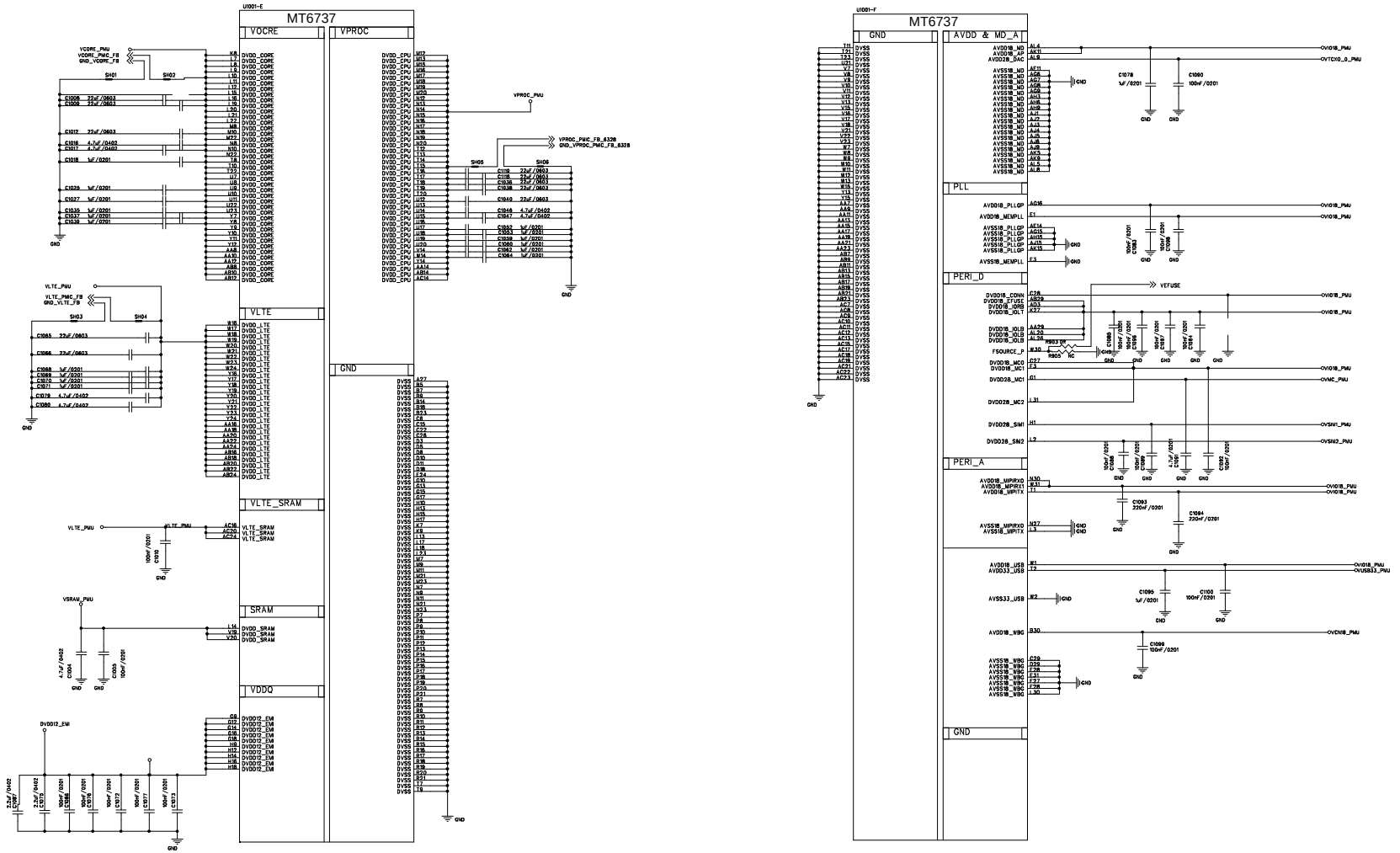
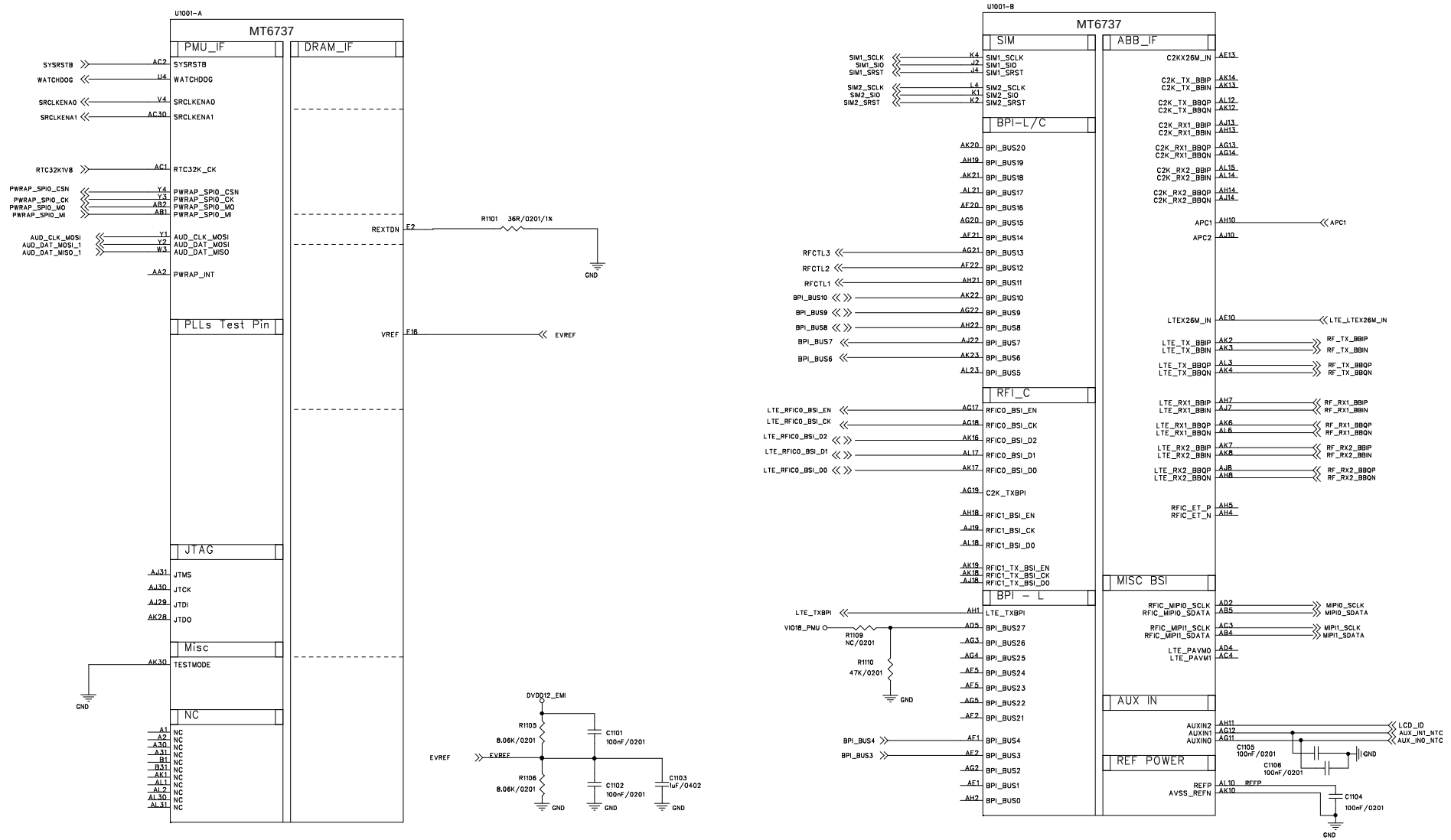
FCC ID:2AWCN-Q58

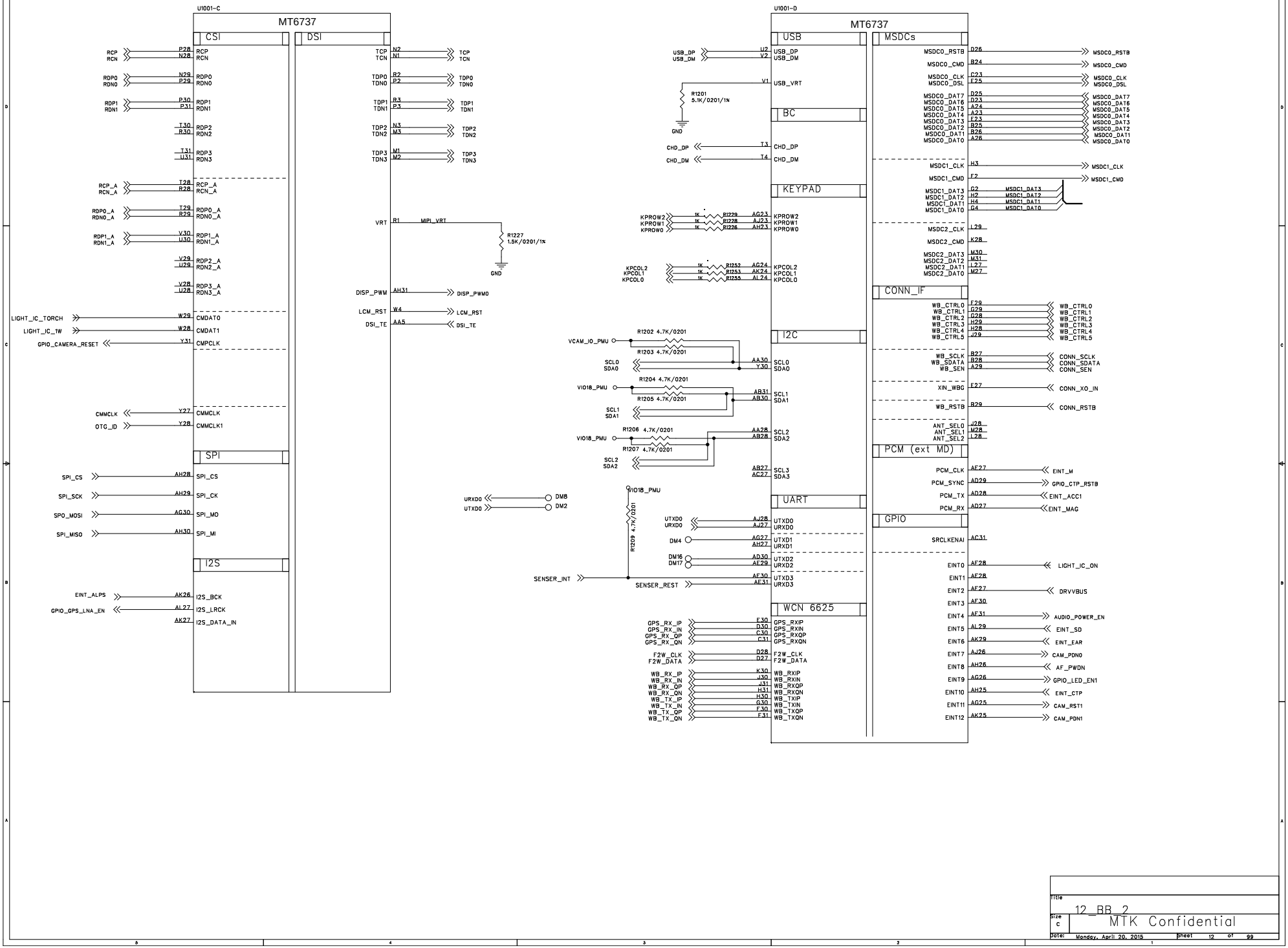


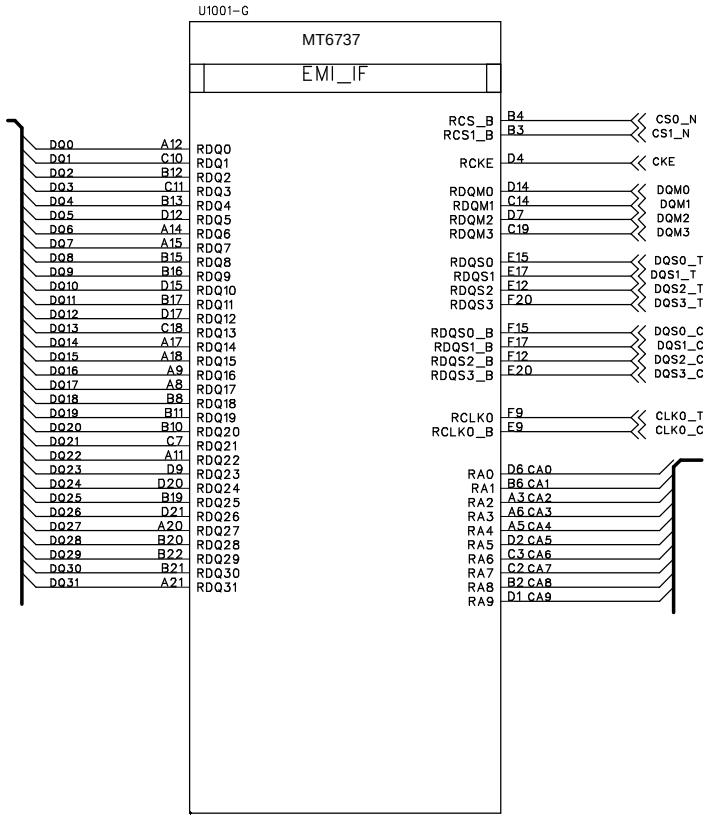

MTK Confidential

10_BB_POWER




| | |
|---|---|
| Title | 11_BB_1 |
| Size | c |
| | MTK Confidential |
| Date: | Monday, April 20, 2015 |
| Sheet | 11 of 99 |


U1001-C
MT6737
CSI
DSI
RCP
RCN
RDP0
RDN0
RDP1
RDN1
RDP2
RDN2
RDP3
RDN3
RCP_A
RCN_A
RDP0_A
RDN0_A
RDP1_A
RDN1_A
RDP2_A
RDN2_A
RDP3_A
RDN3_A
TCP
TCN
TDP0
TDN0
TDP1
TDN1
TDP2
TDN2
TDP3
TDN3
VRT
MIPI_VRT
R1227
1.5K/0201/1%
GND
DISP_PWM
DISP_PWM0
LCM_RST
DSI_TE
LIGHT_IC_TORCH
LIGHT_IC_1W
GPIO_CAMERA_RESET
CMDAT0
CMDAT1
CMPCLK
CMMCLK
OTG_ID
CMMCLK1
SPI
SPI_CS
SPI_SCK
SPO_MOSI
SPI_MISO
SPI_CK
SPI_MO
SPI_MI
I2S
EINT_ALPS
GPIO_GPS_LNA_EN
I2S_BCK
I2S_LRCK
I2S_DATA_IN
U1001-D
MT6737
USB
BC
KEYPAD
I2C
UART
WCN 6625
USB_DP
USB_DM
USB_VRT
R1201
5.1K/0201/1%
GND
CHD_DP
CHD_DM
KPROW2
KPROW1
KPROW0
KPCOL2
KPCOL1
KPCOL0
R1202 4.7K/0201
R1203 4.7K/0201
R1204 4.7K/0201
R1205 4.7K/0201
R1206 4.7K/0201
R1207 4.7K/0201
VCAM_IO_PMU
VIO18_PMU
SCL0
SDA0
SCL1
SDA1
SCL2
SDA2
SCL3
SDA3
URXD0
UTXD0
DM8
DM2
R1209 4.7K/0201
DM4
DM16
DM17
UTXD1
URXD1
UTXD2
URXD2
UTXD3
URXD3
SENSER_INT
SENSER_REST
GPS_RX_IP
GPS_RX_IN
GPS_RX_QP
GPS_RX_QN
GPS_RXIP
GPS_RXIN
GPS_RXQP
GPS_RXQN
F2W_CLK
F2W_DATA
WB_RX_IP
WB_RX_IN
WB_RX_QP
WB_RX_QN
WB_TX_IP
WB_TX_IN
WB_TX_QP
WB_TX_QN
WB_RXIP
WB_RXIN
WB_RXQP
WB_RXQN
WB_TXIP
WB_TXIN
WB_TXQP
WB_TXQN
MSDCs
CONN_IF
PCM (ext MD)
GPIO
MSDC0_RSTB
MSDC0_CMD
MSDC0_CLK
MSDC0_DSL
MSDC0_DAT7
MSDC0_DAT6
MSDC0_DAT5
MSDC0_DAT4
MSDC0_DAT3
MSDC0_DAT2
MSDC0_DAT1
MSDC0_DAT0
MSDC1_CLK
MSDC1_CMD
MSDC1_DAT3
MSDC1_DAT2
MSDC1_DAT1
MSDC1_DAT0
MSDC2_CLK
MSDC2_CMD
MSDC2_DAT3
MSDC2_DAT2
MSDC2_DAT1
MSDC2_DAT0
WB_CTRL0
WB_CTRL1
WB_CTRL2
WB_CTRL3
WB_CTRL4
WB_CTRL5
WB_SCLK
WB_SDATA
WB_SEN
XIN_WBG
WB_RSTB
ANT_SEL0
ANT_SEL1
ANT_SEL2
PCM_CLK
PCM_SYNC
PCM_TX
PCM_RX
SRCLKENAI
EINT0
EINT1
EINT2
EINT3
EINT4
EINT5
EINT6
EINT7
EINT8
EINT9
EINT10
EINT11
EINT12
LIGHT_IC_ON
DRVVBUS
AUDIO_POWER_EN
EINT_SD
EINT_EAR
CAM_PDN0
AF_PWDN
GPIO_LED_EN1
EINT_CTP
CAM_RST1
CAM_PDN1
CONN_SCLK
CONN_SDATA
CONN_SEN
CONN_XO_IN
CONN_RSTB
EINT_M
GPIO_CTP_RSTB
EINT_ACC1
EINT_MAG
Title
12_BB_2
Size
c
MTK Confidential
Date: Monday, April 20, 2015
Sheet 12 of 99




Title: 13_BB_3

Size: B

MTK Confidential

Date: Monday, April 20, 2015

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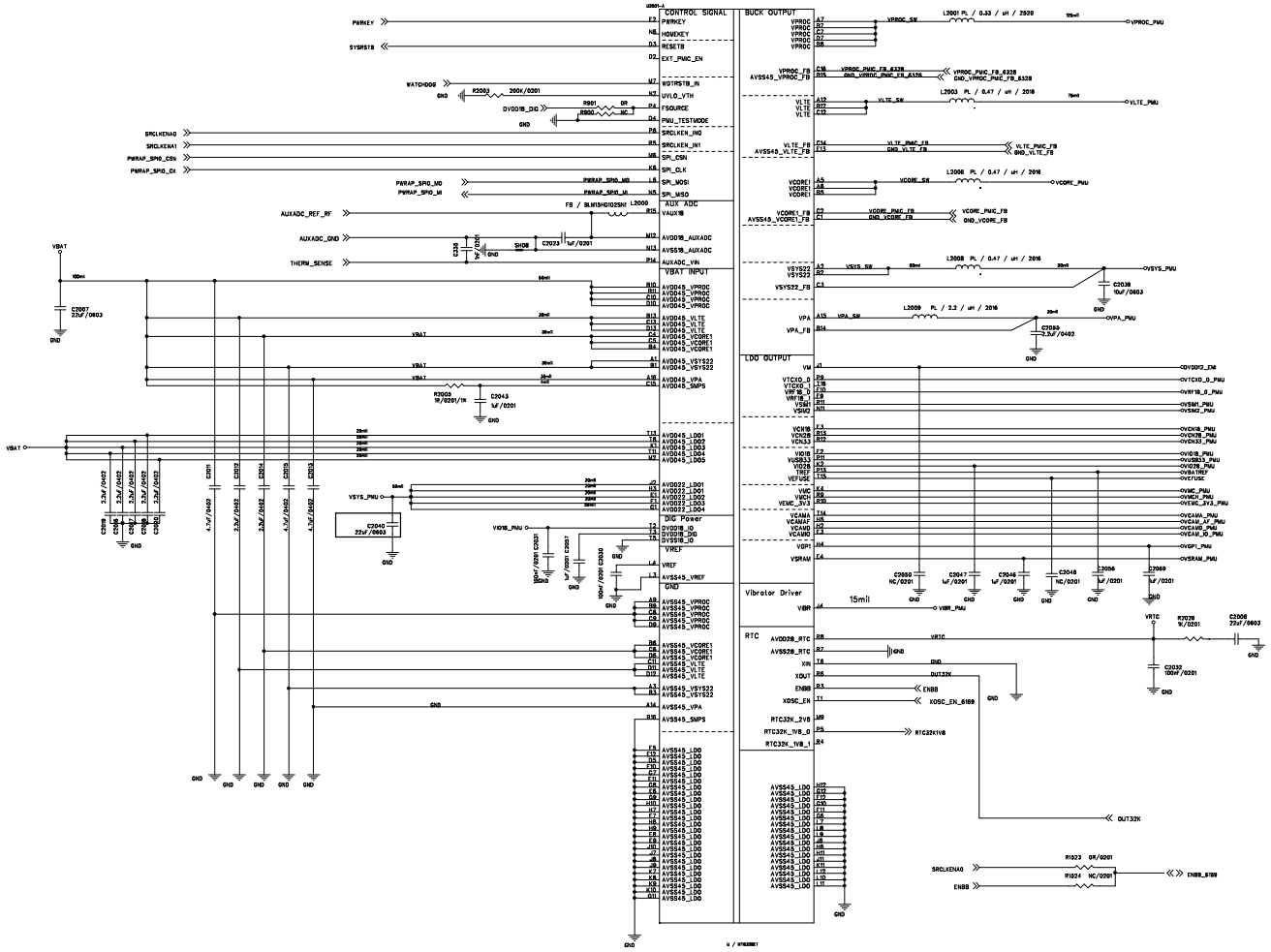
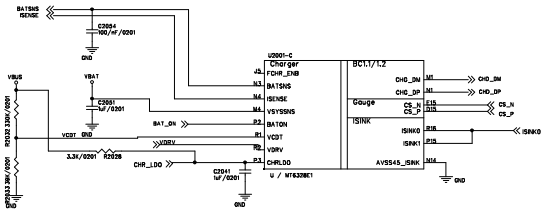
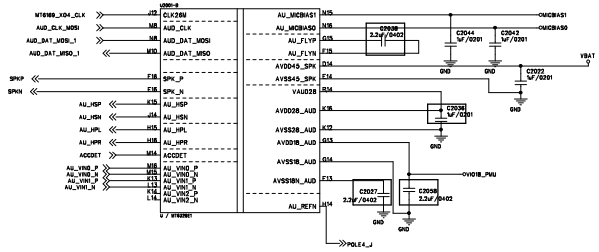
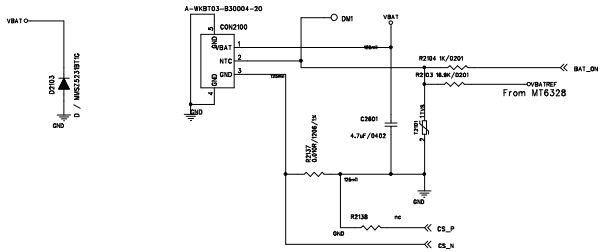

CONTROL SIGNAL
BUCK OUTPUT
LDO OUTPUT
VBAT INPUT
AUX ADC
DIG Power
VREF
Vibrator Driver
RTC
PWRKEY
HOMEKEY
RESETB
EXT_PMIC_EN
WDTRSTB_IN
UVLO_VTH
FSOURCE
PMU_TESTMODE
SRCLKEN_IN0
SRCLKEN_IN1
SPI_CSN
SPI_CLK
SPI_MOSI
SPI_MISO
AUXADC_REF_RF
AUXADC_GND
THERM_SENSE
VAUX18
AVDD18_AUXADC
AVSS18_AUXADC
AUXADC_VIN
VPROC_PMU
VLTE_PMU
VCORE_PMU
VSYS_PMU
VPA_PMU
VIBR_PMU
OUT32K
ENBB_6169
VIBRATOR
15mil


Charger
BC1.1/1.2
Gauge
ISINK
CHR_LDO
BATSNS
ISENSE
VSYSSNS
BATON
VCDT
VDRV
CHRLDO
CHO_DM
CHO_DP
CS_N
CS_P
ISINK0
ISINK1
AVSS45_ISINK

## Audio

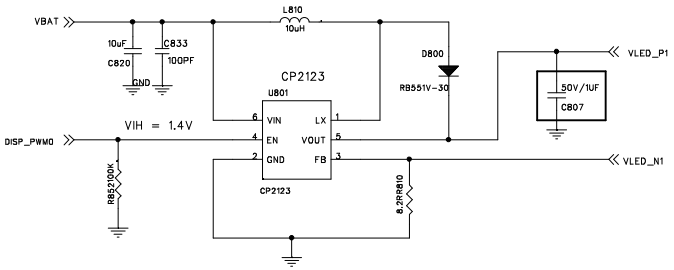

CLK26M
AUD_CLK_MOSI
AUD_DAT_MOSI
AUD_DAT_MISO
SPKP
SPKN
AU_HSP
AU_HSN
AU_HPL
AU_HPR
ACCDET
AU_VIN0_P
AU_VIN0_N
AU_VIN1_P
AU_VIN1_N
AU_VIN2_P
AU_VIN2_N
AU_REFN
AU_MICBIAS1
AU_MICBIAS0
AU_FLYP
AU_FLYN
AVDD43_SPK
AVSS43_SPK
VAUD28
AVDD28_AUD
AVSS28_AUD
AVDD18_AUD
AVSS18_AUD
AVSS18N_AUD
MICBIAS1
MICBIAS0
VBAT
VIO18_PMU

## BATTERY CONNECTOR

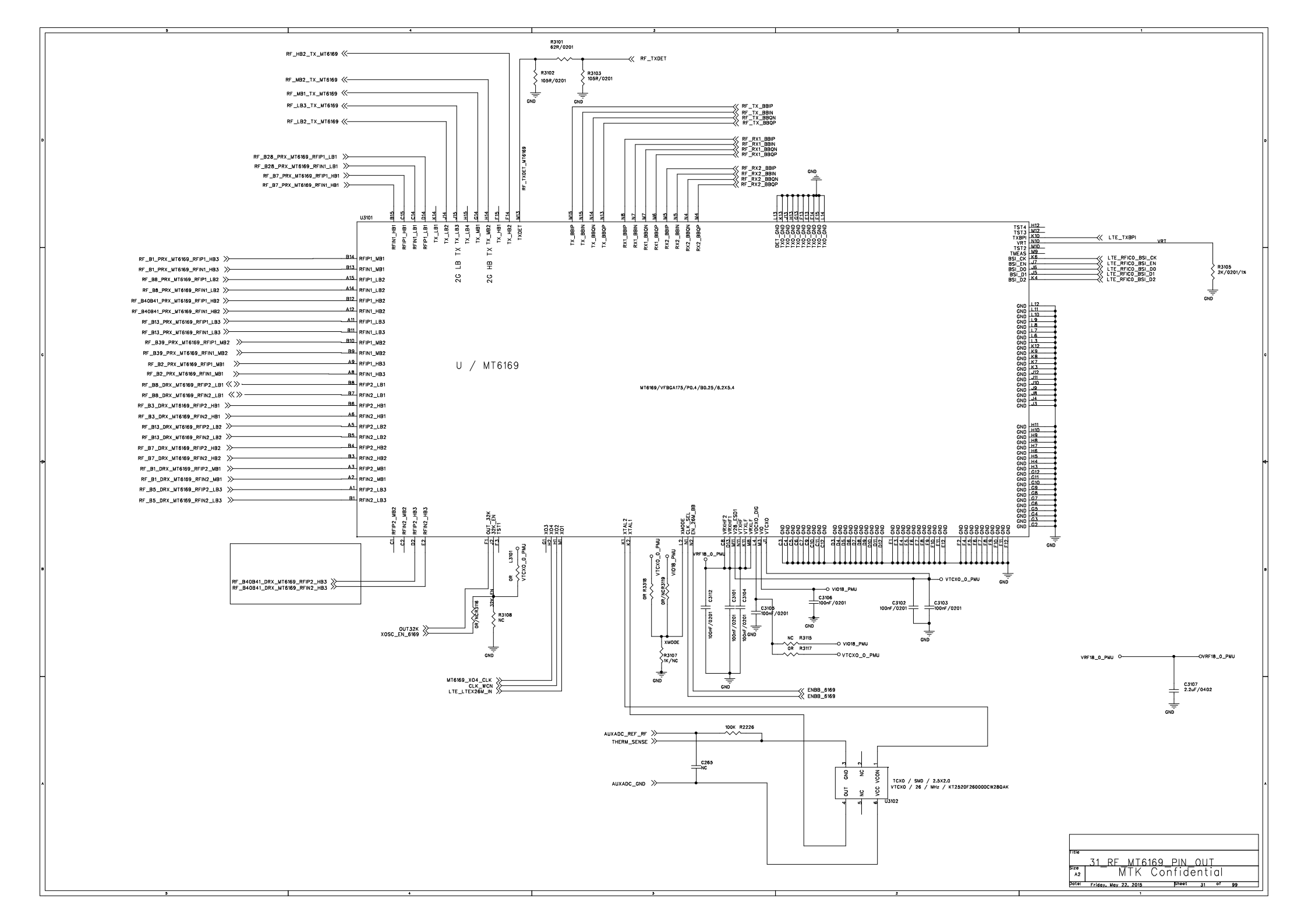



## Pulse Charger

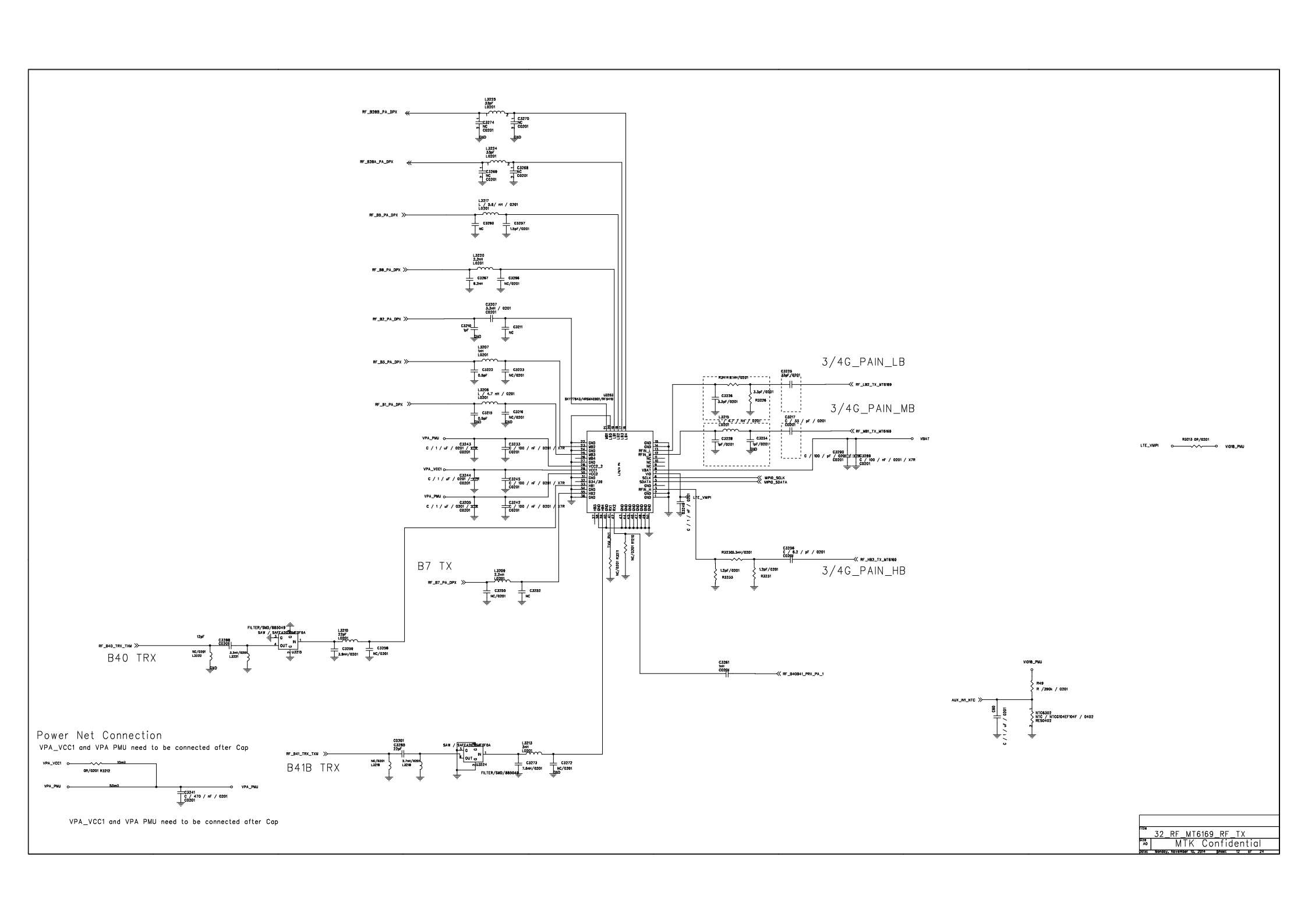
| | |
|---|---|
| Title | 21_POWER_TBD |
| Size | D |
| | MTK Confidential |
| Date: | Monday, April 20, 2015 Sheet 21 of 99 |

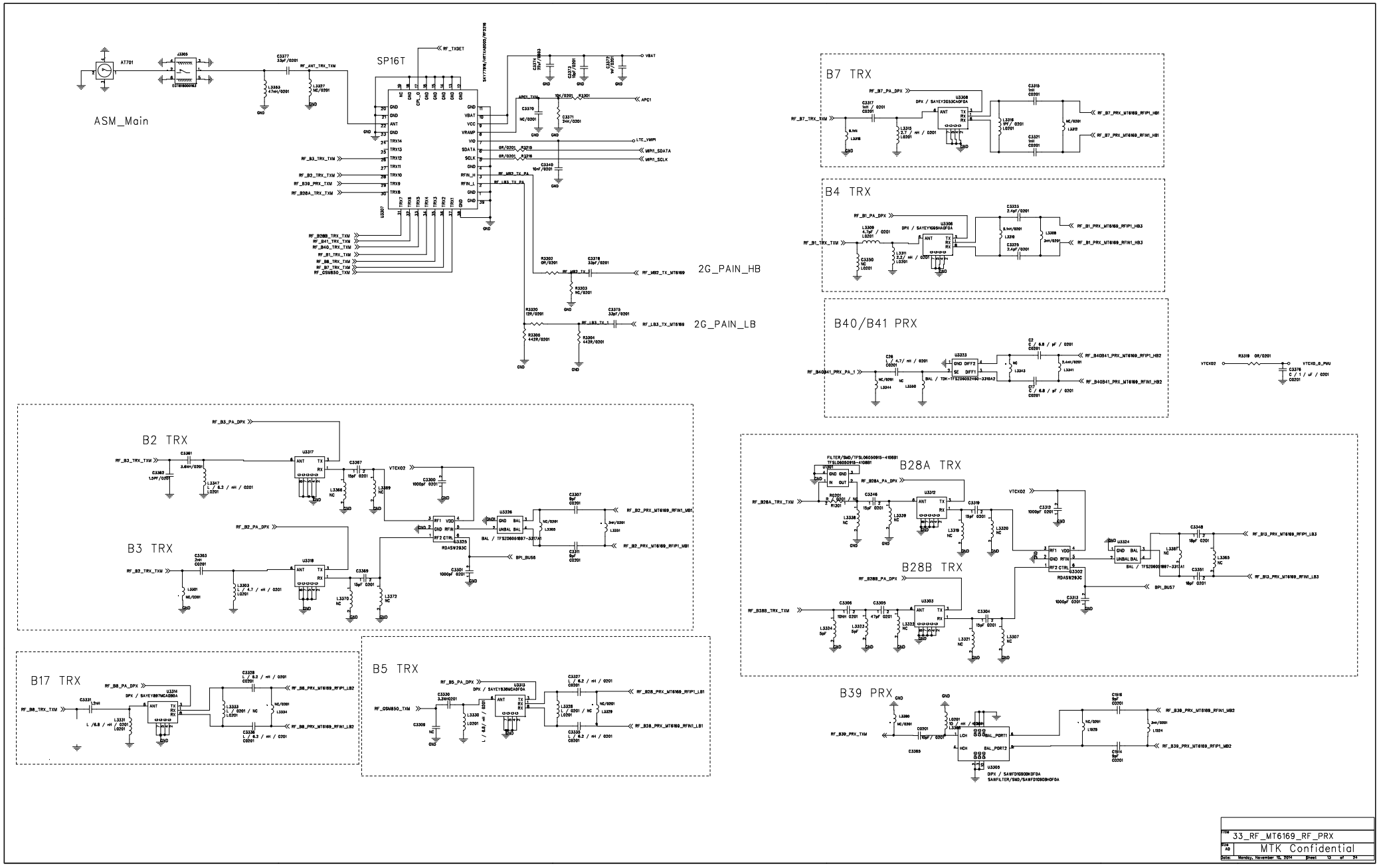



| | |
|---|---|
| Title | 23_POWER_THIRD-PARTY |
| Size: C | MTK Confidential |
| Date: Monday, April 20, 2015 | Sheet 23 of 99 |



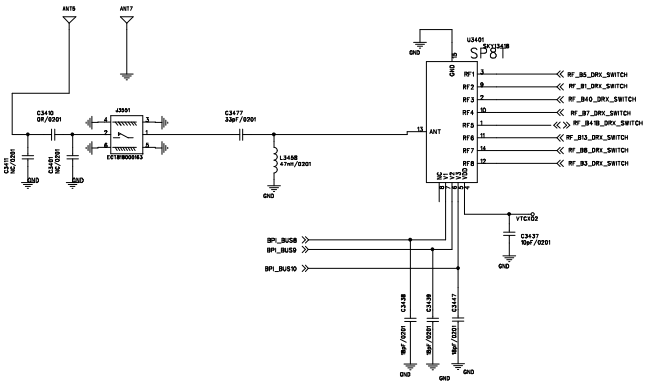

| | |
|---|---|
| Title | 31_RF_MT6169_PIN_OUT |
| Size | A2 |
| | MTK Confidential |
| Date: | Friday, May 22, 2015 |
| Sheet | 31 of 99 |

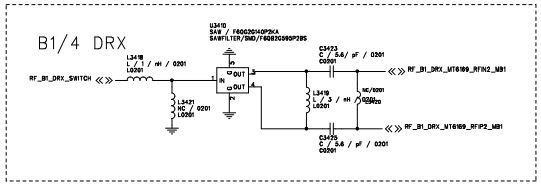

3/4G_PAIN_LB
3/4G_PAIN_MB
3/4G_PAIN_HB
B7 TX
B40 TRX
B41B TRX
Power Net Connection
VPA_VCC1 and VPA PMU need to be connected after Cap
VPA_VCC1 and VPA PMU need to be connected after Cap
32_RF_MT6169_RF_TX
MTK Confidential

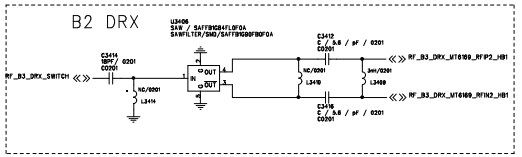

ASM_Main
SP16T
2G_PAIN_HB
2G_PAIN_LB
B7 TRX
B4 TRX
B40/B41 PRX
B2 TRX
B3 TRX
B28A TRX
B28B TRX
B17 TRX
B5 TRX
B39 PRX
MTK Confidential
33_RF_MT6169_RF_PRX

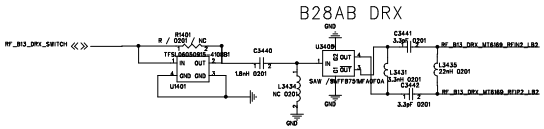
DRX Car Kit

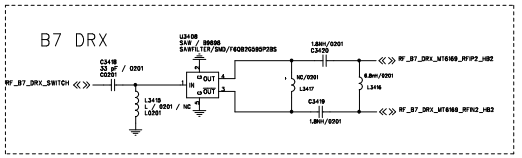
DRX ANT: 1805~2690MHz

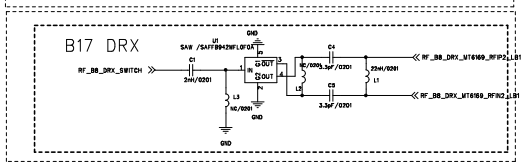


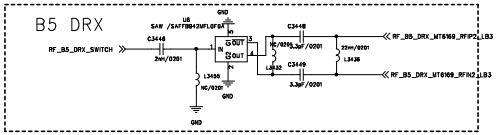



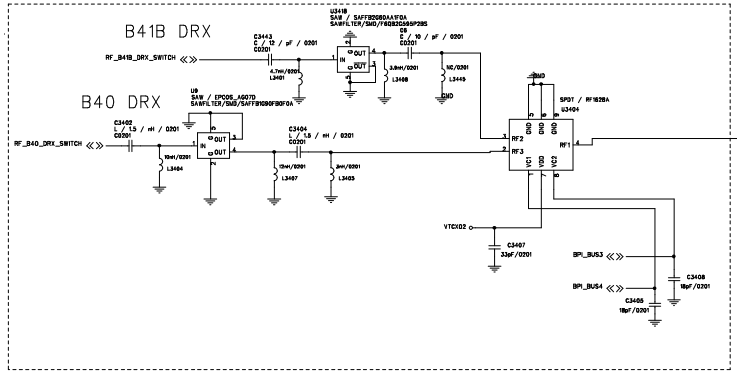



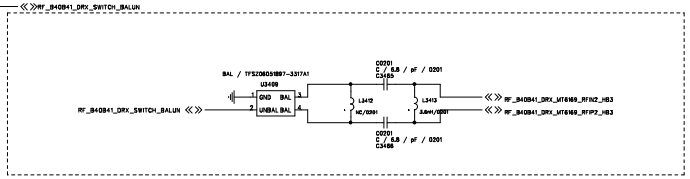



| Connect to AP | |
|---|---|
| DQI0..31 | DQI0..31 |
| CAI0..9] | CAI0..9] |
| CS0_N | CS0_N |
| CS1_N | CS1_N |
| CKE | CKE |
| DQM0 | DQM0 |
| DQM1 | DQM1 |
| DQM2 | DQM2 |
| DQM3 | DQM3 |
| DQS0_C | DQS0_C |
| DQS1_C | DQS1_C |
| DQS2_C | DQS2_C |
| DQS3_C | DQS3_C |
| DQS0_T | DQS0_T |
| DQS1_T | DQS1_T |
| DQS2_T | DQS2_T |
| DQS3_T | DQS3_T |
| CLK0_T | CLK0_T |
| CLK0_C | CLK0_C |
| VREF_CA | VREF_CA |
| VREF_DQ | VREF_DQ |
| MSDC0_RSTB | MSDC0_RSTB |
| MSDC0_CMD | MSDC0_CMD |
| MSDC0_CLK | MSDC0_CLK |
| MSDC0_DSL | MSDC0_DSL |
| MSDC0_DAT0 | MSDC0_DAT0 |
| MSDC0_DAT1 | MSDC0_DAT1 |
| MSDC0_DAT2 | MSDC0_DAT2 |
| MSDC0_DAT3 | MSDC0_DAT3 |
| MSDC0_DAT4 | MSDC0_DAT4 |
| MSDC0_DAT5 | MSDC0_DAT5 |
| MSDC0_DAT6 | MSDC0_DAT6 |
| MSDC0_DAT7 | MSDC0_DAT7 |

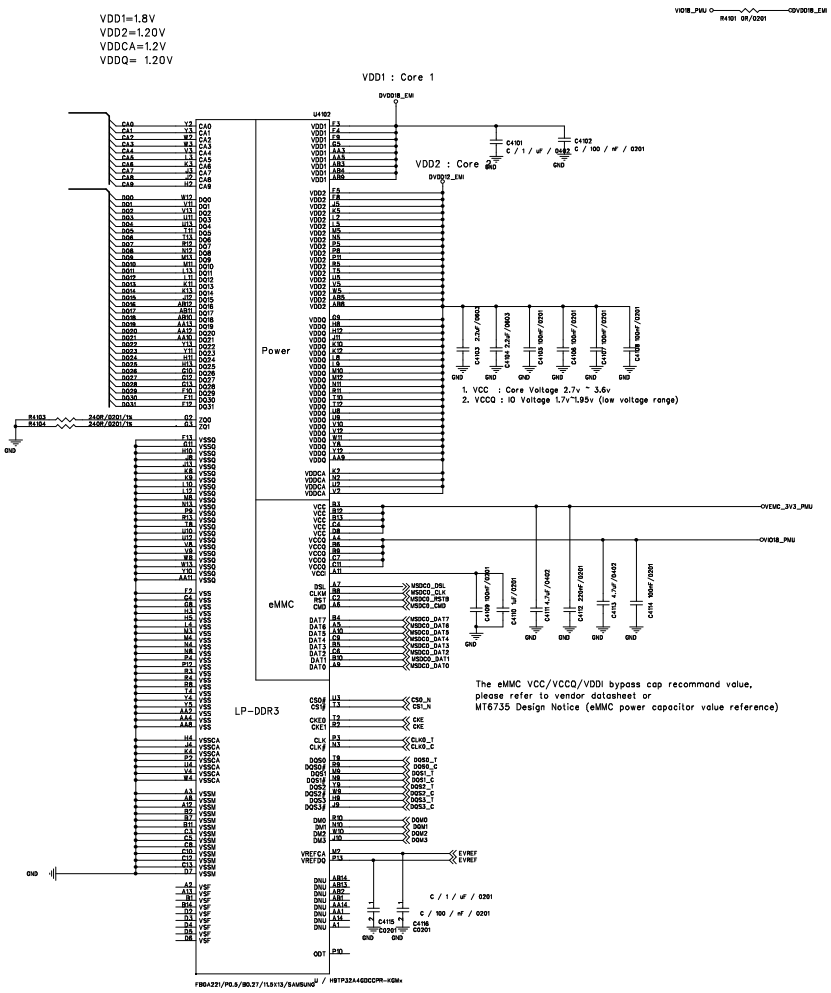
| Power I/F | |
|---|---|
| VIO18_PMU | VIO18_PMU |
| VEMC_3V3_PMU | VEMC_3V3_PMU |
| DVDD12_EMI | DVDD12_EMI |

eMMC+LPDDR3

221 Ball, 0.5mm pitch

VDD1=1.8V
VDD2=1.20V
VDDCA=1.2V
VDDQ= 1.20V

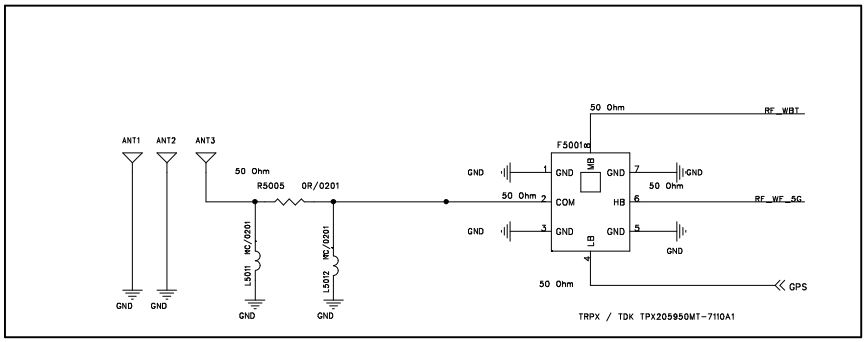
8GB eMMC + 8Gb LPDDR3
Hynix/H9TQ64A8GTMCUR-KUM

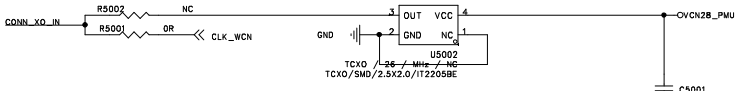


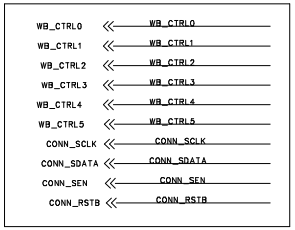

| | |
|---|---|
| Title | 41_Memory_eMMC_LPDDR2 |
| Size | D |
| Date | Monday, April 20, 2015 |
| Sheet | 41 of 99 |

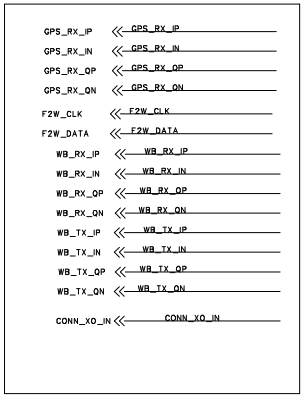
Reserve Keep out region from L1 to Main GND layer

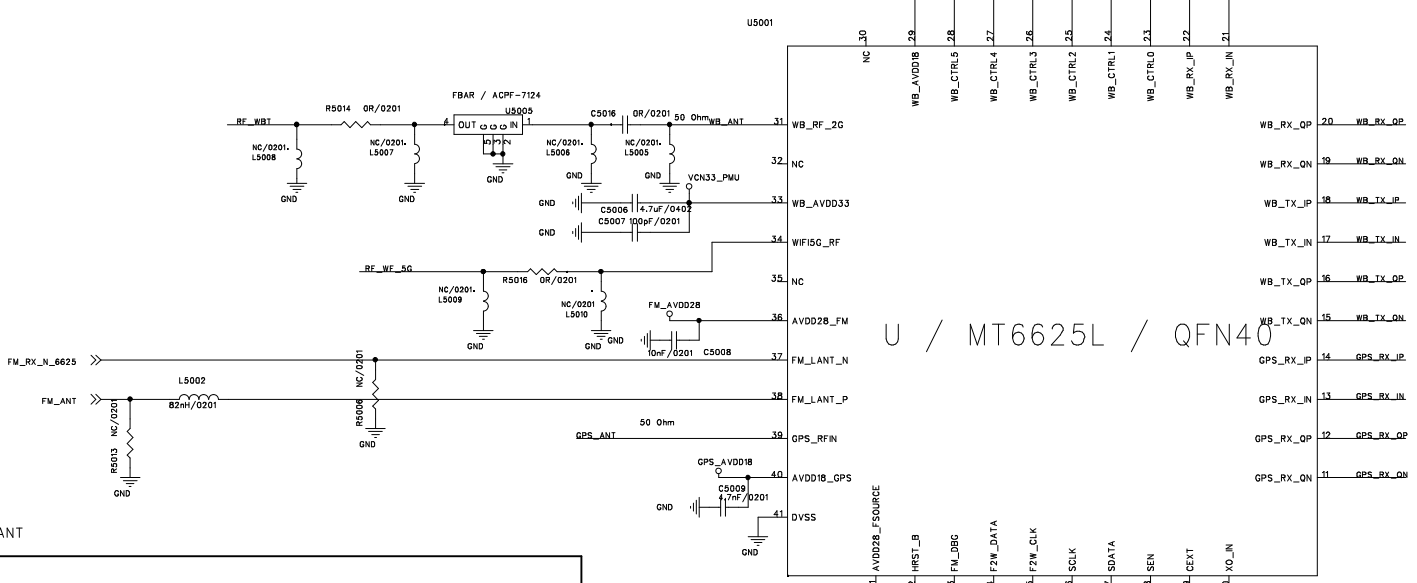
Close to Antenna

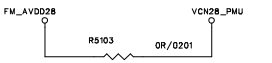


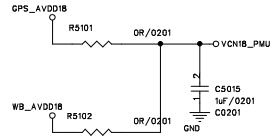



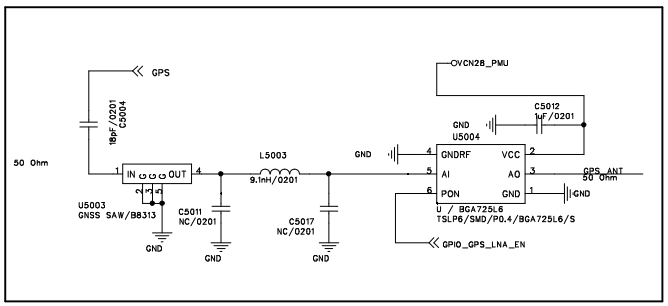




TK:reference design R5102=R5101=NC?

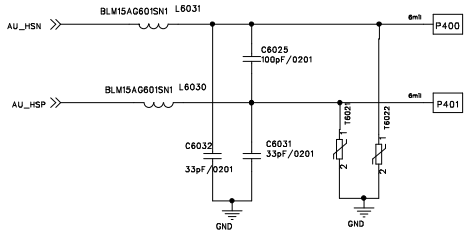
Close to ANT

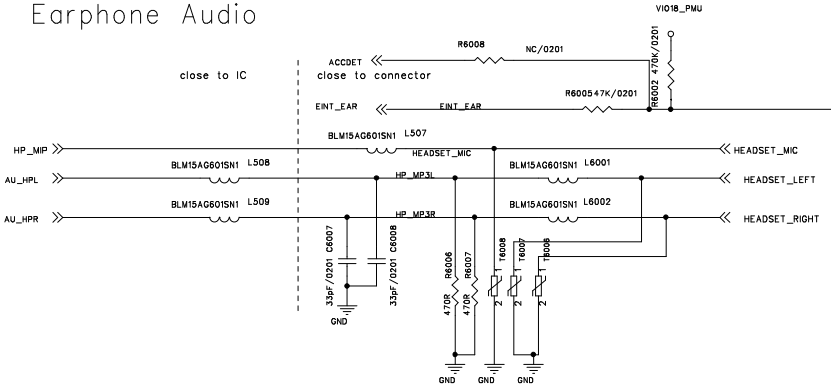


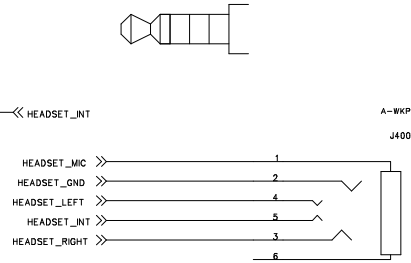

| | |
|---|---|
| Title | 50_CONNECTIVITY_MT6625 |
| Size c | MTK Confidential |
| Date: Monday, April 20, 2015 | Sheet 50 of 99 |

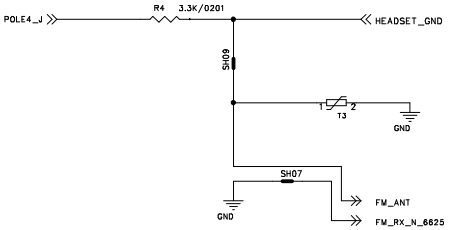
# Earphone Audio

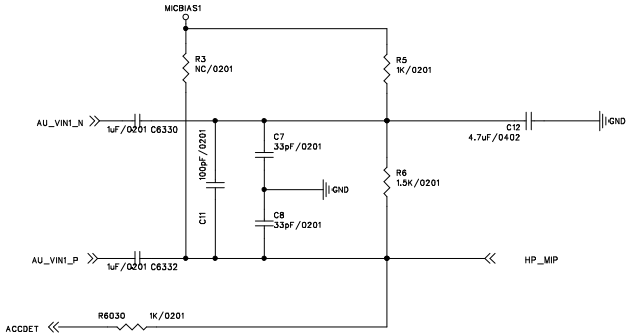
## Receiver

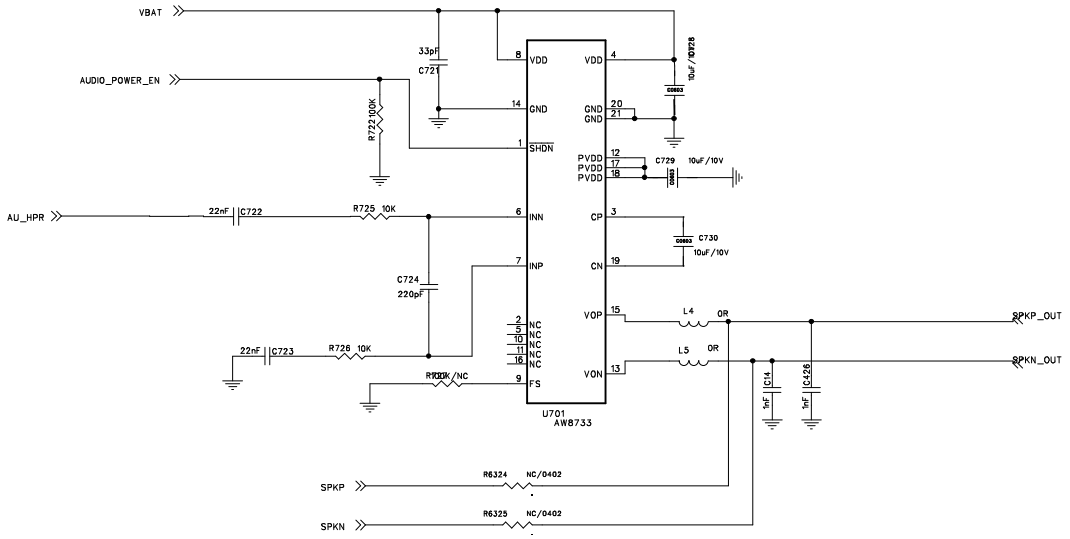


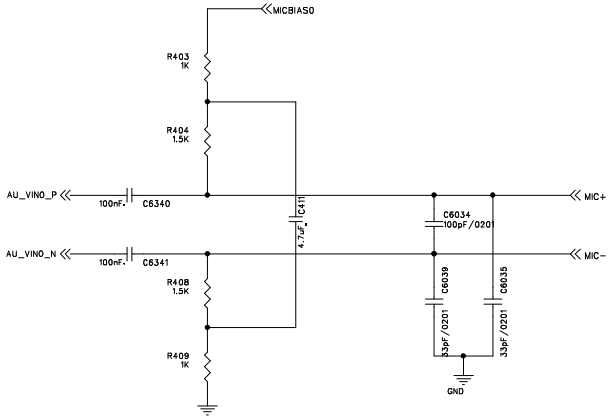



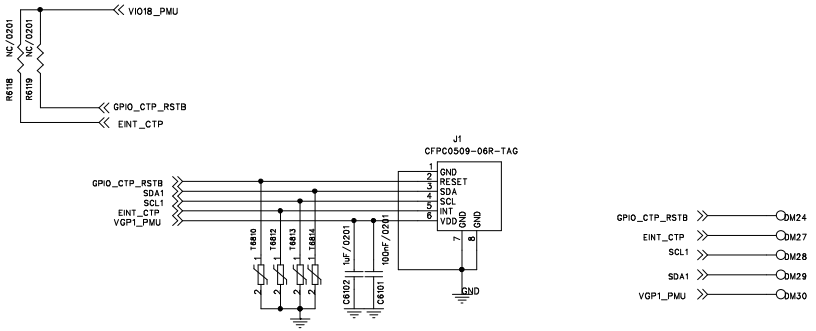



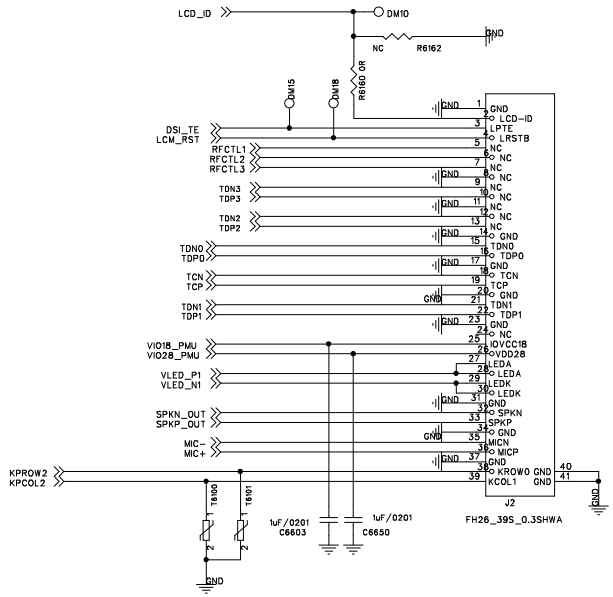



## CTP Connector




## Main LCM




| | | |
|---|---|---|
| Title | 61_PERI_LCD_CTP | |
| Size: c | MTK Confidential | |
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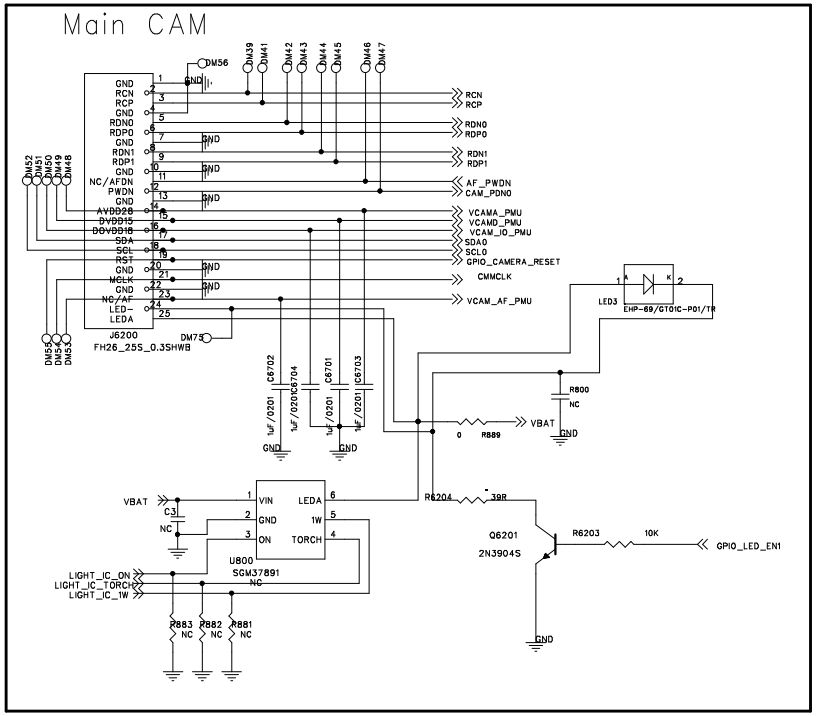


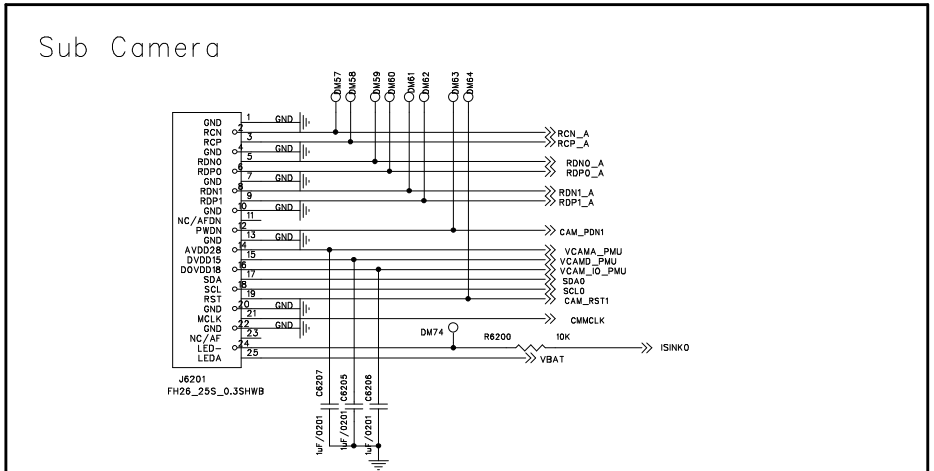


Schematic design notice of "62_PERI_CAMERA" page.

Note 62-1: If your project needs PIP function, please refer to MT6735 design notice for the connection of MCLK / I2C / AVDD & DVDD

| | |
|---|---|
| Title | 62_PERI_CAMERA |
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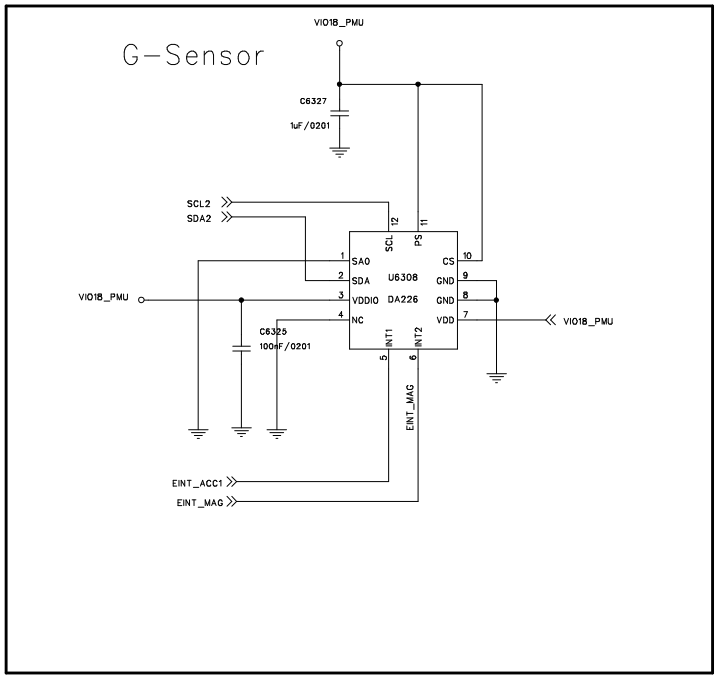
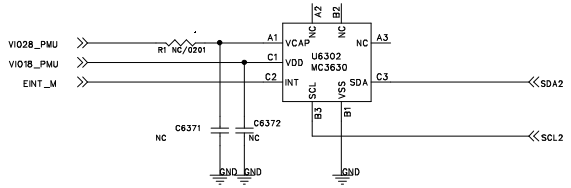
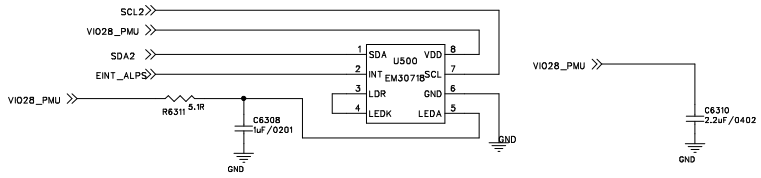
## G-Sensor

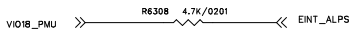



## Gyro Sensor




## RGB & PS Sensor




## Thermistor / To sense board level temperature


| | |
|---|---|
| Title | 63_PERI_SENSORS |
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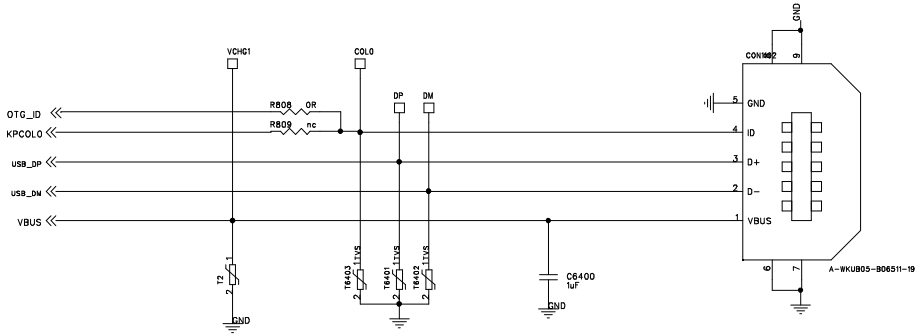
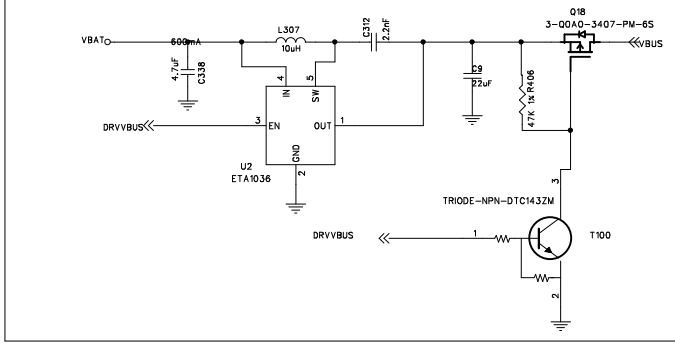
# USB HS IF

If mini-A connector insert => CID < 0V => Low
If mini-B connector insert => CID > 1.2V => High

IDPULLUP pin is replaced by 1.2V power source.




## OTG POWER




Title: 64_PERI_USB
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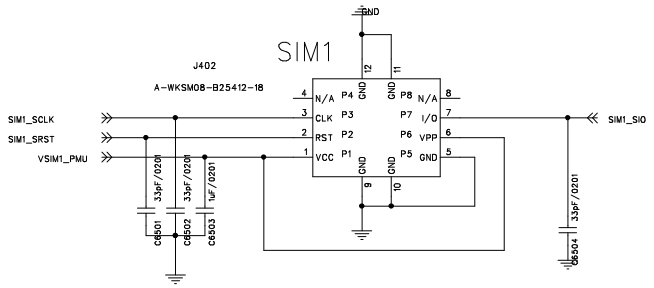


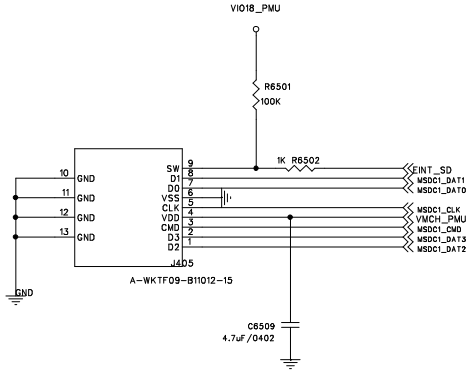


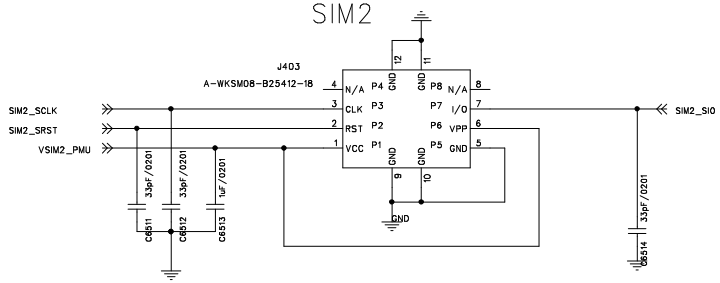


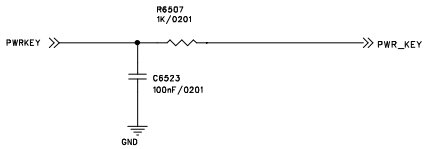


Title
65_PERI_Dual_SIM_KEYPAD
Size c
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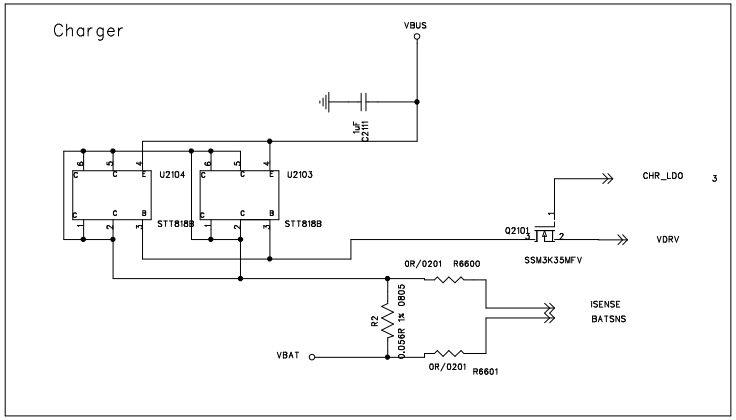


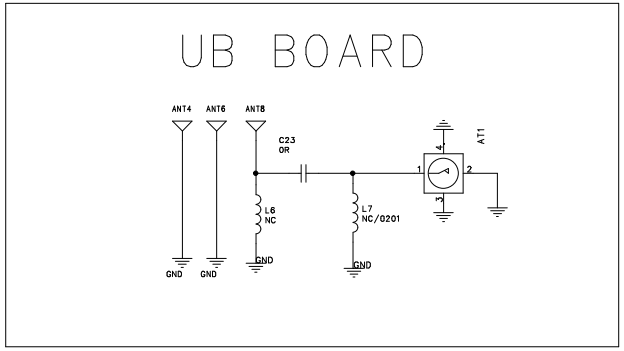


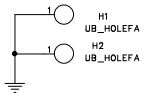



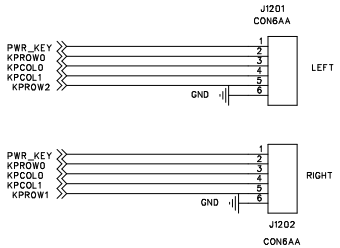


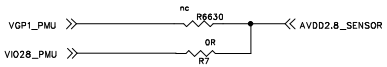


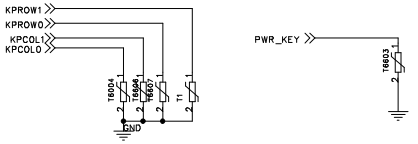


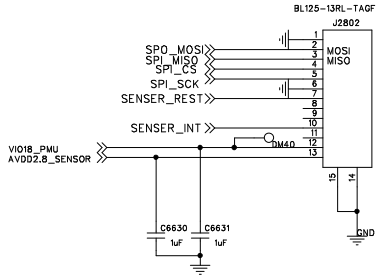


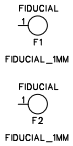


| | | |
|---|---|---|
| Title | 90_DEBUG_IO | |
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