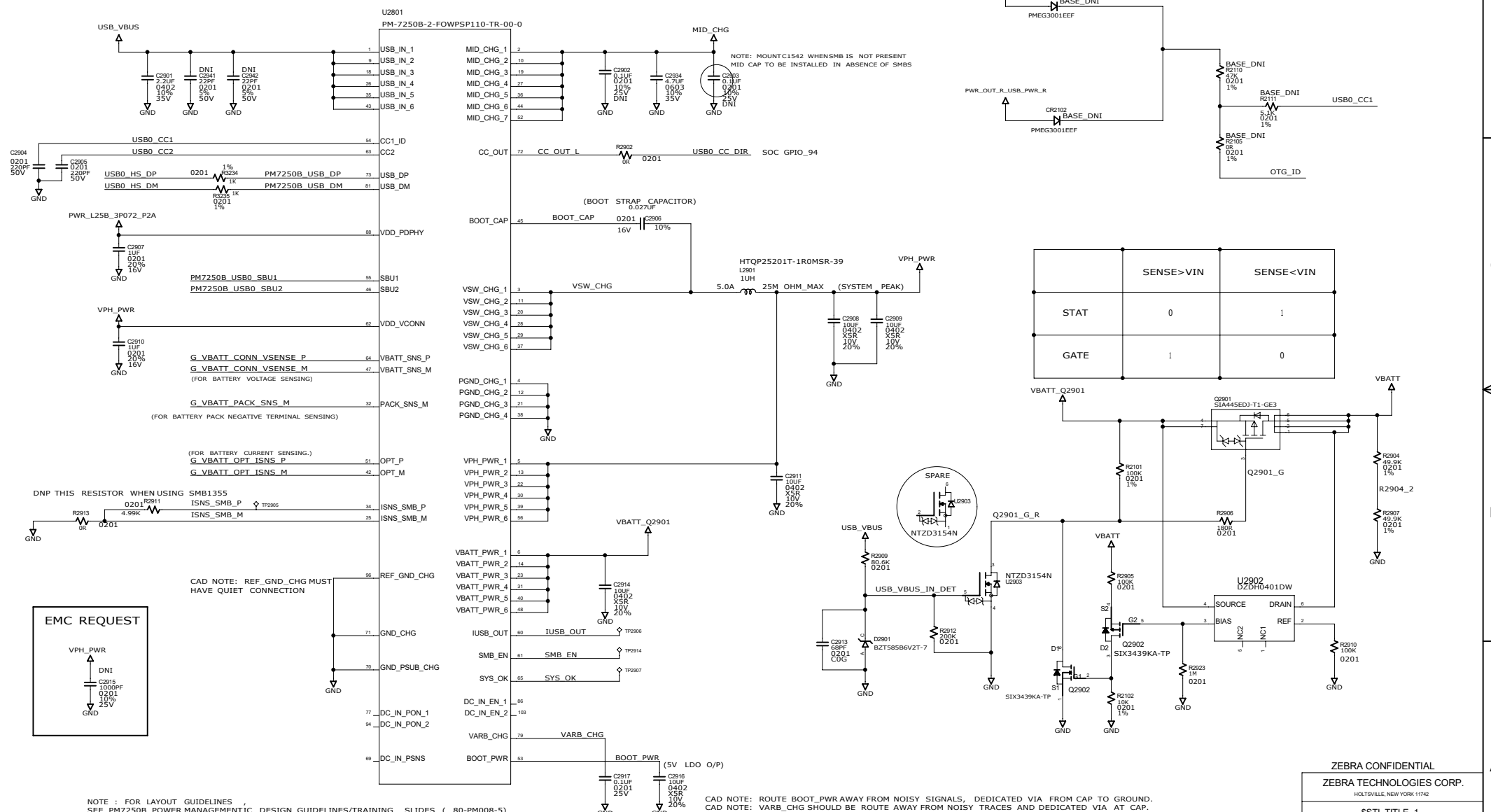
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SSTI_TITLE_1
 PM4450C CORE PMIC

| | | |
|-------------------|-----------------|------------------------|
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS |

PM7250B-2:CHARGER

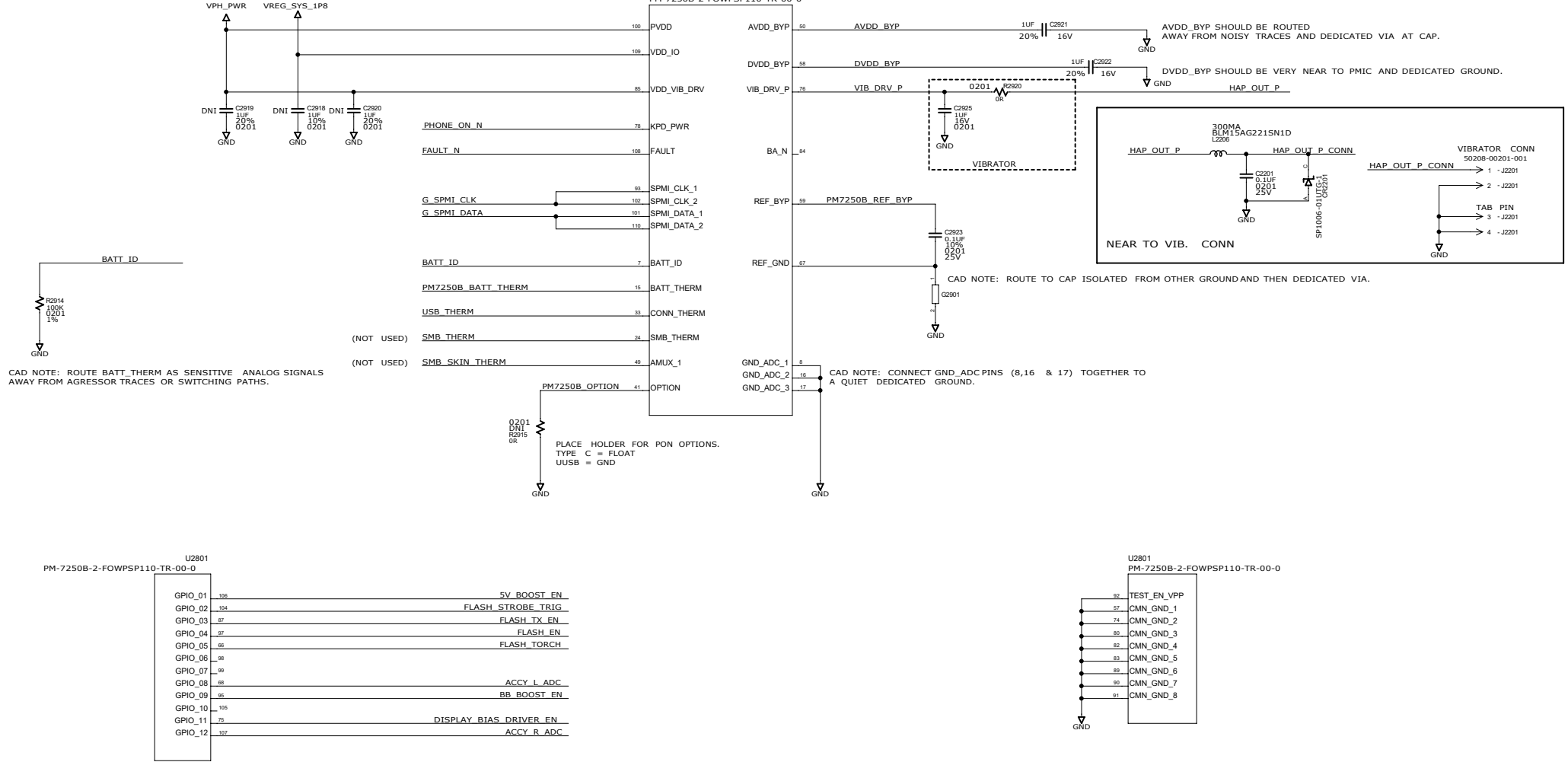
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|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



| | | |
|-----------------------------|-----------------|--------------------|
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| SSTI_TITLE_1 | | |
| PM7250B-2:CHARGER | | |
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCON_LAST_MODIFIED | | SCON_DRAWING_PAGES |

PM7250B-2:HK/GPIOS/HAPTICS

| REVISIONS | | | | | | |
|-----------|------|-------------|------|----|-------|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | APVD. | DATE |
| | | SEE SHEET 1 | | | | |



CAD NOTE: ROUTE BATT_THERM AS SENSITIVE ANALOG SIGNALS AWAY FROM AGRESSOR TRACES OR SWITCHING PATHS.

CAD NOTE: CONNECT GND_ADC PINS (8,16 & 17) TOGETHER TO A QUIET DEDICATED GROUND.

CAD NOTE: ROUTE TO CAP ISOLATED FROM OTHER GROUND AND THEN DEDICATED VIA.

AVDD_BYP SHOULD BE ROUTED AWAY FROM NOISY TRACES AND DEDICATED VIA AT CAP.

DVDD_BYP SHOULD BE VERY NEAR TO PMIC AND DEDICATED GROUND.

NEAR TO VIB. CONN

| U2801 PM-7250B-2-FOWPSP110-TR-00-0 | |
|---------------------------------------|---------------------------|
| GPIO_01 | 106 5V BOOST_EN |
| GPIO_02 | 104 FLASH_STROBE_TRIG |
| GPIO_03 | 87 FLASH_TX_EN |
| GPIO_04 | 87 FLASH_EN |
| GPIO_05 | 86 FLASH_TORCH |
| GPIO_06 | 96 |
| GPIO_07 | 99 |
| GPIO_08 | 88 ACCY_L_ADC |
| GPIO_09 | 86 BB_BOOST_EN |
| GPIO_10 | 105 |
| GPIO_11 | 75 DISPLAY_BIAS_DRIVER_EN |
| GPIO_12 | 107 ACCY_R_ADC |

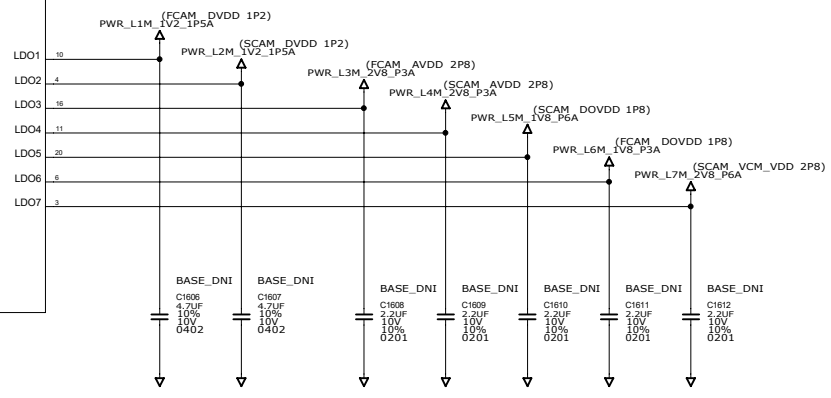
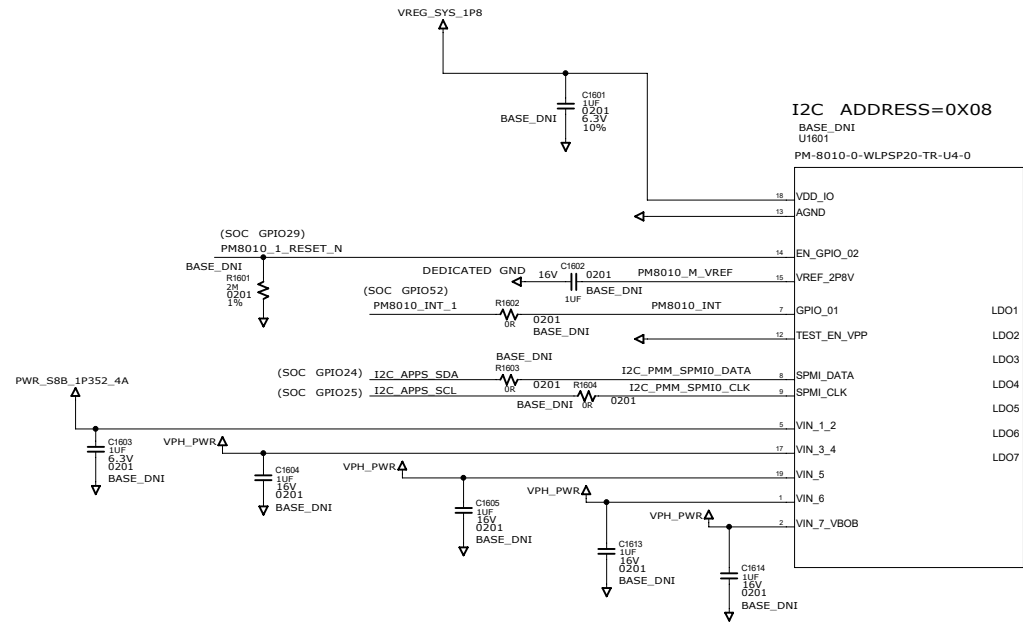
| U2801 PM-7250B-2-FOWPSP110-TR-00-0 | |
|---------------------------------------|-------------|
| 52 | TEST_EN_VPP |
| 57 | CMN_GND_1 |
| 74 | CMN_GND_2 |
| 80 | CMN_GND_3 |
| 82 | CMN_GND_4 |
| 83 | CMN_GND_5 |
| 89 | CMN_GND_6 |
| 90 | CMN_GND_7 |
| 91 | CMN_GND_8 |

| | | | |
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| PM7250B-2:HK/GPIOS/HAPTICS | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

PM8010 CAMERA POWER

| REVISIONS | | | | | | |
|-----------|------|-------------|------|----|-------|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | APVD. | DATE |
| | | SEE SHEET 1 | | | | |

| Regulator | Circuit type | I _{rated} (mA) | Specified/ programmable range (V) | Expected use |
|-----------|-----------------|-------------------------|--------------------------------------|----------------------------------------------------------------------|
| L1 | Linear NMOS LDO | 1500 | 0.528 to 1.504 | Sensor DVDD |
| L2 | Linear NMOS LDO | 1500 | 0.528 to 1.504 | Sensor DVDD |
| L3 | Linear PMOS LDO | 300 | 1.808 to 3.312 | All are fully programmable and can be used for AVDD, AF, IO, and OIS |
| L4 | Linear PMOS LDO | 300 | 1.808 to 3.312 | All are fully programmable and can be used for AVDD, AF, IO, and OIS |
| L5 | Linear PMOS LDO | 600 | 1.2, 1.504 to 3.544 ¹ | All are fully programmable and can be used for AVDD, AF, IO, and OIS |
| L6 | Linear PMOS LDO | 300 | 1.808 to 3.312 | All are fully programmable and can be used for AVDD, AF, IO, and OIS |
| L7 | Linear PMOS LDO | 600 | 1.2, 1.504 to 3.544 ² | All are fully programmable and can be used for AVDD, AF, IO, and OIS |



LOCAL CAPACITORS

CAD NOTE: PLACE THESE CAPACITORS CLOSE TO PM8010, DIRECTLY CONNECTED ON THE POWER PATH, NOT WITH SKINNY TRACE.
NOTE : FOR LAYOUT GUIDELINES , SEE PM8010 POWER MANAGEMENTIC DESIGN GUIDELINES/TRAINING SLIDES :80-18582-5

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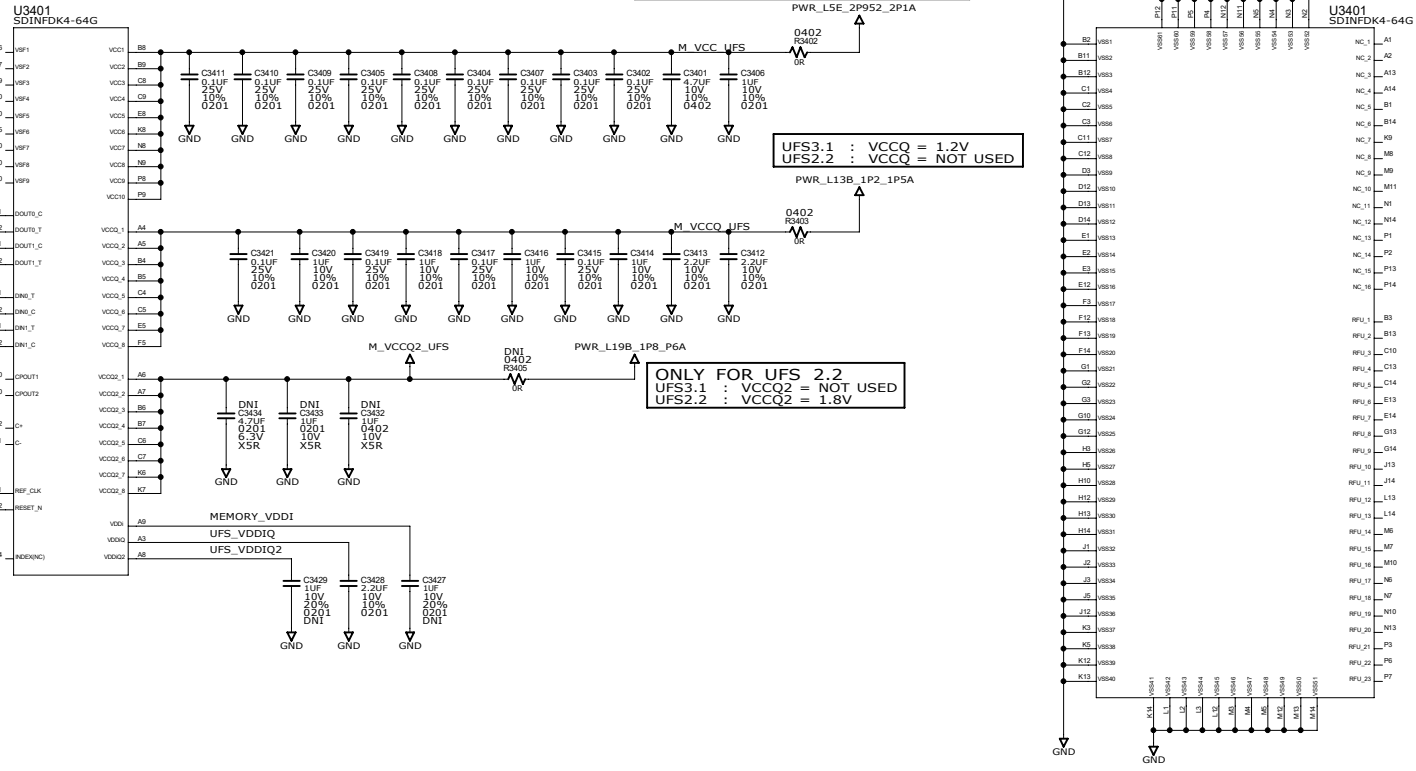
SSTI_TITLE_1
PM8010 CAMERA POWER

| | | |
|--------------------|-----------------|----------------------|
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCON_LAST_MODIFIED | | SCORPORATION/ALLEGES |

MEMORY:UFS

| REV | | ZONE | REVISIONS | DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|--|------|-----------|-------------|------|----|-------|------|
| | | | | SEE SHEET 1 | | | | |

- UFS_L0_RX_M
- UFS_L0_RX_P
- UFS_L1_RX_M
- UFS_L1_RX_P
- UFS_L0_TX_P
- UFS_L0_TX_M
- UFS_L1_TX_P
- UFS_L1_TX_M
- G_UFS_REF_CLK_L
- G_UFS_RESET_N



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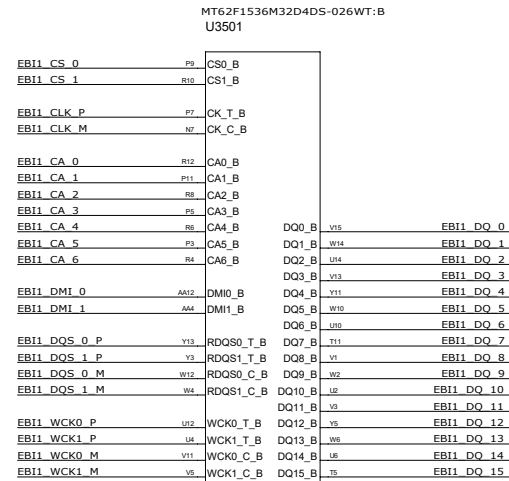
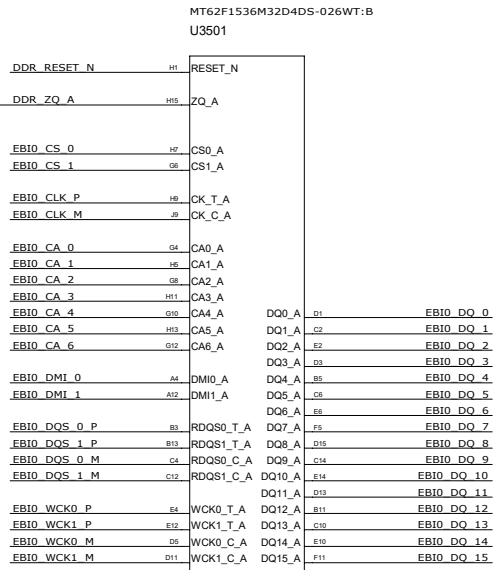
\$\$TI_TITLE_1
MEMORY:UFS

| | | |
|--------------------|-------------------|---------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$TI_DRAWING_NO | \$\$TI_REV |
| SCON_LAST_MODIFIED | | SCORP_LAST_MODIFIED |

MEMORY:LPDDR5

| REVISIONS | | | | | | |
|-----------|------|-------------|------|----|-------|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | APVD. | DATE |
| | | SEE SHEET 1 | | | | |

PWR_L1B_0P504_1P2A



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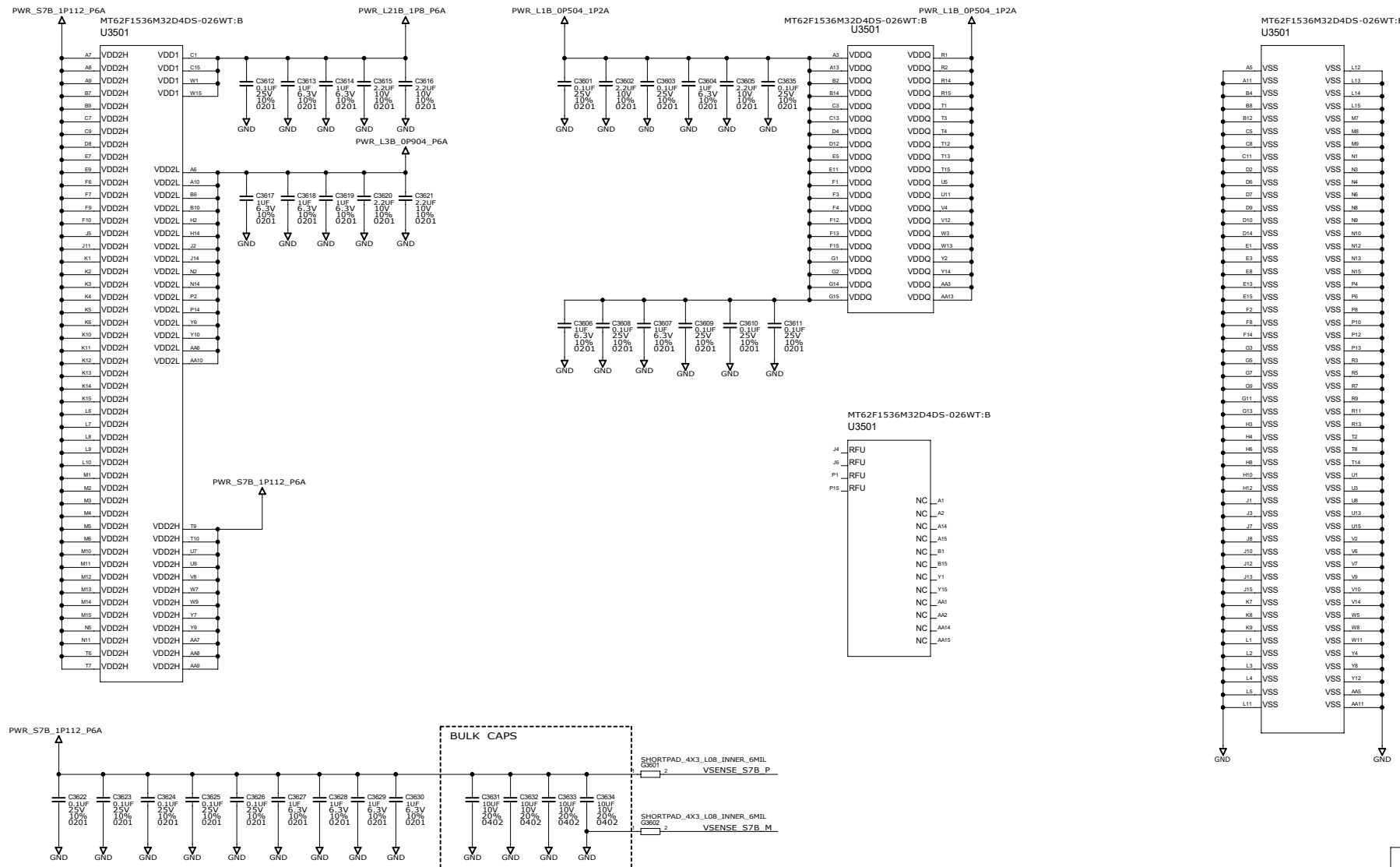
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HOLTSVILLE, NEW YORK 11742

\$\$TI_TITLE_1
MEMORY:LPDDR5

| | | |
|-------------------|-------------------|-------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$TI_DRAWING_NO | \$\$TI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALDRGES |

MEMORY: LPDDR5 POWER/GND

| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



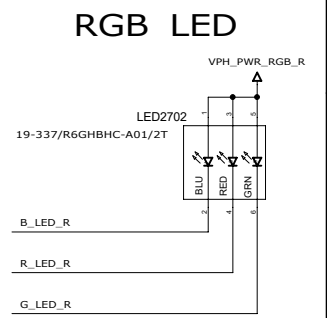
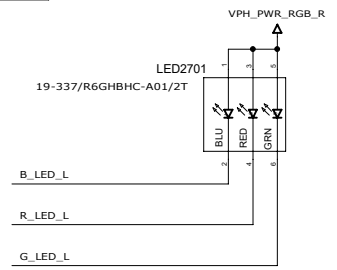
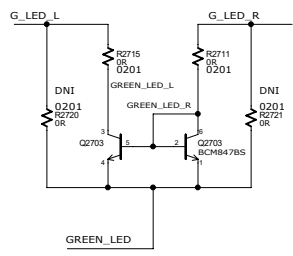
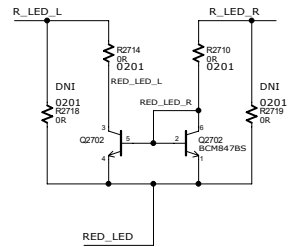
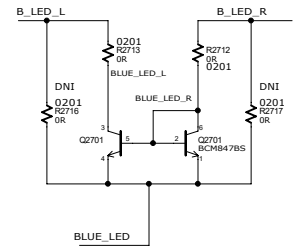
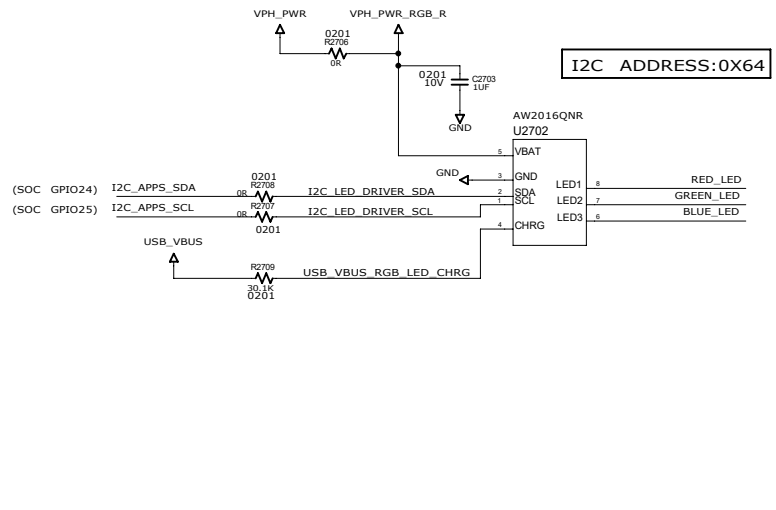
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SSTI_TITLE_1
 MEMORY: LPDDR5 POWER/GND

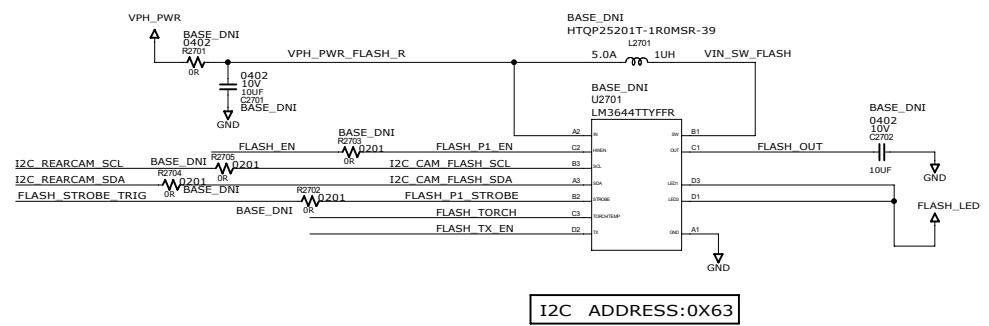
| | | |
|--------------------|-----------------|------------------------|
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCON_LAST_MODIFIED | | SCON_PRODUCED/DRAWINGS |

INDICATOR LEDS:RGB DRIVER

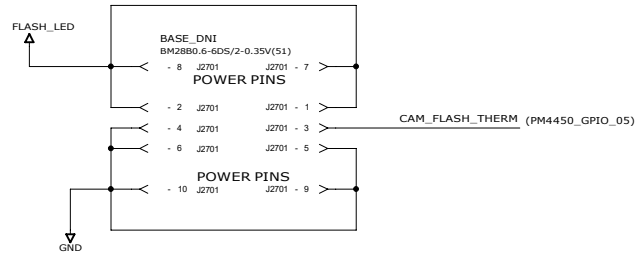
| REV | ZONE | REVISIONS DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|------|-----------------------|------|----|-------|------|
| | | SEE SHEET 1 | | | | |



FLASH LED DRIVER



FLASH CONNECTOR

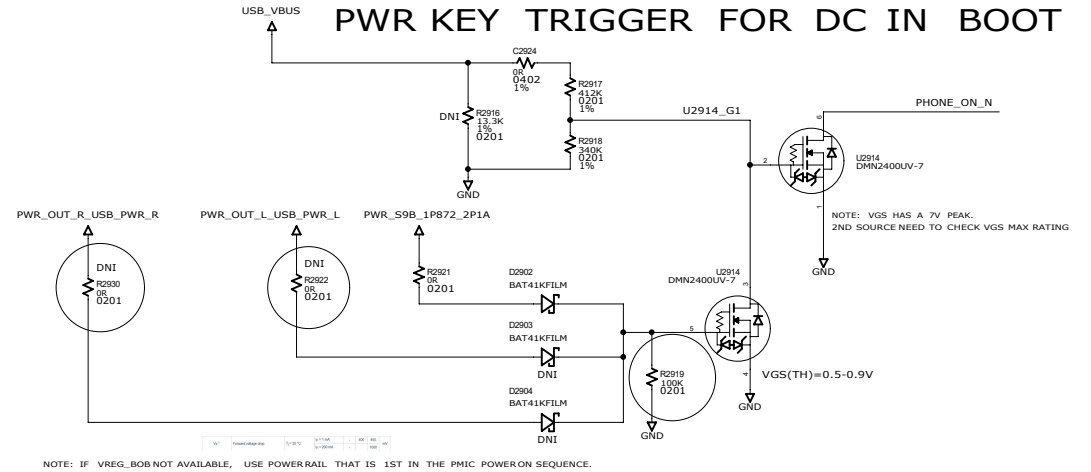


| | | | |
|-----------------------------|-----------------|-------------------|----------|
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| SSTI_TITLE_1 | | | |
| INDICAOTR LEDS,FLSH LED | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/PAGES | |

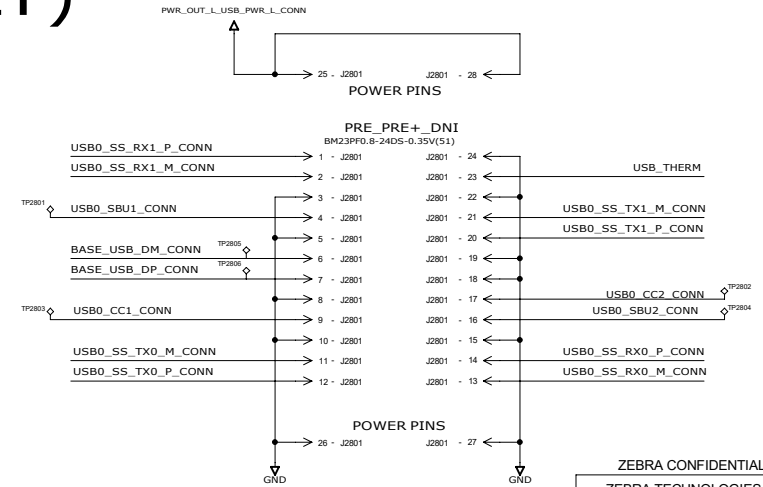
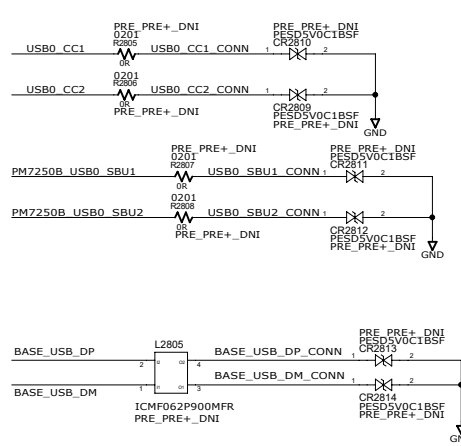
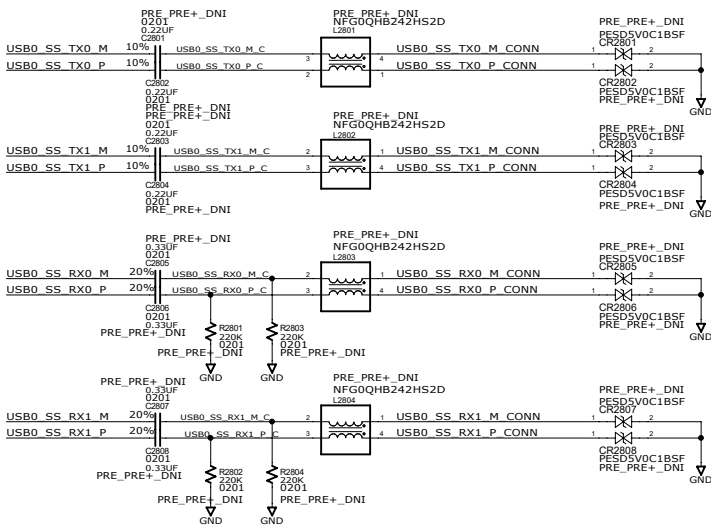
USB OTG PWR SWITCH

HW WORKAROUND TO PREVENT DC_IN_BOOT_UP ISSUE ON PM7250B

MOVE PWR SWITCH NEAR THE RUGGED CONNECTORS



USB SS, CCX, SUBX (BASE ONLY)



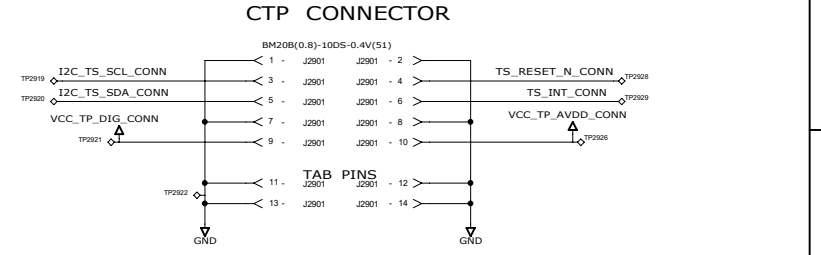
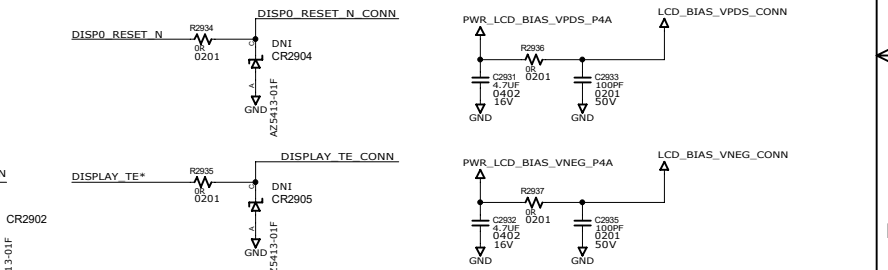
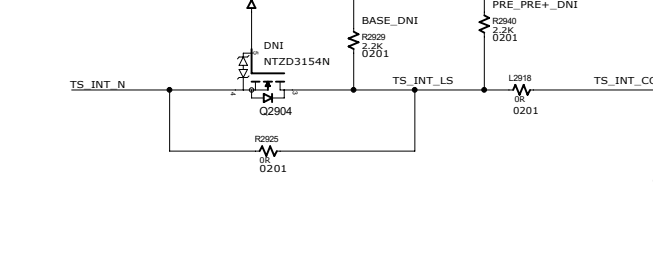
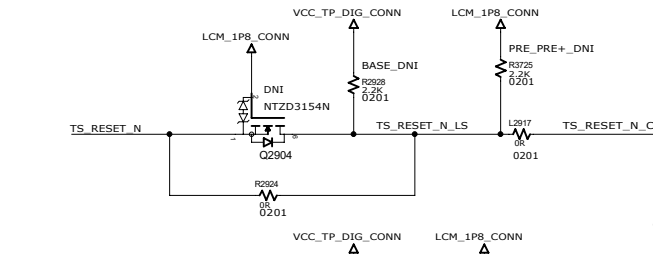
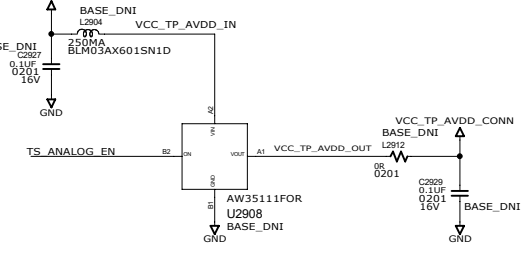
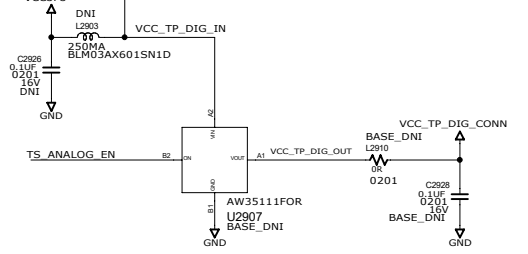
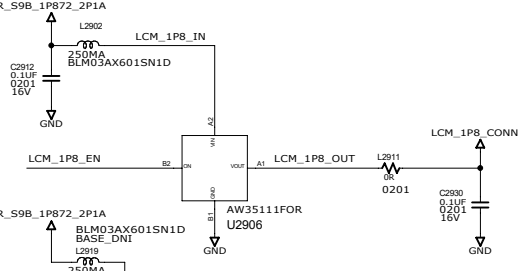
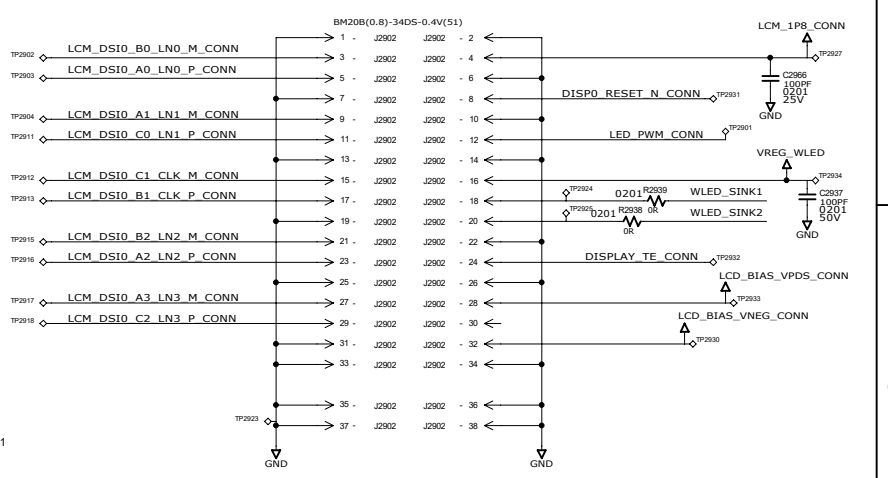
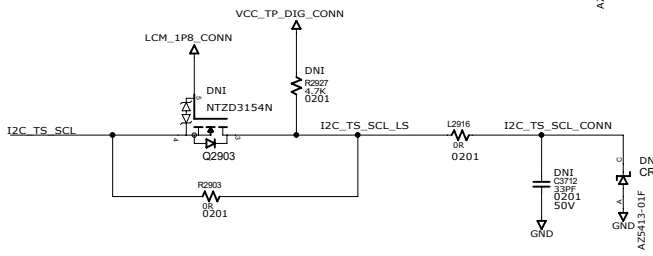
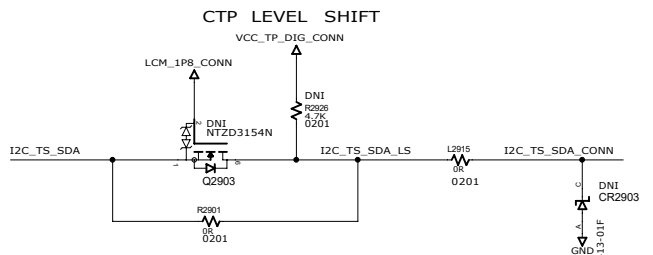
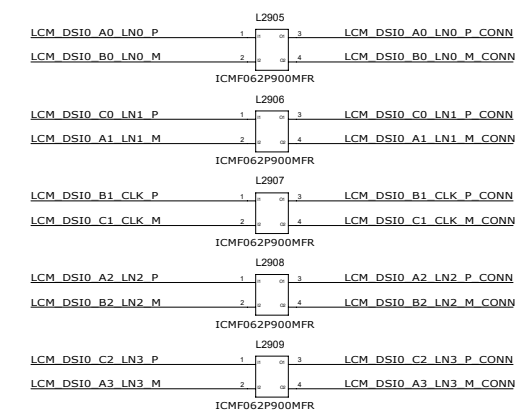
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HOLTSVILLE, NEW YORK, 11742

\$\$\$T1_TITLE_1
USB OTG PWR,SS,CC,SUB/DC BOOT UP

| | | |
|--------------------|---------------------|--------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$\$T1_DRAWING_NO | \$\$\$T1_REV |
| SCON_LAST_MODIFIED | SCON_PAGES | |

DISPLAY AND CTP CONNECTOR

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |



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HOLTSVILLE, NEW YORK, 11742

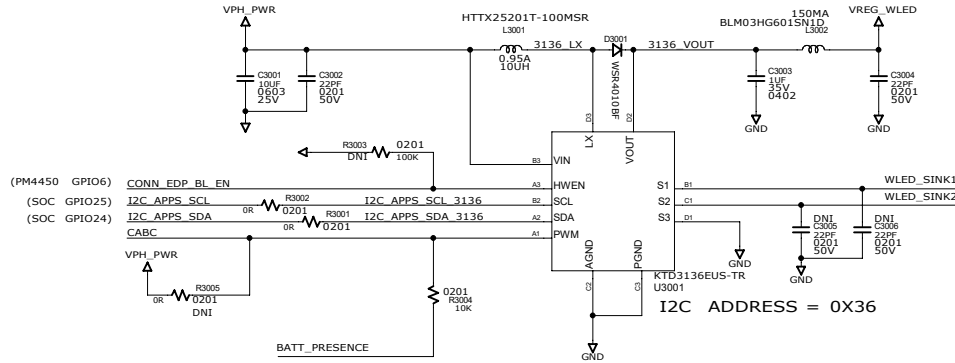
\$\$TI_TITLE_1
DISPLAY AND CTP CONN.

| | | |
|-------------------|-------------------|-------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$\$TI_DRAWING_NO | \$\$TI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALDRGES |

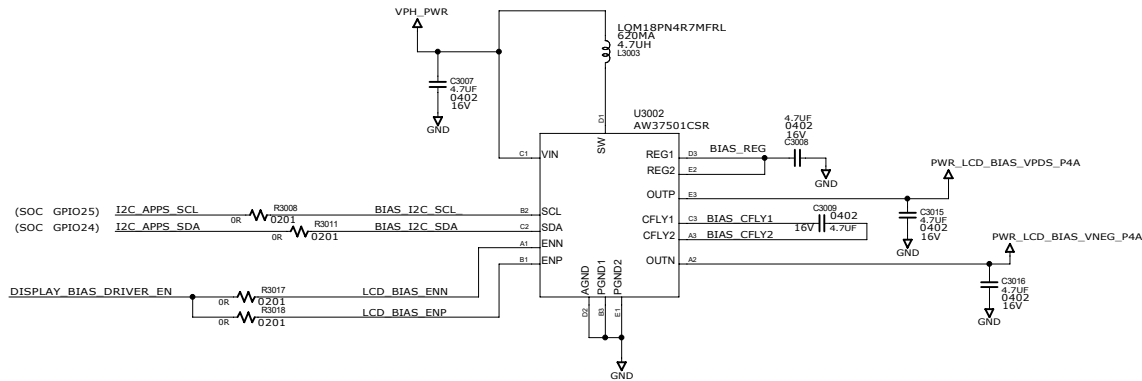
DISPLAY DRIVER AND BIAS DRIVER

| REVISIONS | | | | |
|-----------|------|-------------|------|---------------|
| REV | ZONE | DESCRIPTION | E.C. | BY APVD. DATE |
| | | SEE SHEET 1 | | |

BACKLIGHT DRIVER



BIAS DRIVER



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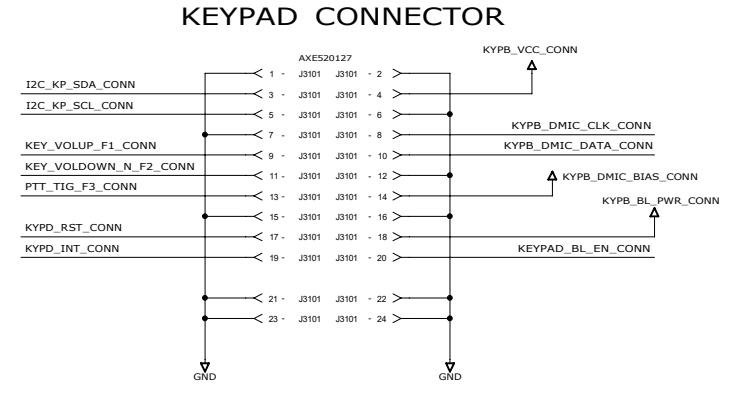
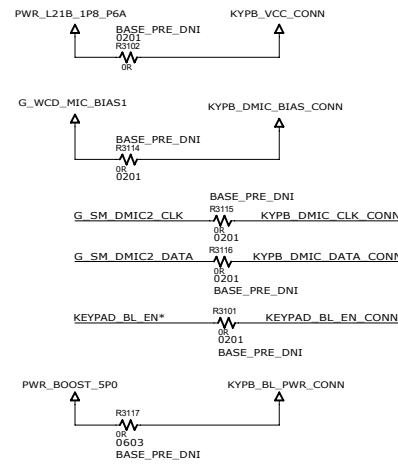
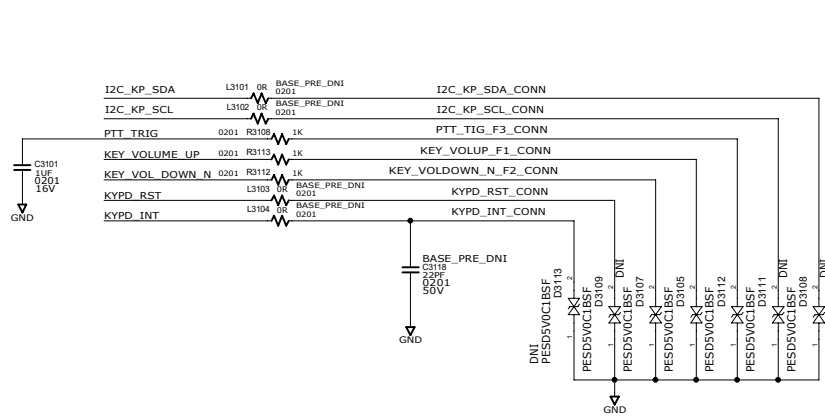
ZEBRA TECHNOLOGIES CORP.
HOLTSVILLE, NEW YORK, 11742

| SSTI_TITLE_1 | |
|---------------------------|-----------------|
| DSLY DRIVER & BIAS DRIVER | |
| SIZE | DWG. NO. |
| D | SSTI_DRAWING_NO |
| REV | DATE |
| 1 | |

SCON_LAST_MODIFIED SCOPING/REVISIONS

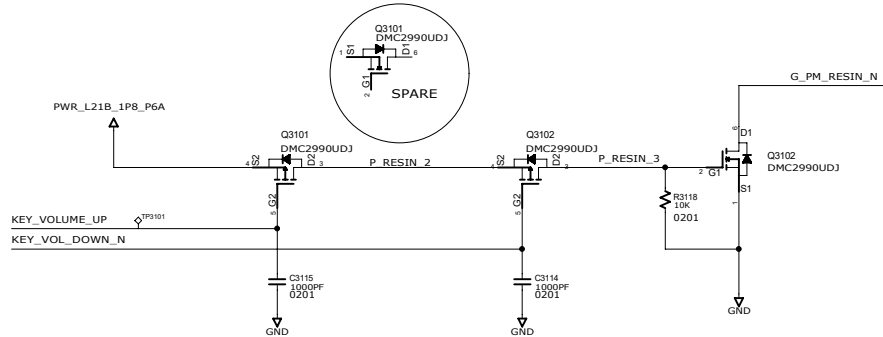
KEYPAD CONNECTOR(PRE+_ONLY)

| REVISONS | | | | E.C. | BY | APVD. | DATE |
|----------|------|-------------|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | |
| | | SEE SHEET 1 | | | | | |



3-KEY HW RESET

UP/DOWN+POWERKEY RESET

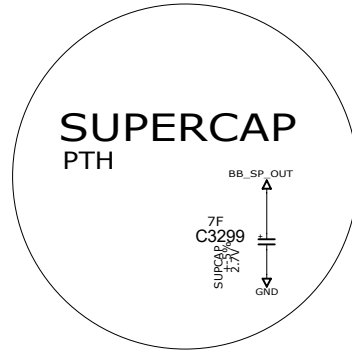


| | | | |
|-----------------------------|-----------------|------------------------|--|
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| ZEBRA TECHNOLOGIES CORP. | | | |
| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| KEYPAD_CONN./3-KEY RESET | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

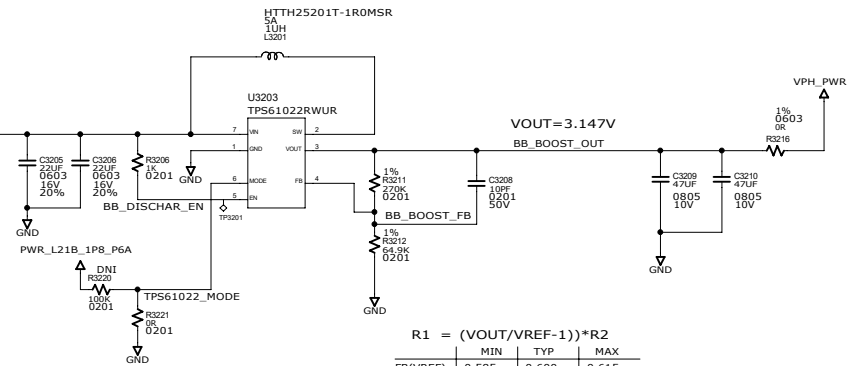
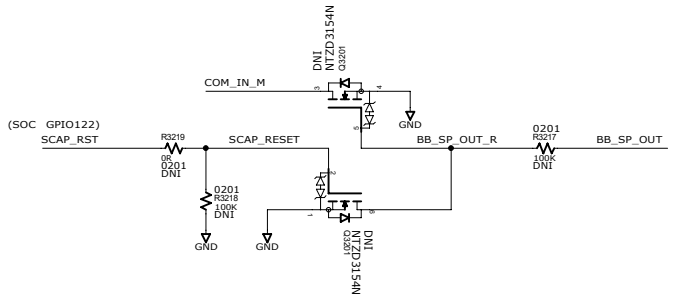
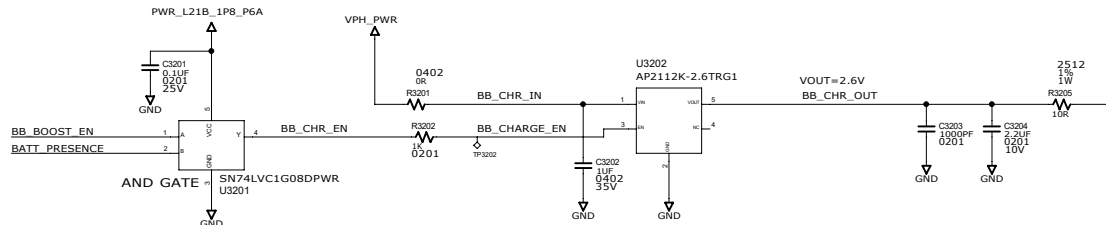
SUPERCAP CHARGING/DSICHARGING

| REV | | | REVISIONS | | | E.C. | | | BY | | | APVD. | | | DATE | | |
|-----|------|-------------|-----------|------|-------------|------|------|-------------|-----|------|-------------|-------|------|-------------|------|------|-------------|
| REV | ZONE | DESCRIPTION | REV | ZONE | DESCRIPTION | REV | ZONE | DESCRIPTION | REV | ZONE | DESCRIPTION | REV | ZONE | DESCRIPTION | REV | ZONE | DESCRIPTION |
| | | SEE SHEET 1 | | | | | | | | | | | | | | | |

BB DISCHARGING



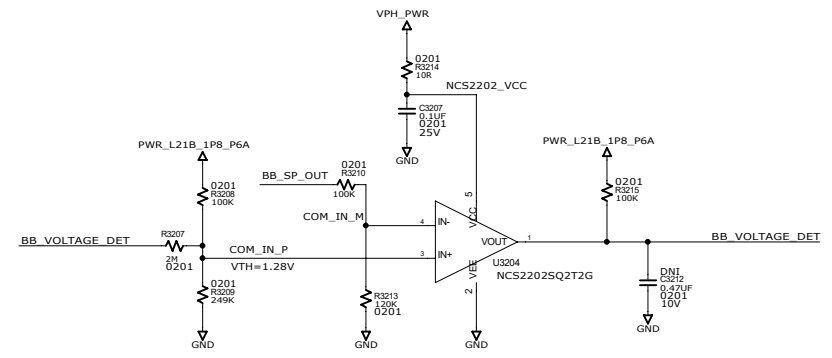
BB CHARGING



$R1 = (VOUT/VREF-1)*R2$

| | MIN | TYP | MAX |
|----------|--------|-------|--------|
| FB(VREF) | 0.585 | 0.600 | 0.615 |
| R1 | 267.30 | 270 | 272.7 |
| R2 | 64.251 | 64.9 | 65.549 |
| VOUT | 3.018 | 3.096 | 3.173 |

BB DET



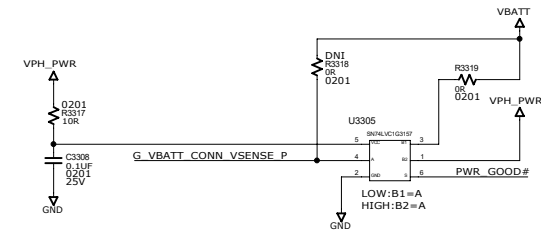
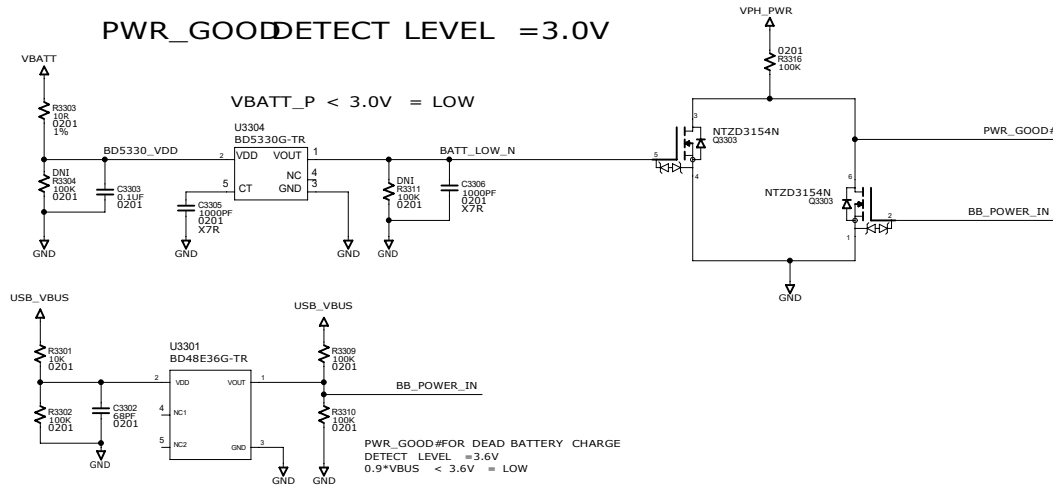
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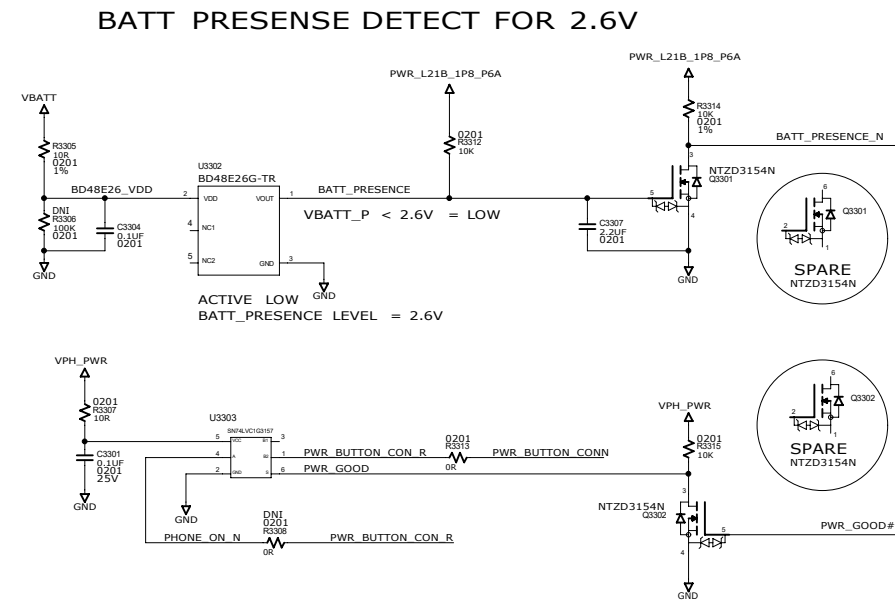
| | | |
|---------------------------|-----------------|------------------------|
| SSTI_TITLE_1 | | |
| SUPERCAP CHARGE/DISCHARGE | | |
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCON_LAST_MODIFIED | | SCON_DRAWING_APPROVALS |

BATTERY MONITORING/PWR BUTTON BLOCK

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |



BATTERY VOLTAGE DETECTION



| BATT_LOW_N | USB_IN_MID | PWR_GOOD# | BATT_CONN_SNS_P |
|------------|------------|-----------|-----------------|
| 1 | 0 | 0 | VBATT_P |
| 0 | 1 | 0 | VBATT_P |
| 1 | 0 | 0 | VBATT_P |
| 0 | 0 | 1 | VPH_PWR |

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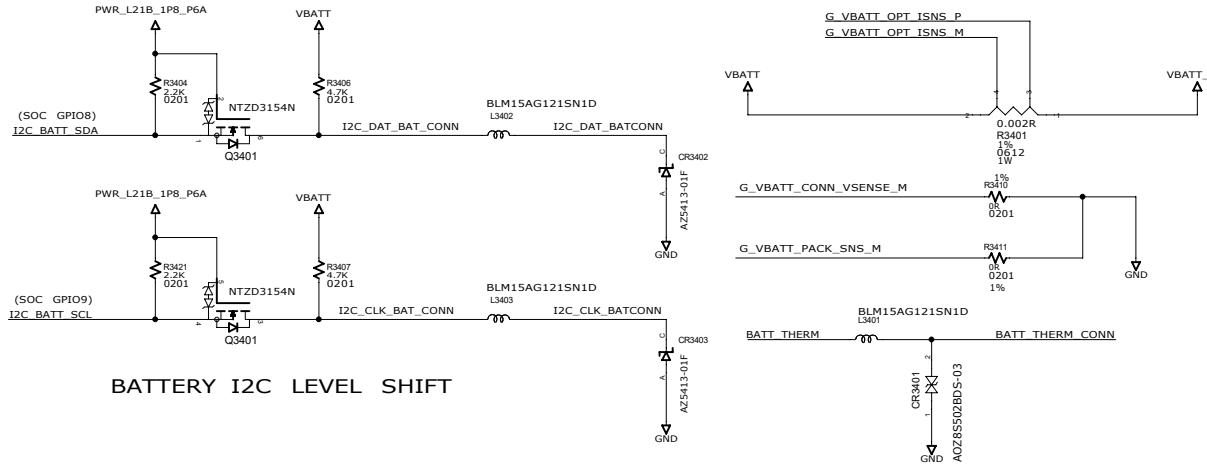
\$STI_TITLE_1

BATTERY MONITORING & PWR BUTTON BLOCK

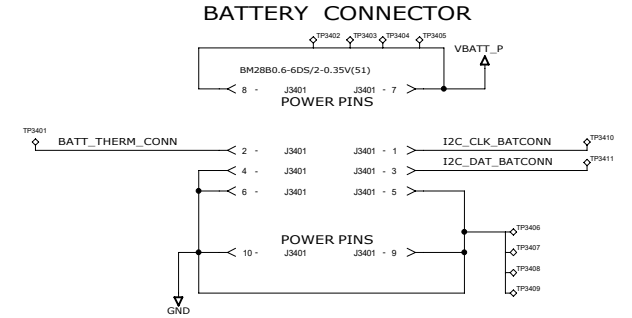
| | | |
|-------------------|------------------------|-----------|
| SIZE | DWG NO. | REV |
| D | \$STI_DRAWING_NO | \$STI_REV |
| SCN_LAST_MODIFIED | SCN_NUMBER/DATE/CPAGES | |

BATTERY CONNECTOR

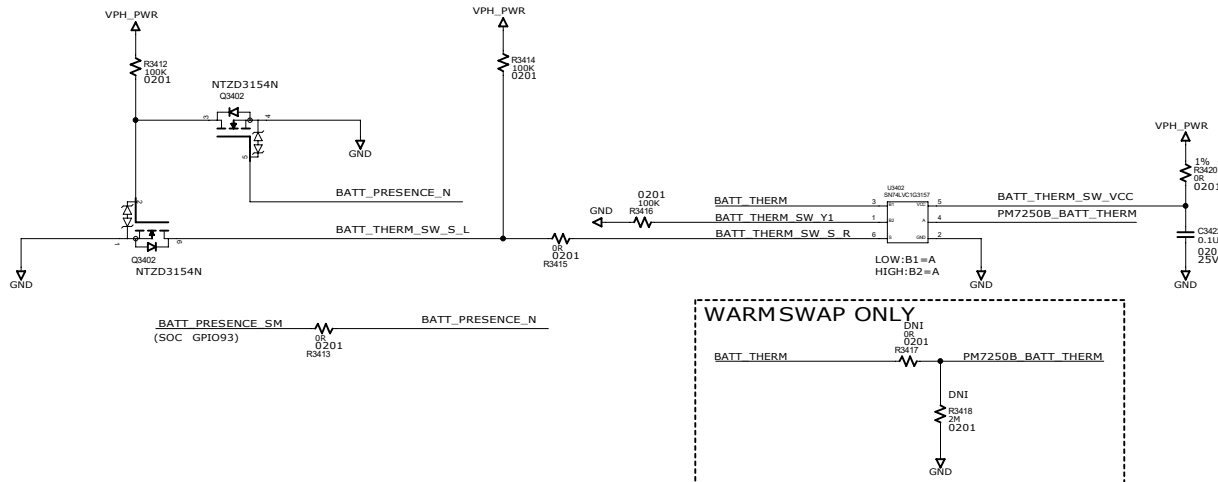
| REVISIONS | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | |
| | | SEE SHEET 1 | | | | | |



BATTERY I2C LEVEL SHIFT



BATTERY THERM DETECTION

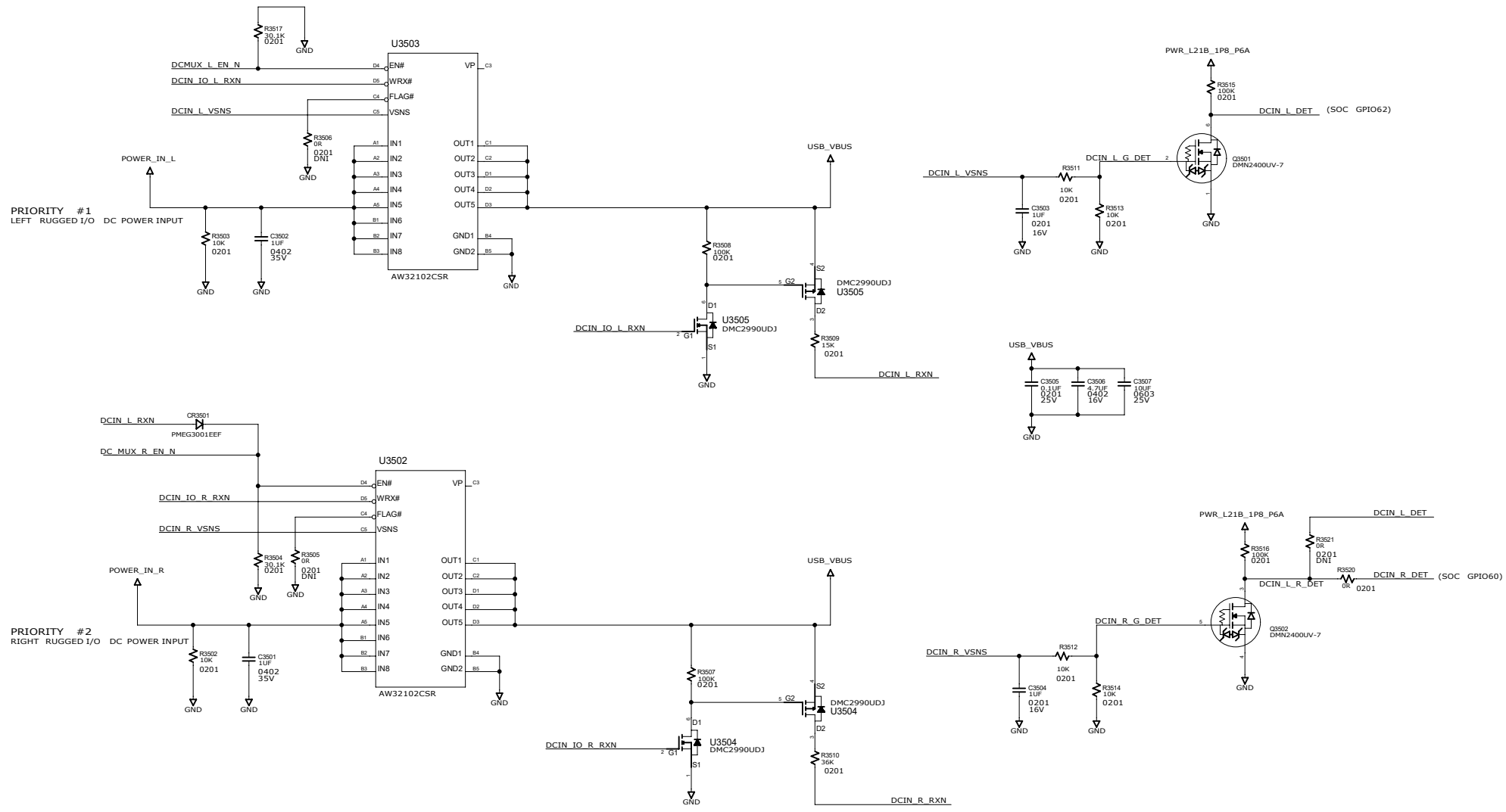


| | | | |
|----------------|-----------------|----|--------------------|
| VBATT | BATT_PRESENCE_N | Z | SYSTEM STATUS |
| PRESENT > 2.6V | LOW(0) | Y0 | BATTERY NTC |
| ABSENT < 2.6V | HIGH(1) | Y1 | RESISTANCE 100KOHM |

| | | | |
|-----------------------------|----------|---------------------|----------|
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| BATTERY_CONN.&THERM DETEC | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/ALLEGES | |

POWER MUX/DC POWER INPUT

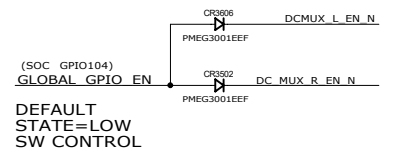
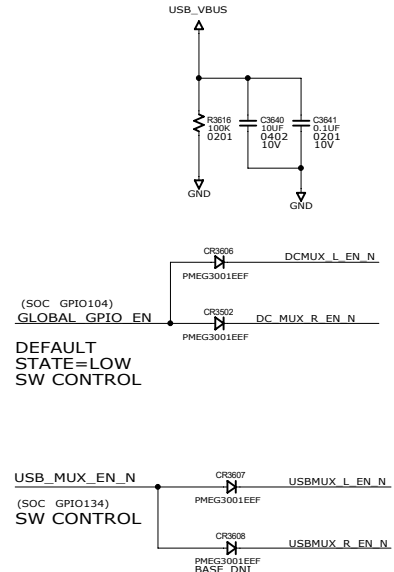
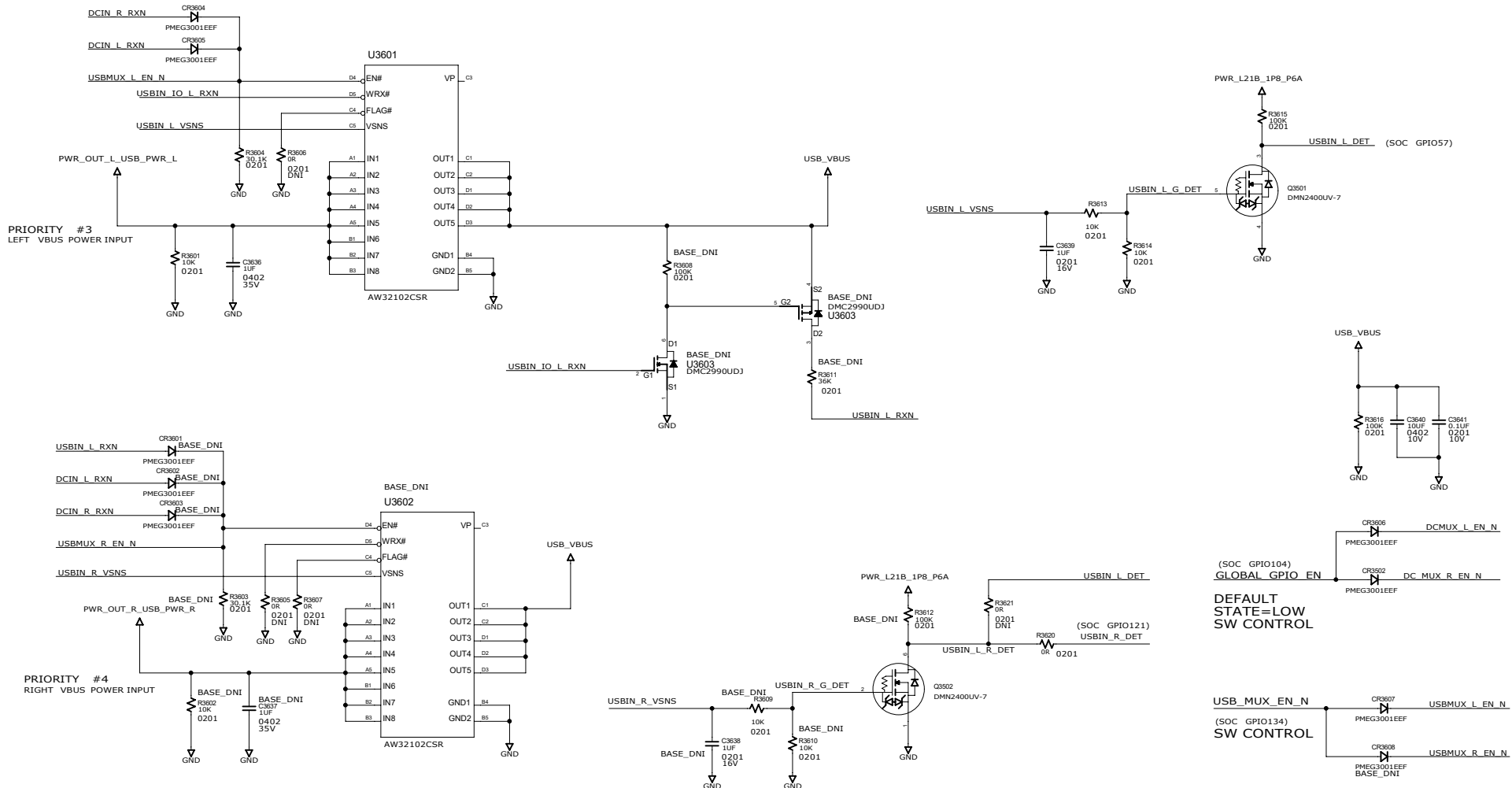
| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



| | | | |
|-----------------------------|-----------------|---------------------|----------|
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| POWER MUX/DC POWER INPUT | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | | SSTI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REVISED | |

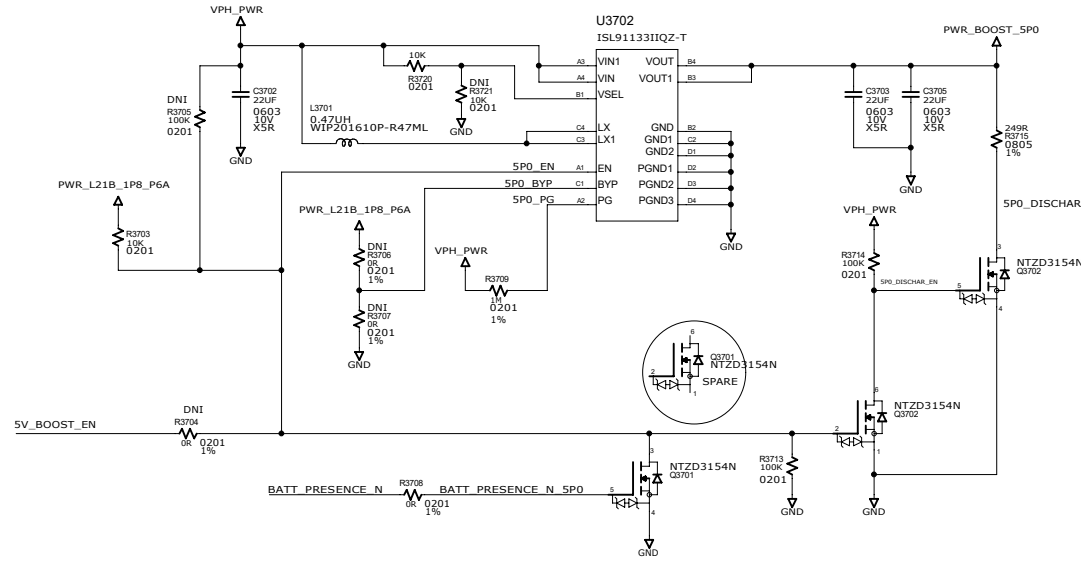
POWER MUX/USB POWER INPUT

| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |

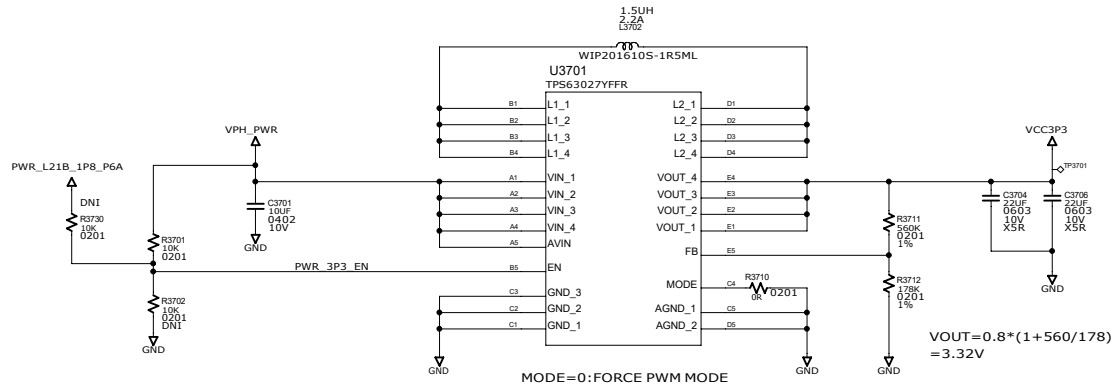


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| ZEBRA CONFIDENTIAL | | | |
| ZEBRA TECHNOLOGIES CORP. | | | |
| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| POWER MUX/USB POWER INPUT | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

BOOST POWER 5P2



BUCK/BOOST POWER 3P3

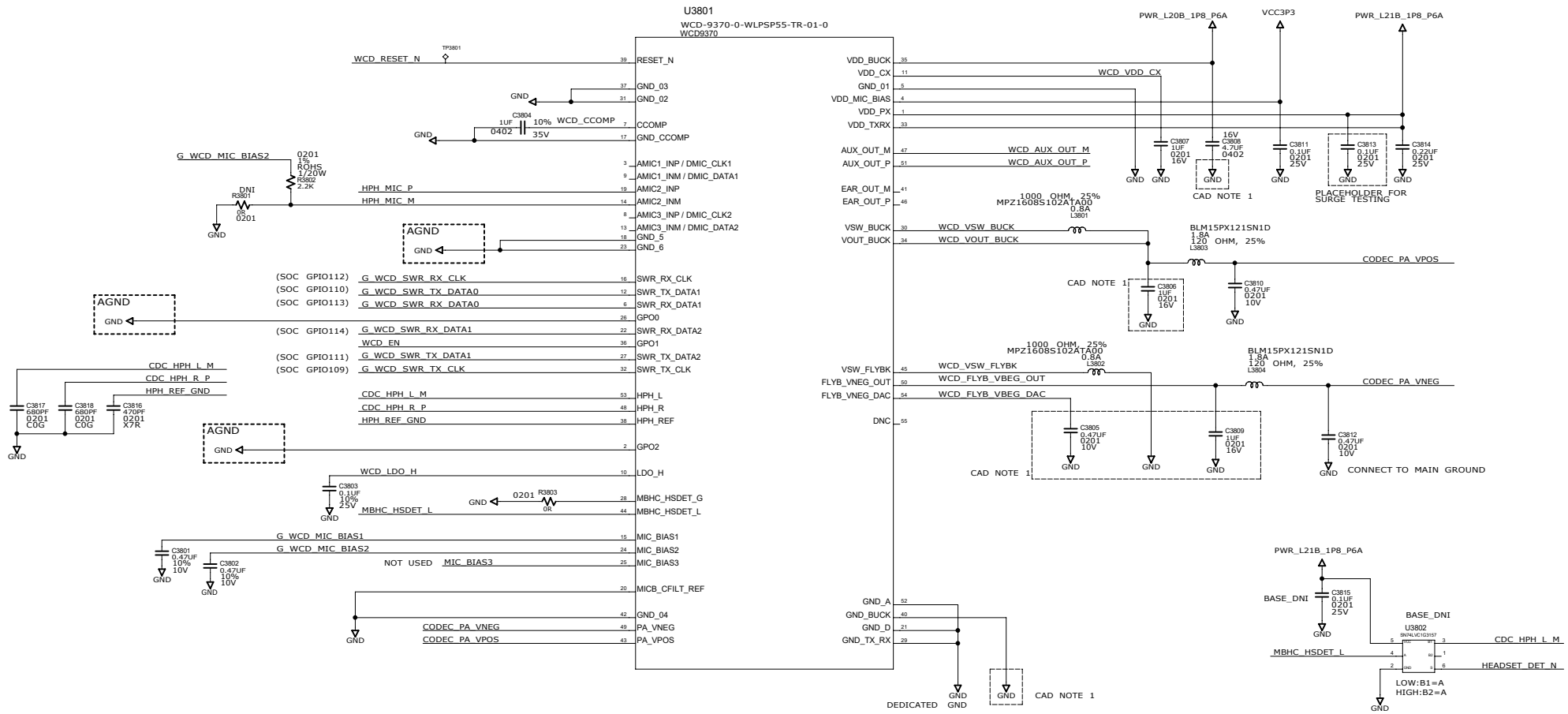


| REV | | ZONE | | REVISIONS | | DESCRIPTION | | E.C. | BY | APVD. | DATE |
|-----|--|------|--|-----------|--|-------------|--|------|----|-------|------|
| | | | | | | SEE SHEET 1 | | | | | |

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|-----------------------------|-----------------|------------------|--|
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| BOOST 5P2 & BUCK/BOOST 3P3 | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_NEW_ORALPHAS | |

AUDIO CODEC WCD9370

| REVISIONS | | | | | | |
|-----------|------|-------------|------|----|-------|------|
| REV | ZONE | DESCRIPTION | E.C. | BY | APVD. | DATE |
| | | SEE SHEET 1 | | | | |



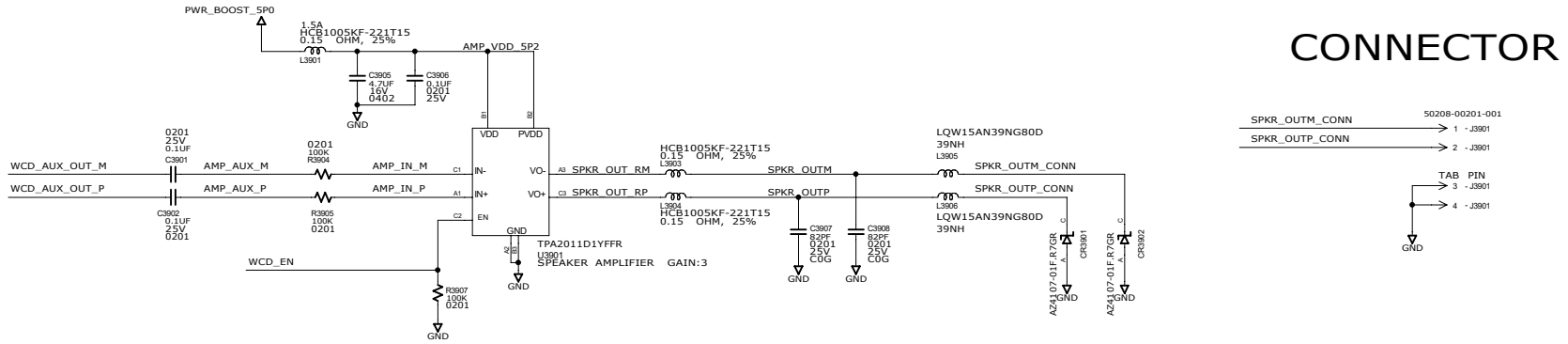
CAD NOTE 1: FLYBACK/BUCK GROUND ISLAND

HEADSET DETECTION

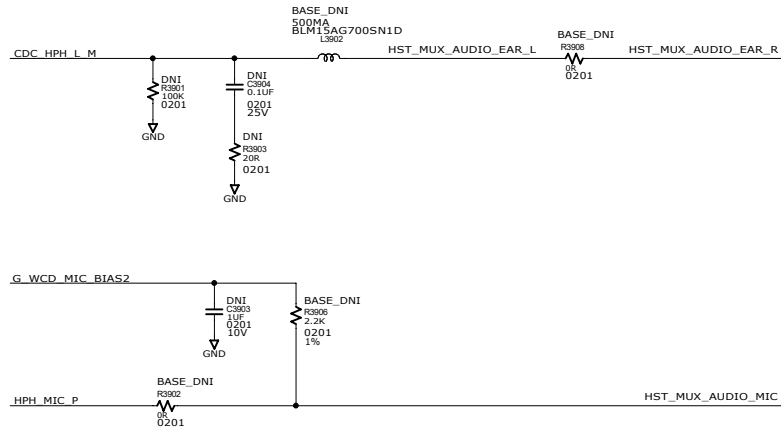
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|-----------------------------|-----------------|------------------------|--|
| ZEBRA CONFIDENTIAL | | | |
| ZEBRA TECHNOLOGIES CORP. | | | |
| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| AUDIO CODEC WCD9370 | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

CLASS D AMP AND SPK CONN.

| REVISIONS | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|-------------|------|----|-------|------|
| REV | ZONE | DESCRIPTION | SEE SHEET 1 | | | | |



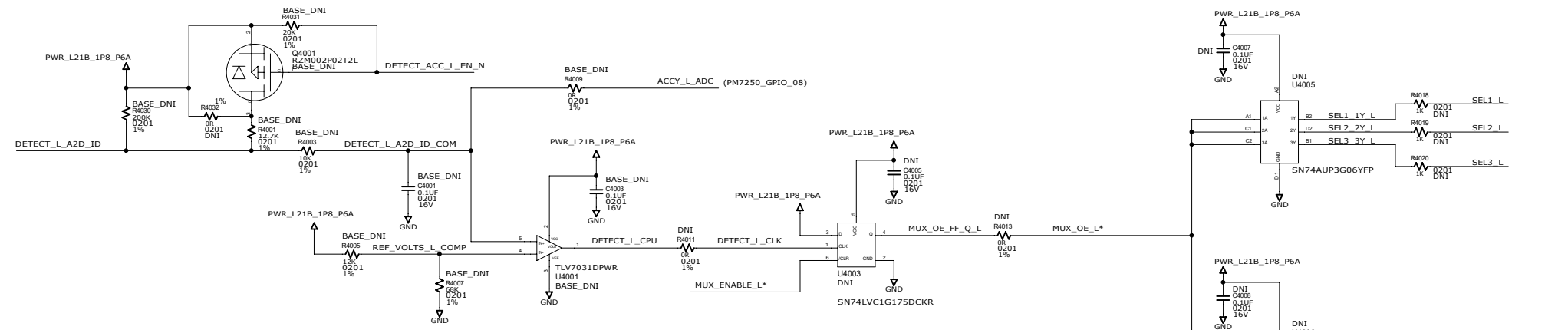
AUDIO HEADSET



| | | | |
|-------------------------------|-----------------|-------------------------|----------|
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| ZEBRA TECHNOLOGIES CORP. | | | |
| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| D AMP,SPK CONN.,AUDIO HEADSET | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALDRGES | |

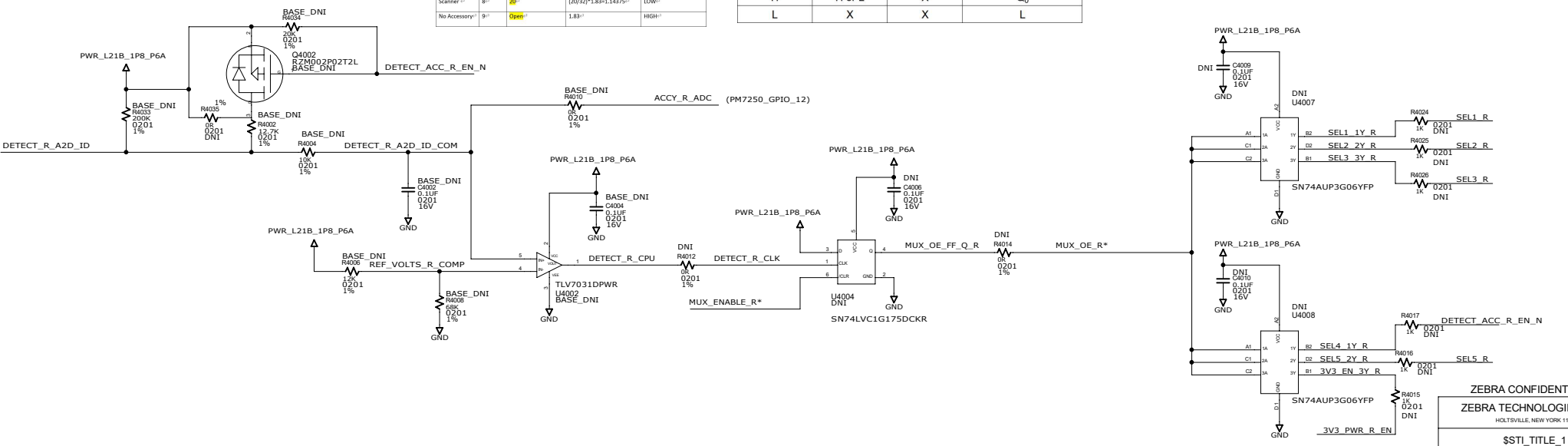
I/O CONN. CONTROL

| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |



| Accessory ¹ | ID ² | Pull Down Value (kΩ) | Ideal Voltage on VIN ³ | Comparator OUT ⁴ |
|---------------------------|-----------------|----------------------|----------------------------------------|-----------------------------|
| Cradle ¹ | 0 ² | Short ³ | 0 ³ | LOW ⁴ |
| Debug Cable ¹ | 1 ² | 0.47 ³ | (0.47/12.47)*1.83=0.06897 ³ | LOW ⁴ |
| Vibrator ¹ | 6 ² | 8.2 ³ | (8.2/20.2)*1.83=0.74287 ³ | LOW ⁴ |
| Headset ¹ | 7 ² | 13 ³ | (13/75)*1.83=0.9516 ³ | LOW ⁴ |
| Scanner ¹ | 8 ² | 30 ³ | (30/32)*1.83=1.14375 ³ | LOW ⁴ |
| No Accessory ¹ | 9 ² | Open ³ | 1.83 ³ | HIGH ⁴ |

| INPUTS | | | OUTPUT |
|--------|--------|---|----------------|
| CLR | CLK | D | Q |
| H | ↑ | L | L |
| H | ↑ | H | H |
| H | H or L | X | Q ₀ |
| L | X | X | L |



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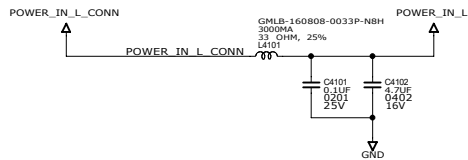
SSTI_TITLE_1
 I/O CONN. CONTROL

| | | |
|-------------------|-----------------|--------------------|
| SIZE | DWG. NO. | REV. |
| D | SSTI_DRAWING_NO | SSTI_REV |
| SCN_LAST_MODIFIED | | SCN_LAST_APPROVALS |

I/O CONN.LEFT SIDE

| REV | | ZONE | REVISIONS | DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|--|------|-----------|-------------|------|----|-------|------|
| 1 | | | | SEE SHEET 1 | | | | |

DC POWER



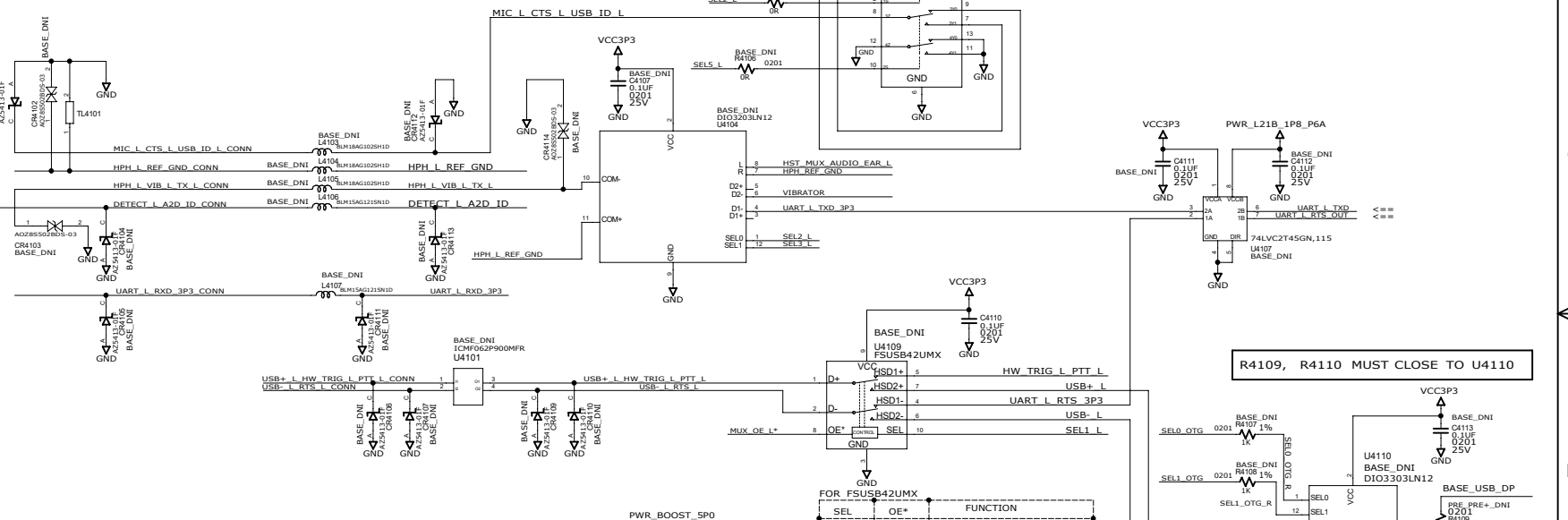
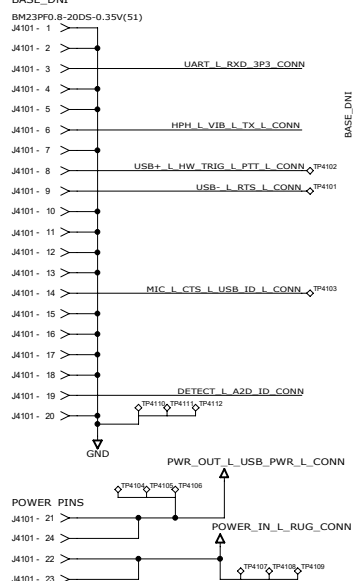
FOR DIO3203LN12

| SEL1 | SEL0 | FUNCTION |
|------|------|--------------------------------------------------|
| 0 | 0 | NO CONNECTION |
| 0 | 1 | COM+ CONNECTED TO DP1+ COM- CONNECTED TO DM1- |
| 1 | 0 | COM+ CONNECTED TO DP2+ COM- CONNECTED TO DM2- |
| 1 | 1 | COM+ CONNECTED TO D COM- CONNECTED TO L |

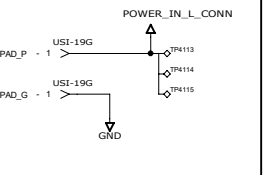
FOR NX3L2467

| Y0 | Y1 | Y2 | Y3 |
|----|-----------------|----|----|
| 0 | 1Y0=1Z & 2Y0=2Z | | |
| 1 | 1Y1=1Z & 2Y1=2Z | | |
| 0 | 3Y0=3Z & 4Y0=4Z | | |
| 1 | 3Y1=3Z & 4Y1=4Z | | |

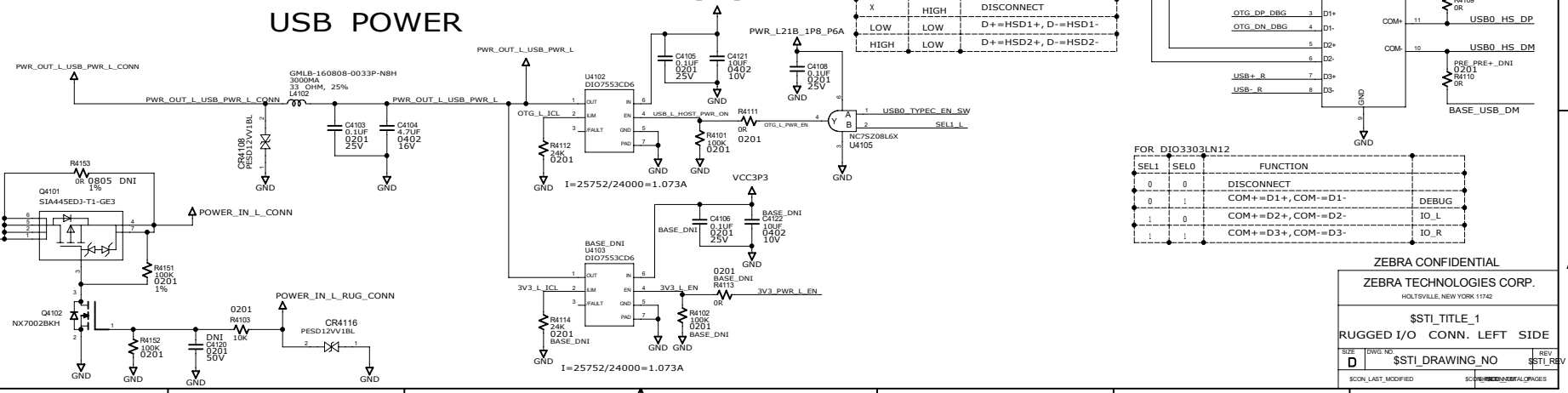
LEFT RUGGED I/O CONNECTOR



LEFT DC CHARGE PADS



USB POWER



FOR DIO3303LN12

| SEL1 | SEL0 | FUNCTION |
|------|------|------------------------|
| 0 | 0 | DISCONNECT |
| 0 | 1 | COM+ = D1+, COM- = D1- |
| 1 | 0 | COM+ = D2+, COM- = D2- |
| 1 | 1 | COM+ = D3+, COM- = D3- |

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\$\$\$TI_TITLE_1

RUGGED I/O CONN. LEFT SIDE

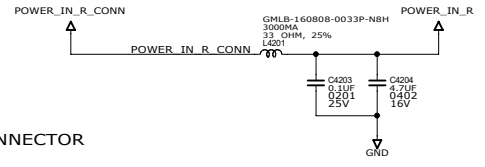
| | | |
|------|---------------------|--------------|
| SIZE | DWG. NO. | REV |
| D | \$\$\$TI_DRAWING_NO | \$\$\$TI_REV |

SCON_LAST_MODIFIED SCOPING_DATE

I/O CONN. RIGHT SIDE

| REV | | ZONE | REVISIONS | DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|--|------|-----------|-------------|------|----|-------|------|
| | | | | SEE SHEET 1 | | | | |

DC POWER



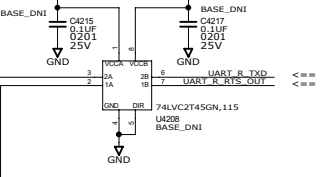
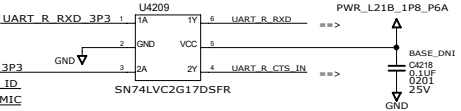
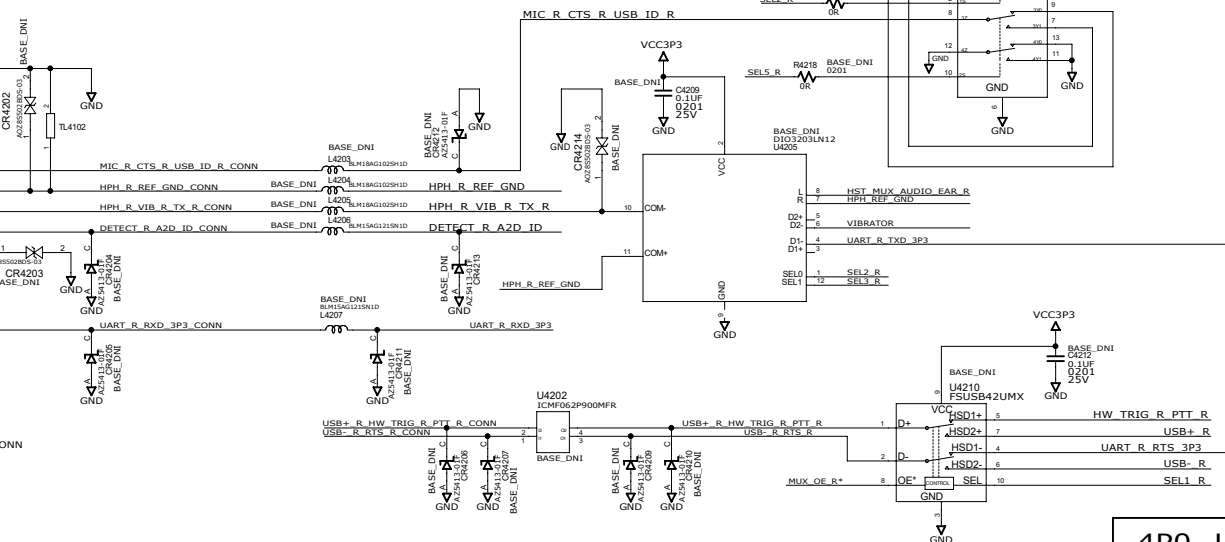
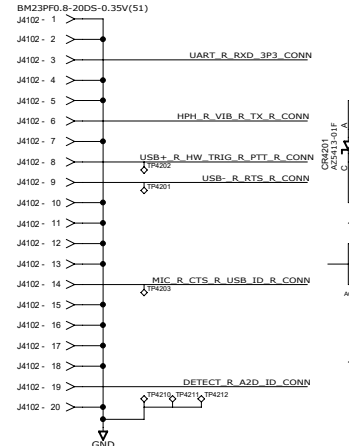
FOR DIO3203LN12

| SEL1 | SEL0 | FUNCTION |
|------|------|--------------------------------------------------|
| 0 | 0 | NO CONNECTION |
| 0 | 1 | COM+ CONNECTED TO DP1+ COM- CONNECTED TO DM1- |
| 1 | 0 | COM+ CONNECTED TO DP2+ COM- CONNECTED TO DM2- |
| 1 | 1 | COM+ CONNECTED TO R COM- CONNECTED TO L |

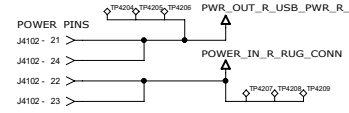
FOR NX3L2467

| | | |
|----|---|-----------------|
| 15 | 0 | 1Y0=1Z & 2Y0=2Z |
| 15 | 1 | 1Y1=1Z & 2Y1=2Z |
| 25 | 0 | 3Y0=3Z & 4Y0=4Z |
| 25 | 1 | 3Y1=3Z & 4Y1=4Z |

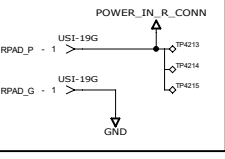
RIGHT RUGGED I/O CONNECTOR



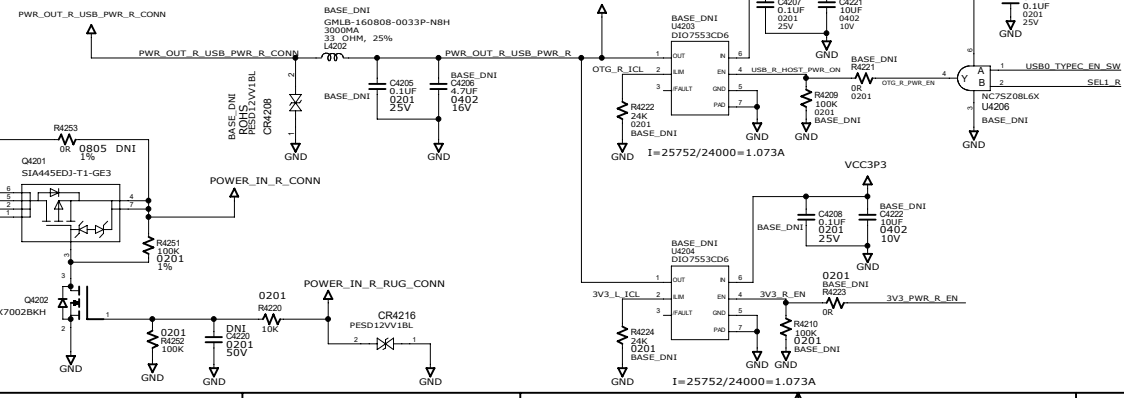
| SEL | OE* | FUNCTION |
|------|------|--------------------|
| X | HIGH | DISCONNECT |
| LOW | LOW | D+=HSD1+, D-=HSD1- |
| HIGH | LOW | D+=HSD2+, D-=HSD2- |



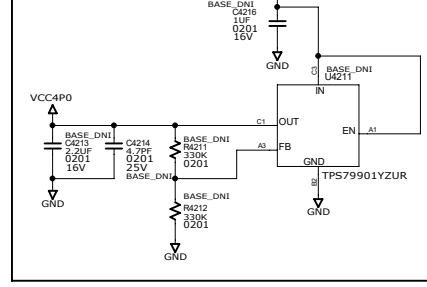
RIGHT DC CHARGE PADS



USB POWER



4P0 LDO



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\$\$\$TITLE_1

RUGGED I/O CONN. RIGHT SIDE

| SIZE | DWG. NO. | REV. |
|------|------------------|-----------|
| D | \$\$\$DRAWING_NO | \$\$\$REV |

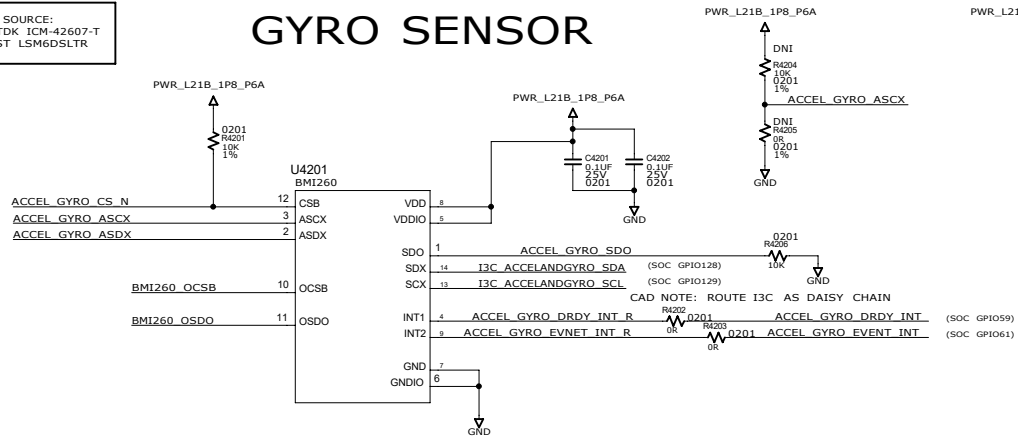
SCON_LAST_MODIFIED SCOPREVIEW/REWORK/CHANGES

GYRO SENSOR

| REV | ZONE | REVISIONS DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|------|-----------------------|------|----|-------|------|
| | | SEE SHEET 1 | | | | |

2ND SOURCE:
1. TDK ICM-42607-T
2. ST LSM6DSLTR

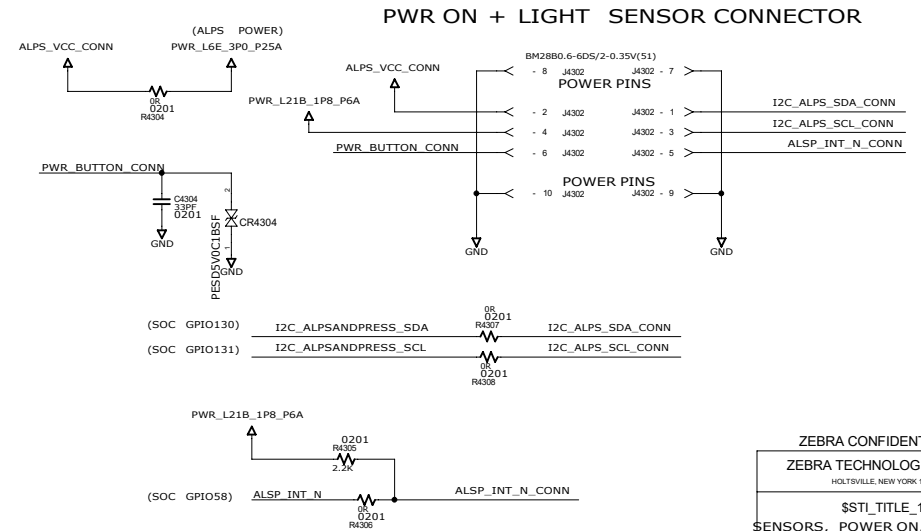
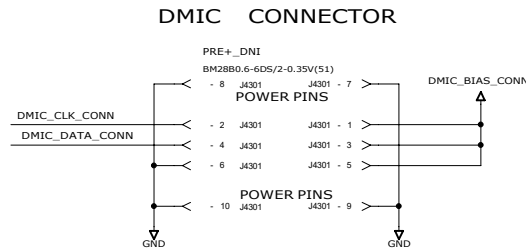
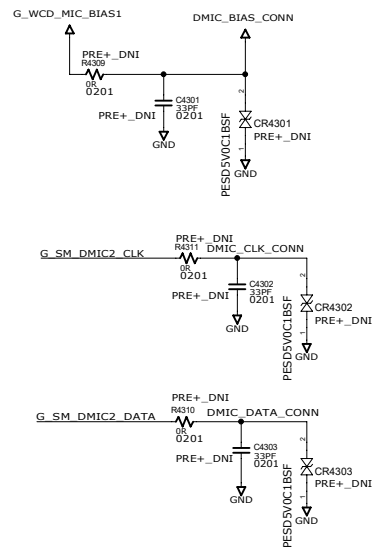
GYRO SENSOR



| MODEL | I2C ADDRESS | NOTE |
|-----------------|--------------------|-----------|
| BOSCH BMI260 | SDO = 0 -> 0X68 | CSB = 1 |
| TDK ICM-42607-T | AP_AD0 = 0 -> 0X68 | AP_CS = 1 |
| ST LSM6DSLTR | SDO = 0 -> 0X6A | CS = 1 |

| PIN SELECT | BMI260 | ICM-42607-T | LSM6DSLTR |
|------------|---------------------|----------------------------|-------------------|
| PIN2 | VDDIO OR NO CONNECT | VDDIO OR GND OR NO CONNECT | VDDIO OR GND |
| PIN3 | VDDIO OR NO CONNECT | VDDIO OR GND OR NO CONNECT | VDDIO OR GND |
| PIN10 | VDDIO OR NO CONNECT | VDDIO OR GND OR NO CONNECT | LEAVE UNCONNECTED |
| PIN11 | VDDIO OR NO CONNECT | VDDIO OR GND OR NO CONNECT | LEAVE UNCONNECTED |

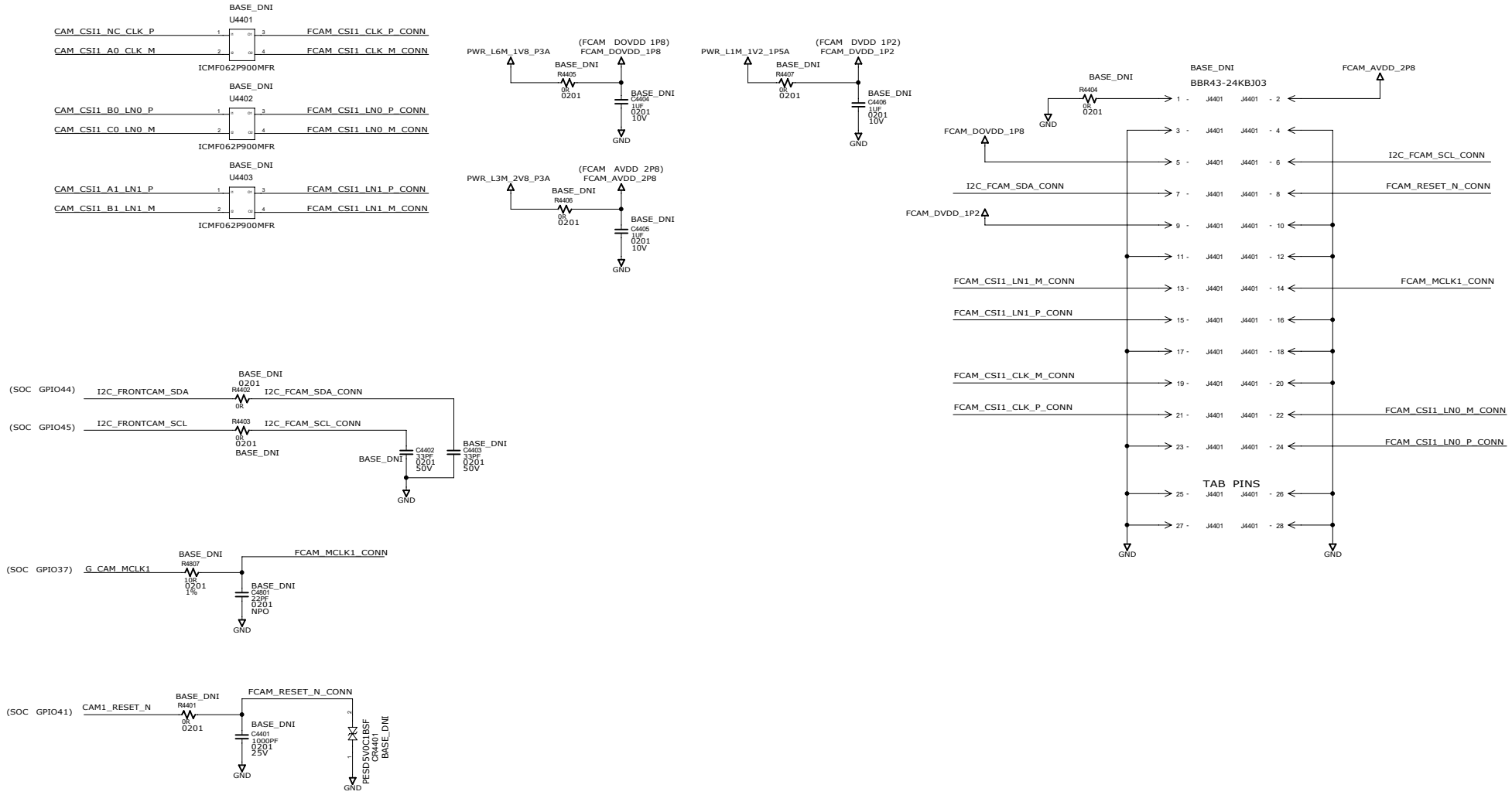
LIGHT SENSOR + POWER ON FPC, DMIC FPC



| | | | |
|---------------------------------------------------------|-----------------|-------------------------|--|
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| SSTI_TITLE_1 | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPAGES | |

FRONT CAMERA CONNECTOR

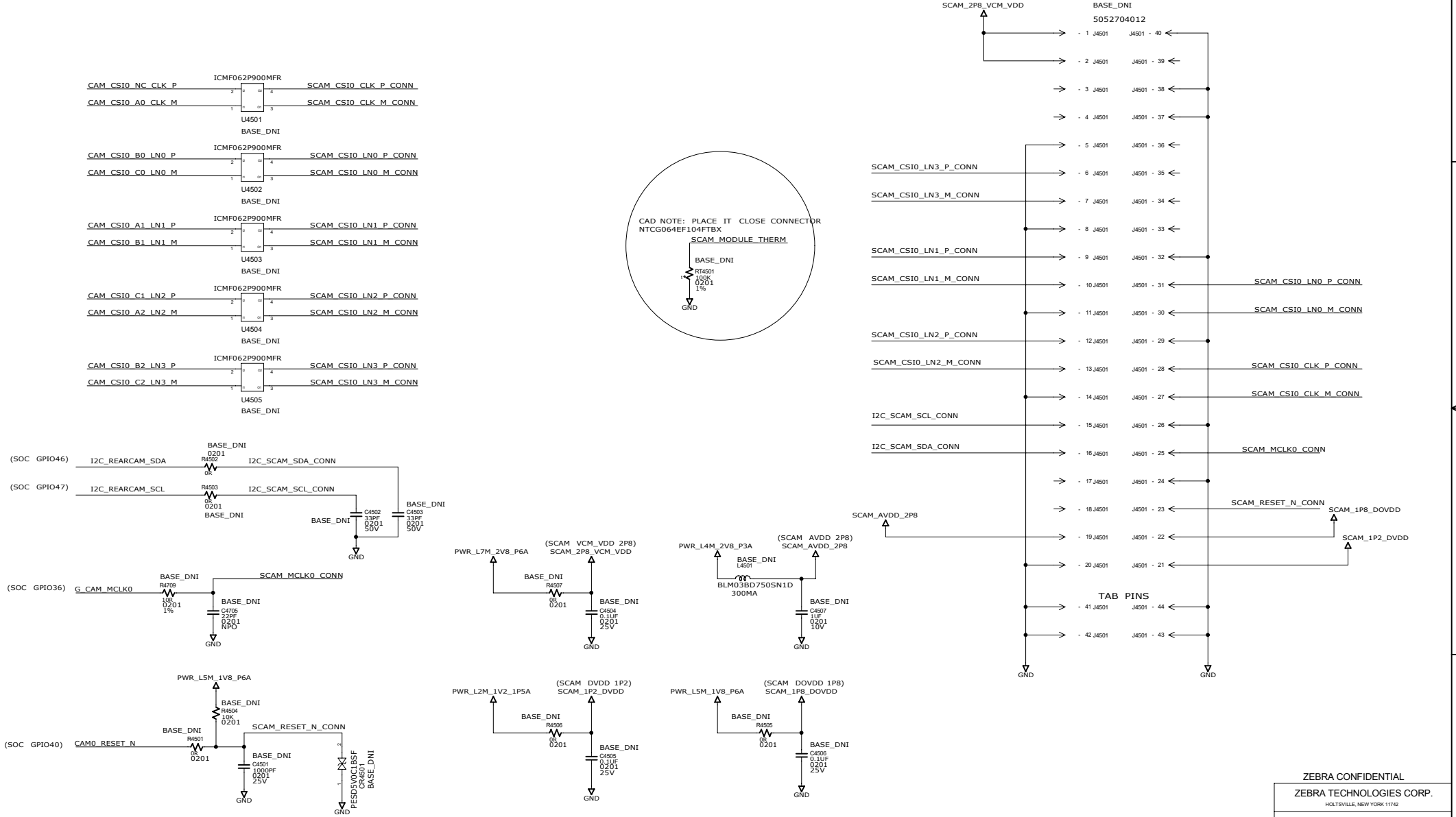
| REVISIONS | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | |
| | | SEE SHEET 1 | | | | | |



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| SSTI_TITLE_1 | | | |
| FRONT CAMEAR CONN. | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALDRGES | |

SIDE CAMERA CONNECTOR

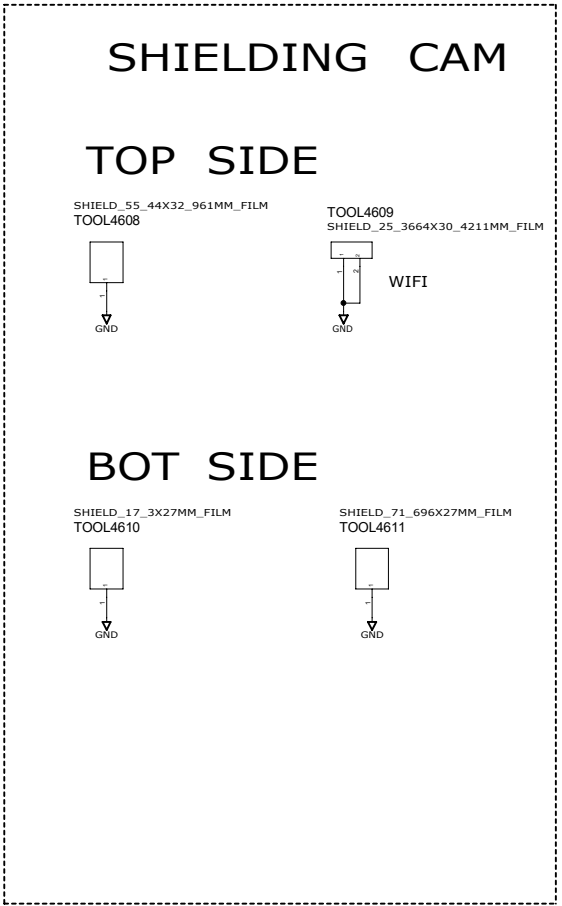
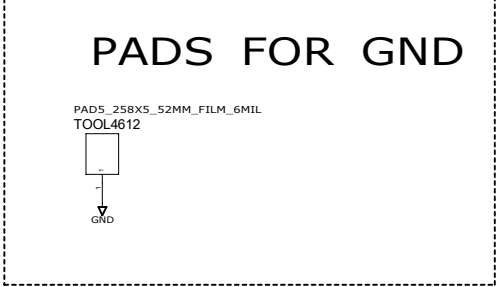
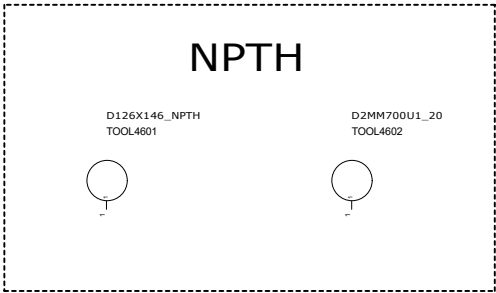
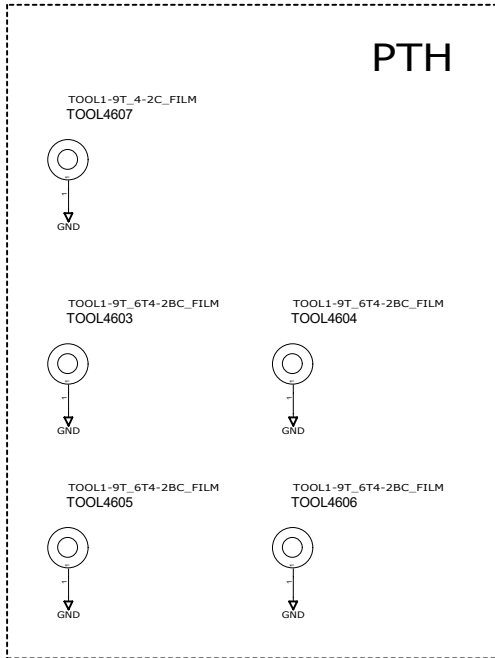
| REV | | ZONE | REVISIONS DESCRIPTION | E.C. | BY | APVD. | DATE |
|-----|--|------|-----------------------|------|----|-------|------|
| | | | SEE SHEET 1 | | | | |



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| SSTI_TITLE_1 SIDE CAMERA CONNECTOR | | | |
| SIZE D | DWG. NO. | REV. SSTI_REV | DATE |
| SCON_LAST_MODIFIED | | SCON_CREATED/REVISED | |

SHIELDING/SCREW HOLES/NPTH/PTH

| REVISIONS | | | | |
|-----------|------|-------------|------|--------------|
| REV | ZONE | DESCRIPTION | E.C. | BY APD. DATE |
| | | SEE SHEET 1 | | |



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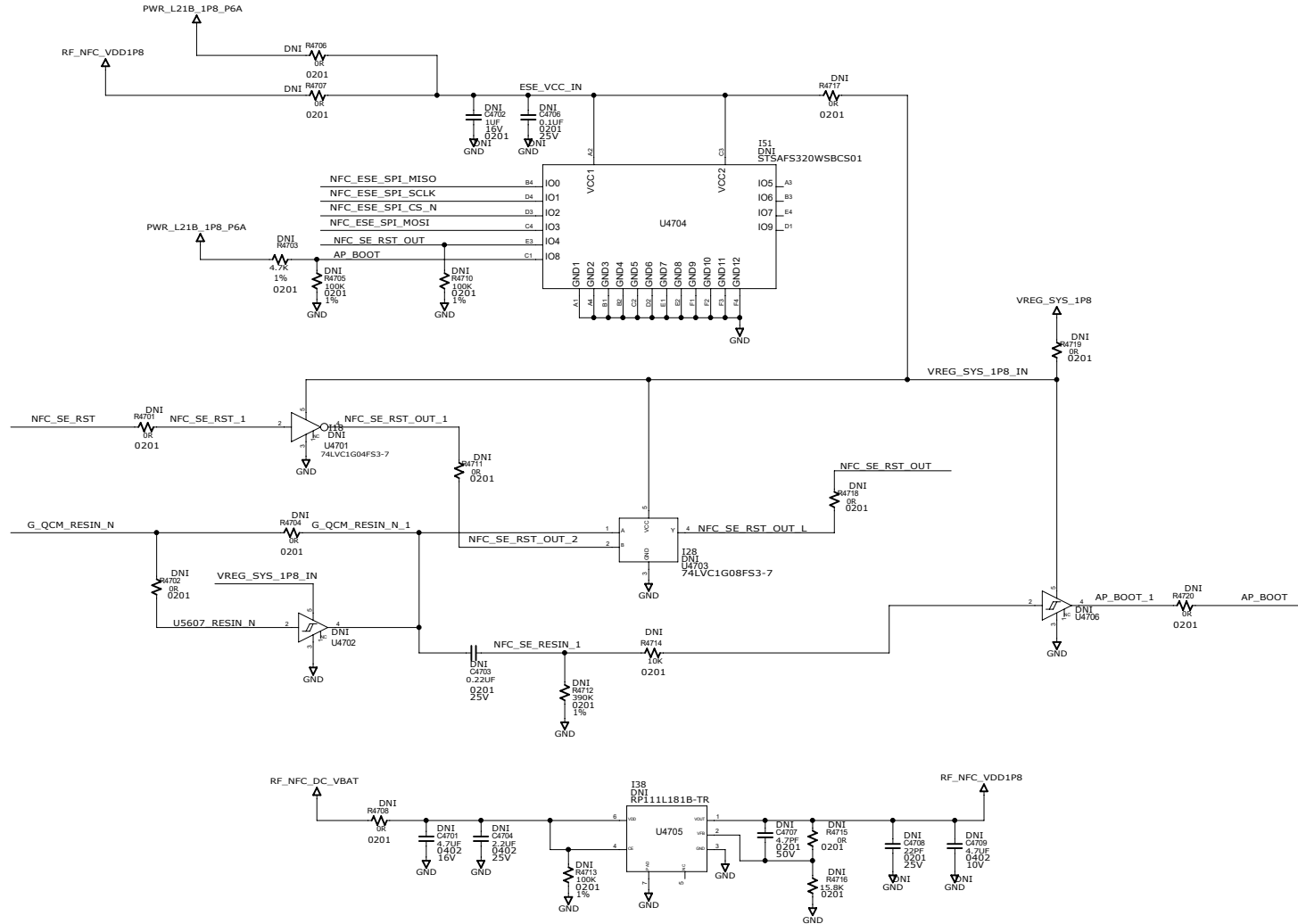
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HOLTSVILLE, NEW YORK, 11742

\$STI_TITLE_1
SHIELDING/SCREW HOLES/NPTH

| | | |
|-------------------|------------------|------------------------|
| SIZE | DWG. NO. | REV. |
| D | \$STI_DRAWING_NO | \$STI_REV |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALLOCS |

ELEMENT SECURE

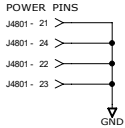
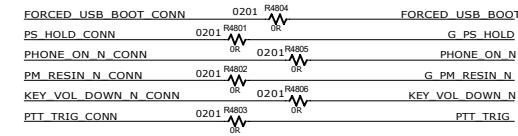
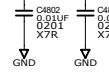
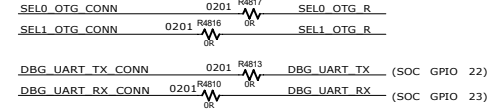
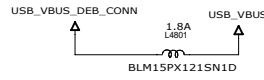
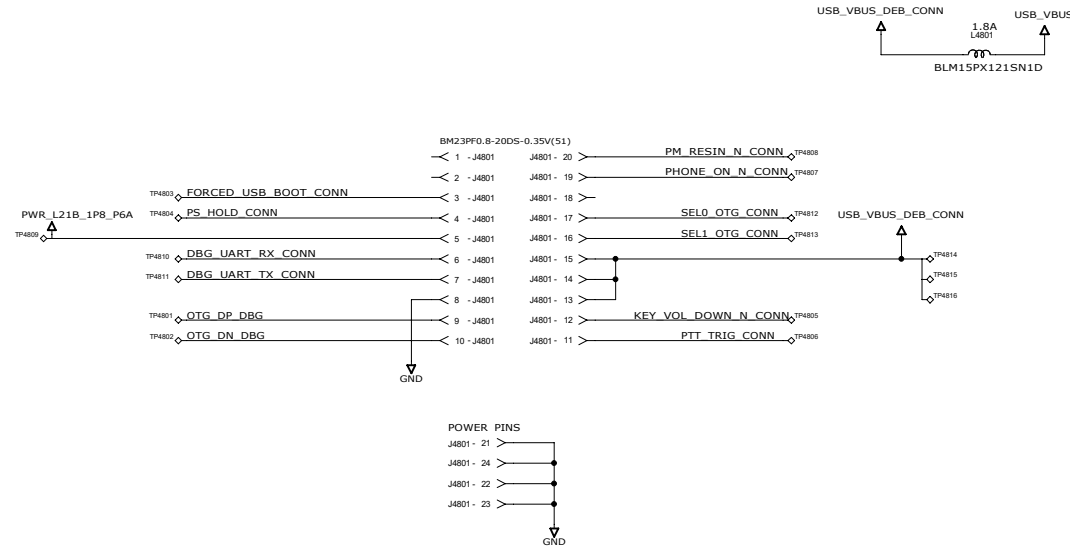
| REVISIONS | | | | |
|-----------|------|-------------|------|---------------|
| REV | ZONE | DESCRIPTION | E.C. | BY APVD. DATE |
| | | SEE SHEET 1 | | |



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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| ELEMENT SECURE | | | |
| SIZE | DWG. NO. | REV. | |
| D | SSTI_DRAWING_NO | SSTI_REV | |
| SCN_LAST_MODIFIED | | SCN_CREATED/REV/ALPHAS | |

DEBUG CONNECTOR

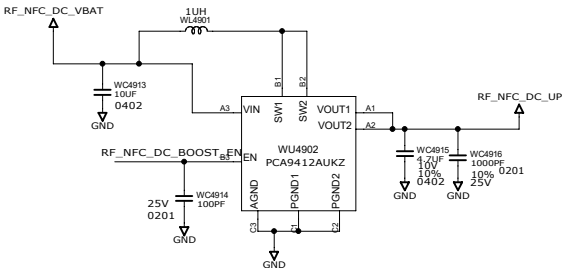
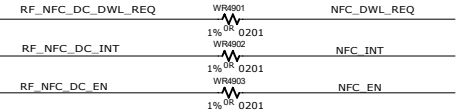
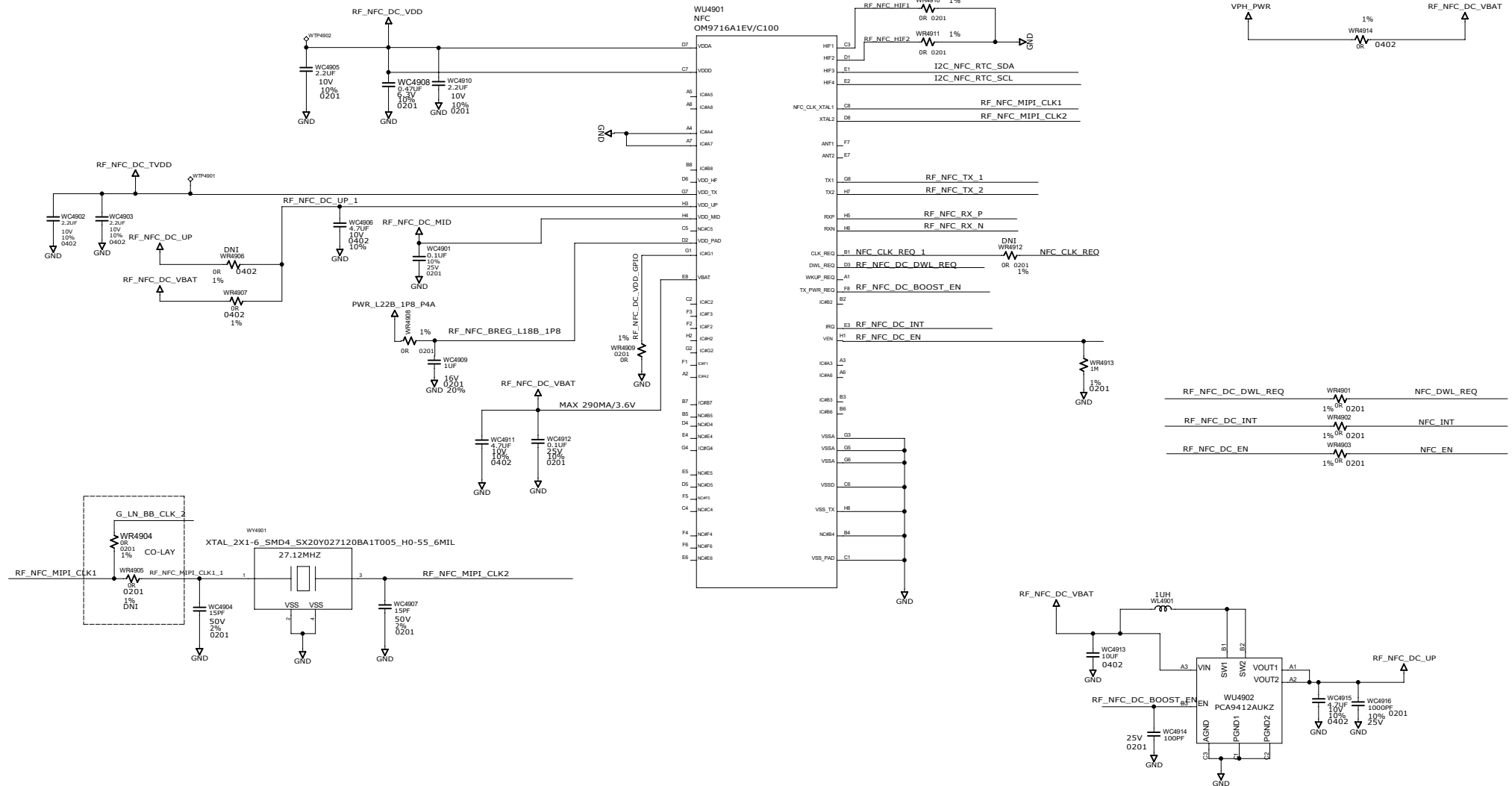
| REVISIONS | | | | |
|-----------|------|-------------|------|---------------|
| REV | ZONE | DESCRIPTION | E.C. | BY APVD. DATE |
| | | SEE SHEET 1 | | |



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|-----------------------------|-------------------|-------------------|----------|
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| HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 | | | |
| DEBUG CONNECTOR | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | \$SSTI_DRAWING_NO | | |
| SCN_LAST_MODIFIED | | SCN_CREATED/PAGES | |

OM9716 NFC

| REVISIONS | | | | E.C. | BY | APVD. | DATE |
|-----------|------|-------------|--|------|----|-------|------|
| REV | ZONE | DESCRIPTION | | | | | |
| | | SEE SHEET 1 | | | | | |



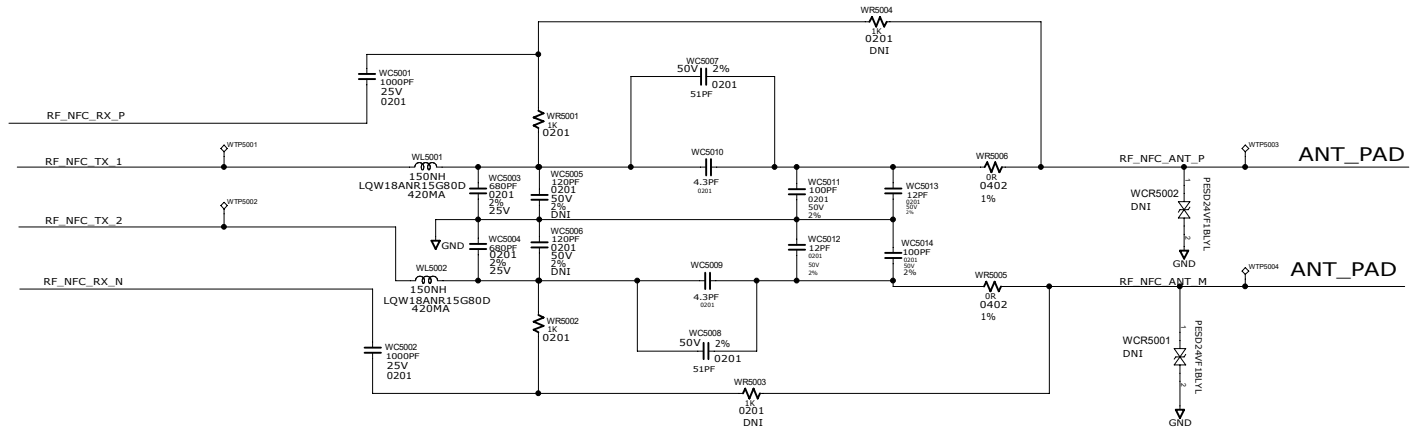
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HOLTSVILLE, NEW YORK 11742

QUASAR MAIN BOARD
OM9716 NFC

| | | |
|-----------------------------------------|----------|-----|
| SIZE | DWG. NO. | REV |
| D | TBD | V18 |
| FRI Nov 17 17:40:11 2023 SHEET 49 OF 61 | | |

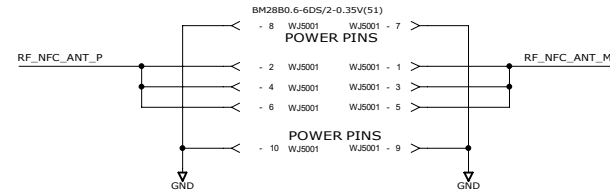
OM9716 NFC

| REVISIONS | | | | | | |
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| REV | ZONE | DESCRIPTION | E.C. | BY | APVD. | DATE |
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WL9301 & WL9302 RATED CURRENT 420MA

| Release for | | PT | |
|-------------|-----------------|------------|-----------------------------------------|
| Date | | 2022/10/14 | |
| BOM | | | |
| L0 | WL9301 \ WL9302 | 150nH | MURATA LQW18ANR15G80D |
| C0a | WC9303 \ WC9304 | 680pF | MURATA GRM0335C1H681JE01D |
| C0b | WC9305 \ WC9306 | | DNI |
| C1a | WC9307 \ WC9308 | 43pF | MURATA GRM0335C1H430GA1D |
| C1b | WC9309 \ WC9310 | 1.5pF | MURATA GRM0335C1H1R5CA1D |
| C2a | WC9311 \ WC9314 | 100pF | MURATA GRM0335C1H101GA1D |
| C2b | WC9312 \ WC9313 | 27pF | MURATA GRM0335C1H270GA1D |
| Rrx_filter | WR9304 \ WR9305 | 1KΩ | WALSIN CHIP RES 1K 1% 200PPM 0201 1/20W |
| Rrx_ant | WR9306 \ WR9307 | | DNI |
| Rdamp | WR9308 \ WR9309 | 0Ω | YAGEO CHIP RES 0 1% 200PPM 0201 1/20W |



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|--------------------------------------------------------|----------|----------------|--|
| ZEBRA TECHNOLOGIES CORP. HOLTSVILLE, NEW YORK 11742 | | | |
| QUASAR MAIN BOARD NFC ANTENNA | | | |
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8 7 6 5 4 3 2 1

| REVISIONS | | | | | |
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| QUASAR MAIN BOARD RESEERVE PAGE | | | |
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WLAN BLOCKDIGRAM

WCN6856 HP12B

| REVISIONS | | | | | | |
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| | | SEE SHEET 1 | | | | |

POWER

PWR_S7B_1P112_P6A
 PWR_L21B_1P8_P6A
 PWR_S8B_1P352_4A
 PWR_S9B_1P872_2P1A
 VPH_PWR

CONTROL

BT_EN
 WLAN_EN
 WCN_SW_CTRL
 LAA_RX
 PA_MUTING
 RF_WL_TX_EN_TO_N79
 RF_WL_N79_TX_EN_TO_WLAN
 MOS_AS_EN

BT

RF_45_BT_SLIMBUS_DATA
 RF_45_BT_SLIMBUS_CLK
 BT_UART_TX
 BT_UART_RX
 BT_UART_RFR
 BT_UART_CTS
 BLE_UART_TX
 BLE_UART_RX

PCIE

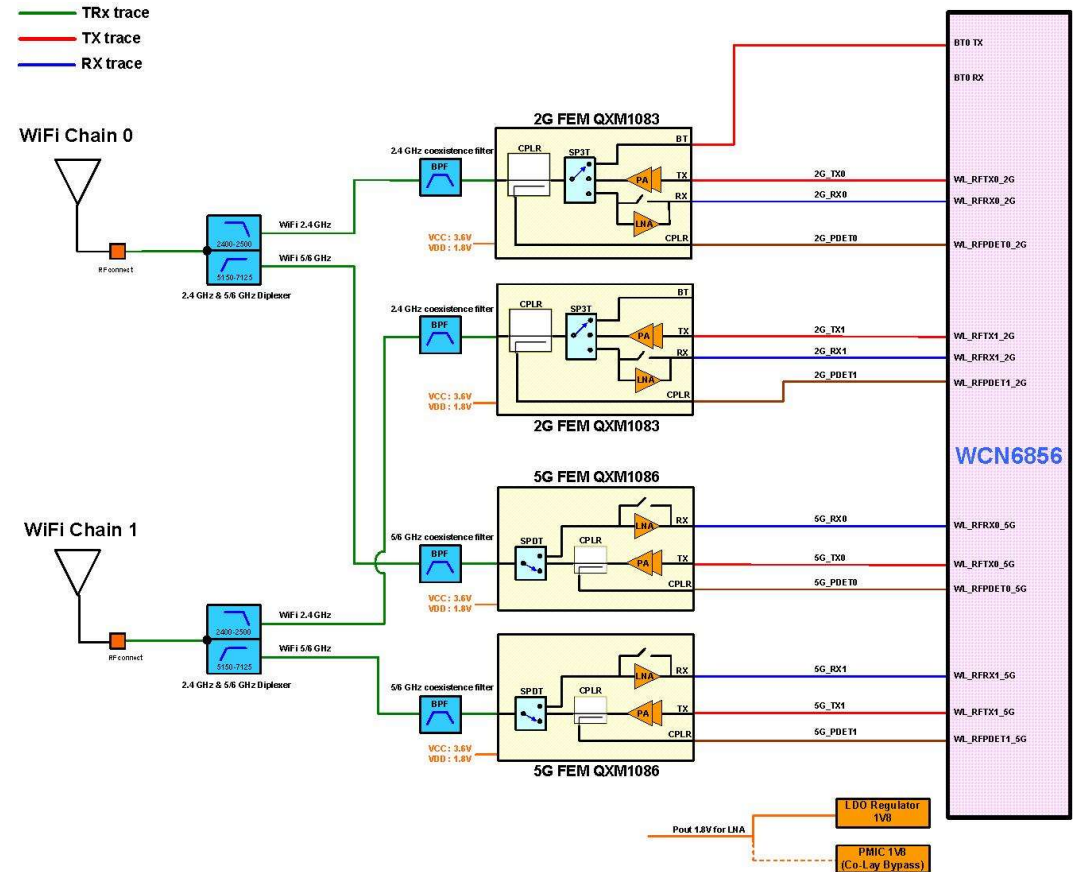
RF_100_WL_PCIE20_RFECLK_P
 RF_100_WL_PCIE20_RFECLK_M
 RF_100_WL_PCIE20_RXP
 RF_100_WL_PCIE20_RXM
 RF_100_WL_PCIE20_TXP_1
 RF_100_WL_PCIE20_TXM_1
 PCIE0_CLK_REQ_N
 PCIE0_RESET_N
 PCIE0_WAKE_N

CLOCK

G_SLEEP_CLK

WLAN 2-WIRE UART INTERFACES

HOST2WLAN_SOL
 WLAN2HOST_SOL

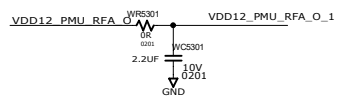
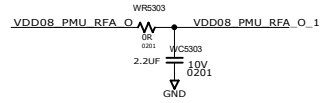


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| ZEBRA CONFIDENTIAL | | | |
| ZEBRA TECHNOLOGIES CORP. HOLTSVILLE, NEW YORK, 11742 | | | |
| SSTI_TITLE_1 WLAN BLOCK DIAGRAM | | | |
| SIZE | DWG. NO. | REV. | SSTI_REV |
| D | | | |
| SCON_LAST_MODIFIED | | SCON_CREATED/REV/ALLOCS | |

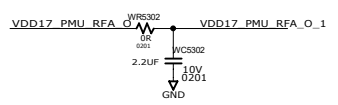
WCN6856_PWR

WCN6856
WCN-6856-1-NSP288-TR-02-1

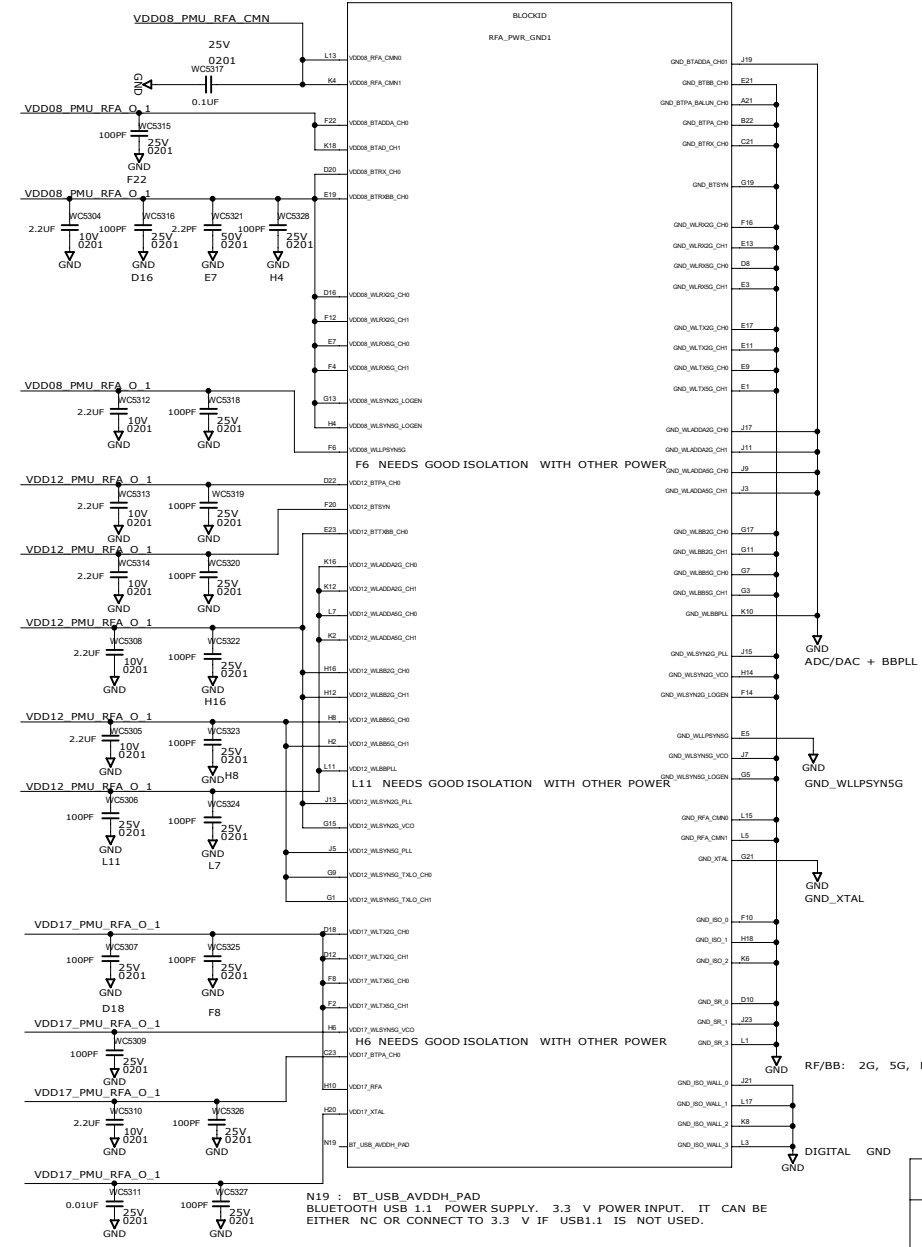
| REV | | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
|-----|--|------|-------------|------|----|-------|------|
| | | | DESCRIPTION | | | | |
| | | | SEE SHEET 1 | | | | |



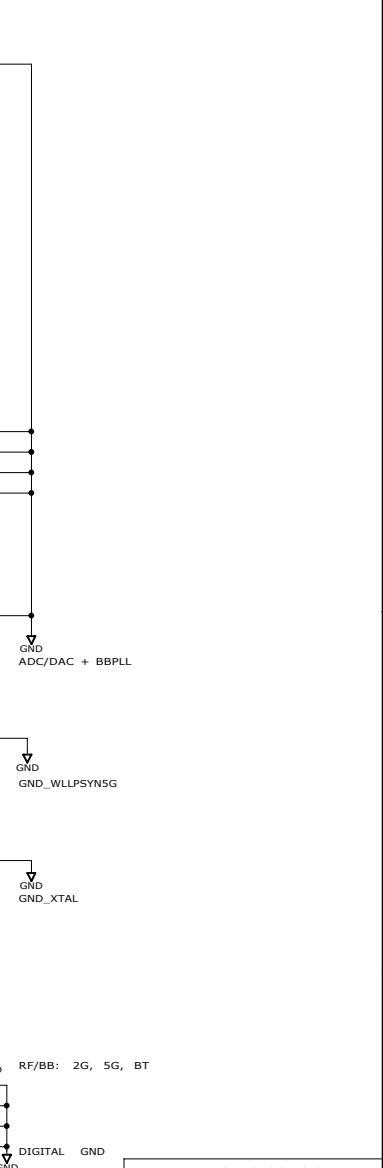
VDD12_WLBBPLL NEEDS GOOD ISOLATION FROM BB (1.2V), VCO/BTPA (1.7V), AND RX (0.8V)



VDD17_WLSYN5G_VCONEEDS GOOD ISOLATION FROM THE REST OF THE POWER RAILS



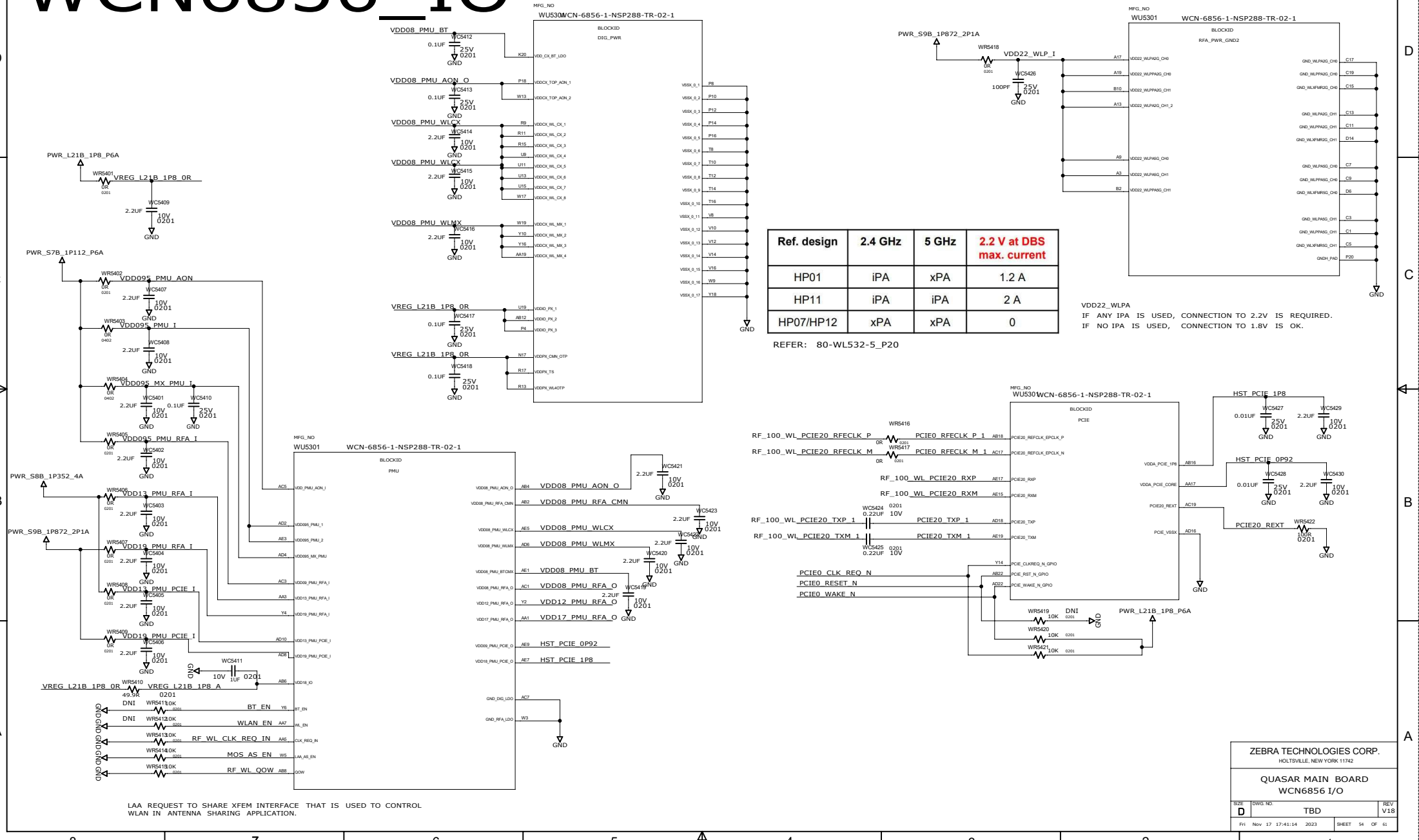
N19 : BT USB AVDDH_PAD
BLUETOOTH USB 1.1 POWER SUPPLY. 3.3 V POWER INPUT. IT CAN BE EITHER NC OR CONNECT TO 3.3 V IF USB1.1 IS NOT USED.



| | | | |
|--------------------------|----------|----------------------------|----------|
| ZEBRA TECHNOLOGIES CORP. | | HOLTSVILLE, NEW YORK 11742 | |
| QUASAR MAIN BOARD | | | |
| WCN6856 POWER | | | |
| SIZE | DWG. NO. | REV | |
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WCN6856_IO

| REVISONS | | | | |
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| Ref. design | 2.4 GHz | 5 GHz | 2.2 V at DBS max. current |
|-------------|---------|-------|---------------------------|
| HP01 | iPA | xPA | 1.2 A |
| HP11 | iPA | iPA | 2 A |
| HP07/HP12 | xPA | xPA | 0 |

REFER: 80-WL532-5_P20

VDD22_WLPA
IF ANY IPA IS USED, CONNECTION TO 2.2V IS REQUIRED.
IF NO IPA IS USED, CONNECTION TO 1.8V IS OK.

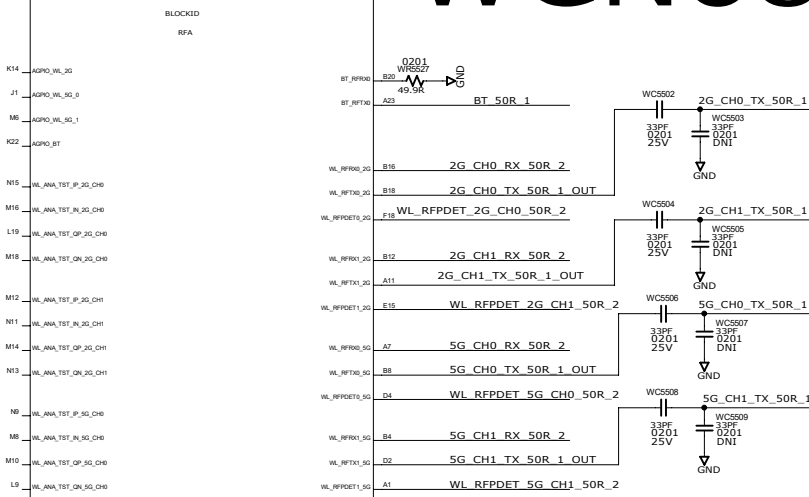
LAA REQUEST TO SHARE XFEM INTERFACE THAT IS USED TO CONTROL WLAN IN ANTENNA SHARING APPLICATION.

| | | | |
|--------------------------------------------------------|----------|-------|----------|
| ZEBRA TECHNOLOGIES CORP. HOLTSVILLE, NEW YORK 11742 | | | |
| QUASAR MAIN BOARD WCN6856 I/O | | | |
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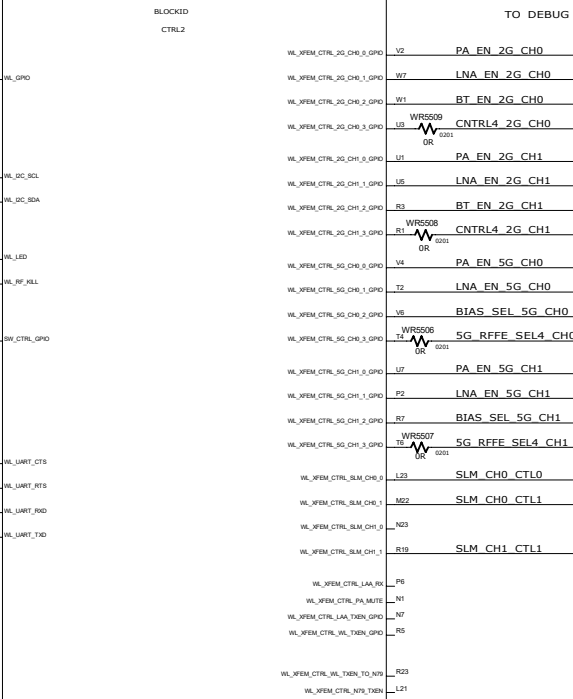
| REV | ZONE | REVISIONS | E.C. | BY | APVD. | DATE |
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| | | DESCRIPTION | | | | |
| | | SEE SHEET 1 | | | | |

WCN6856_IO

WCN-6856-1-NSP288-TR-02-1
MFG_NO
WU5301

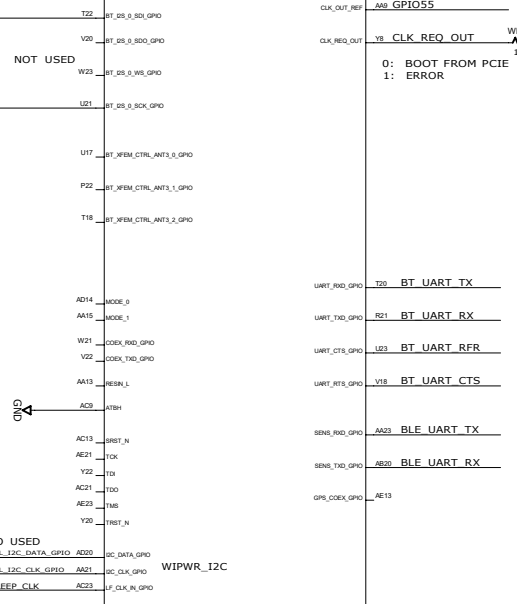


MFG_NO WCN-6856-1-NSP288-TR-02-1 WU5301



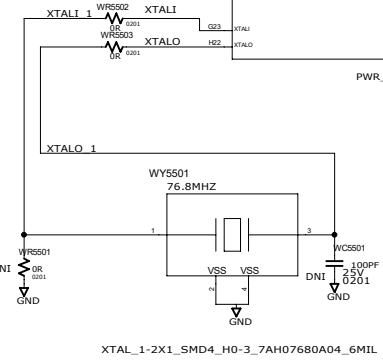
WCN-6856-1-NSP288-TR-02-1
MFG_NO
WU5301

RF 45 BT SLIMBUS_DATA
SLIMBUS
RF 45 BT SLIMBUS_CLK

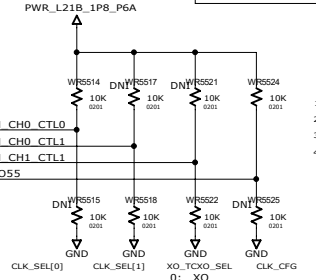


- 1) FOR REF CLK = 48MHZ; CLK_SEL[1] = 0, CLK_SEL[0] = 0
- 2) FOR REF CLK = 76.8MHZ; CLK_SEL[1] = 0, CLK_SEL[0] = 1 (DEFAULT)
- 3) FOR REF CLK = 96MHZ; CLK_SEL[1] = 1, CLK_SEL[0] = 0
- 4) FOR REF CLK = 38.4MHZ; CLK_SEL[1] = 1, CLK_SEL[0] = 1

0: RFA READS CLK_SEL[2:0] AND TCXO_MODEFROM RFA_GTP
1: RFA USES CLK_SEL[2:0] AND TCXO_MODEFROM SOC



XTAL_1-2X1_SMD4_H0-3_7AH07680A04_6MIL

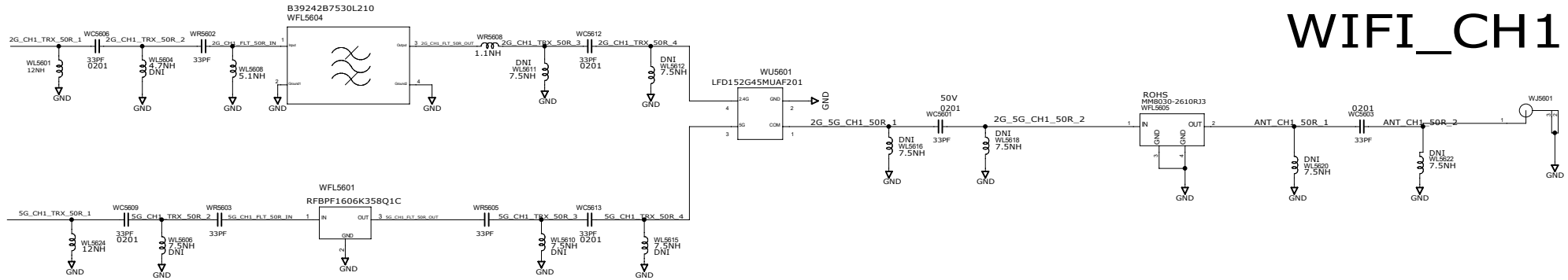


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| QUASAR MAIN BOARD WCN6856 I/O | | | |
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WIFI 2G/5G ANTENNA

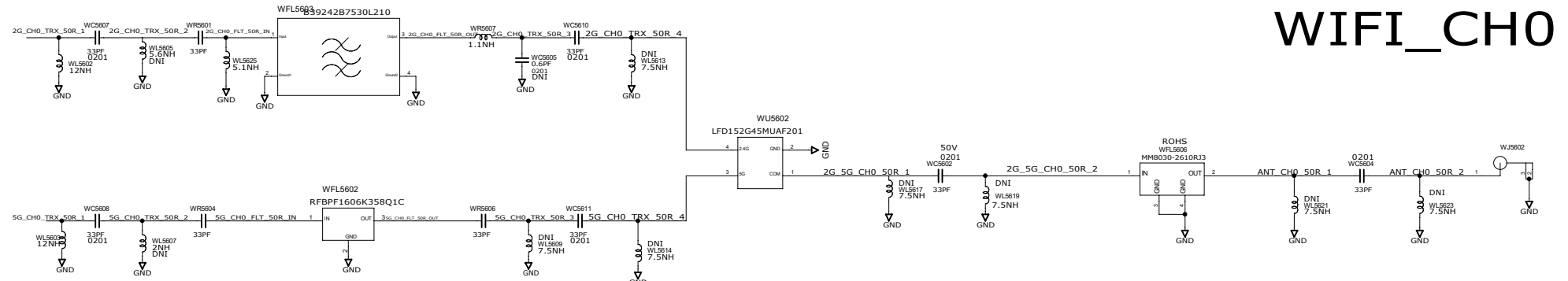
| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
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| REV | ZONE | DESCRIPTION | | | | | | |
| | | SEE SHEET 1 | | | | | | |

WIFI_CH1



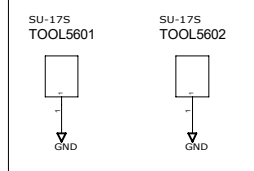
IF NO OTHER DC PATH FROM ANT PORT TO GROUND IS AVAILABLE, THEN SHUNT INDUCTOR TO GROUND AT ANT PORT IS MANDATORY.

WIFI_CHO



IF NO OTHER DC PATH FROM ANT PORT TO GROUND IS AVAILABLE, THEN SHUNT INDUCTOR TO GROUND AT ANT PORT IS MANDATORY.

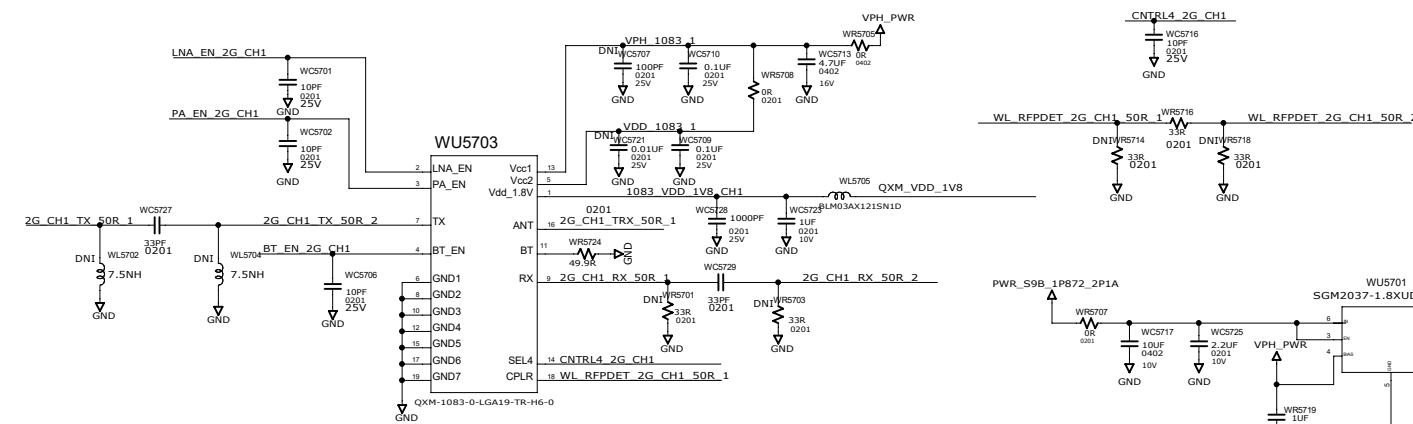
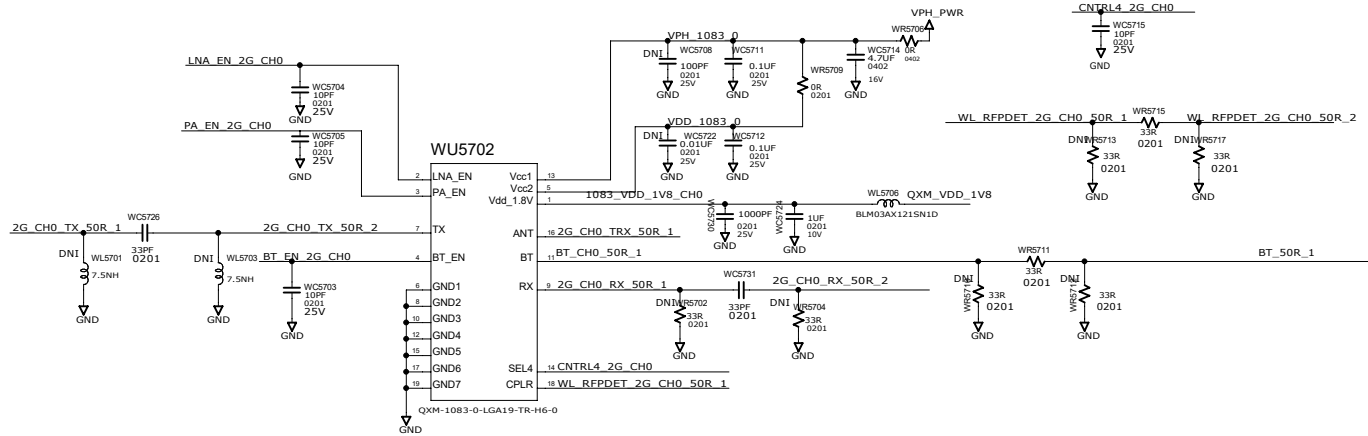
ANTENNA CLIP



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| QUASAR MAIN BOARD WIFI 2G/5G ANTENNA | | | |
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2.4GHZ CHAIN 0/1 XFEM

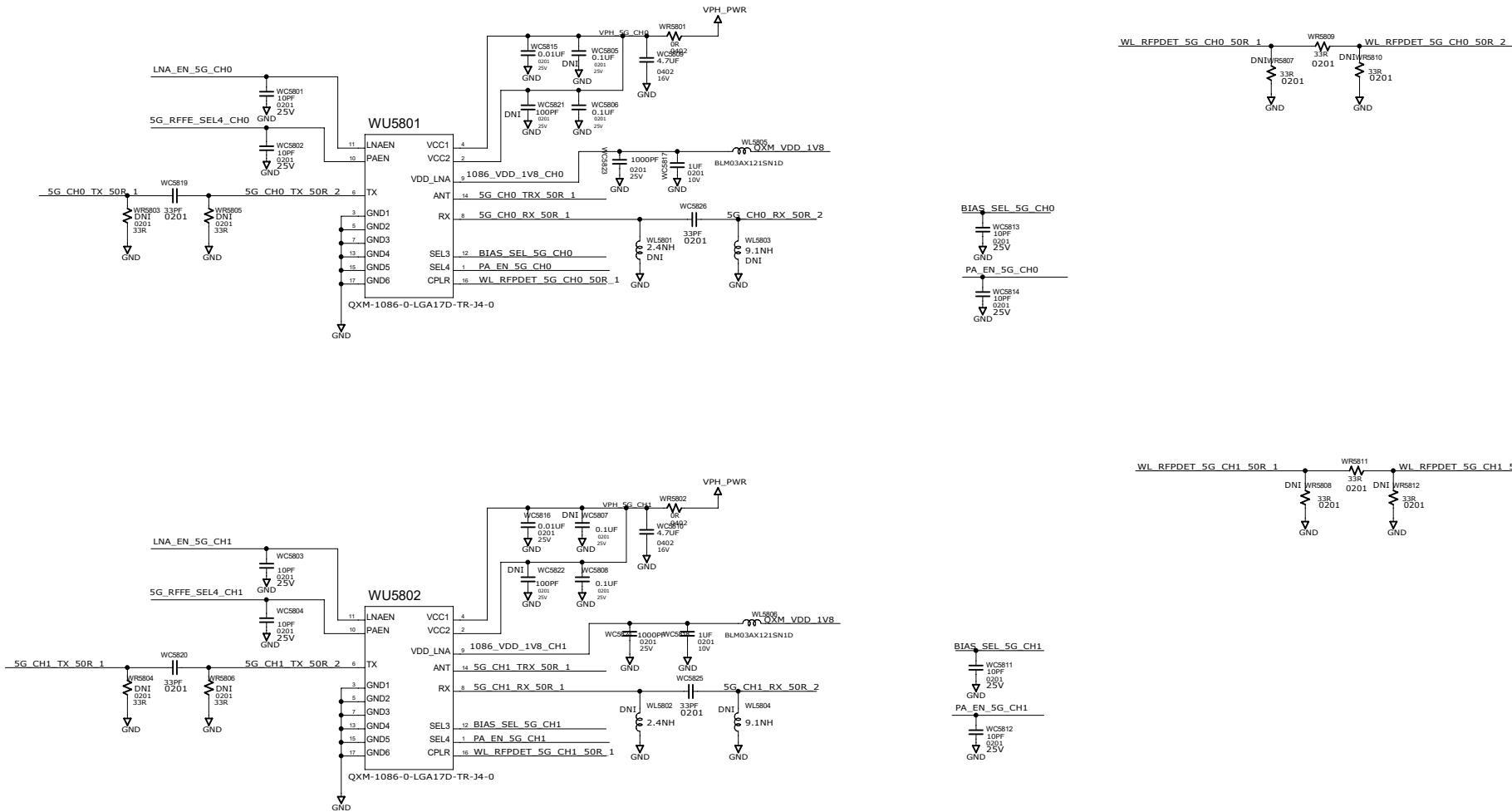
| REV | | DESCRIPTION | | | E.C. | | BY | APVD. | DATE |
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| ZEBRA TECHNOLOGIES CORP. HOLTSVILLE, NEW YORK 11742 | | | |
| QUASAR MAIN BOARD 2.4GHZ CHAIN 0/1 XFEM | | | |
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5G-7GHZ CHAIN 0/1 XFEM

| REVISIONS | | | | | E.C. | BY | APVD. | DATE |
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| QUASAR MAIN BOARD 5G-7GHZ CHAIN 0/1 XFEM | | | |
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8 7 6 5 4 3 2 1

| REVISIONS | | | | | |
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| QUASAR MAIN BOARD RESERVE PAGE | | | |
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HISTORY

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ZEBRA TECHNOLOGIES CORP.
HOLTSVILLE, NEW YORK 11742

QUASAR MAIN BOARD
HISTORY

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