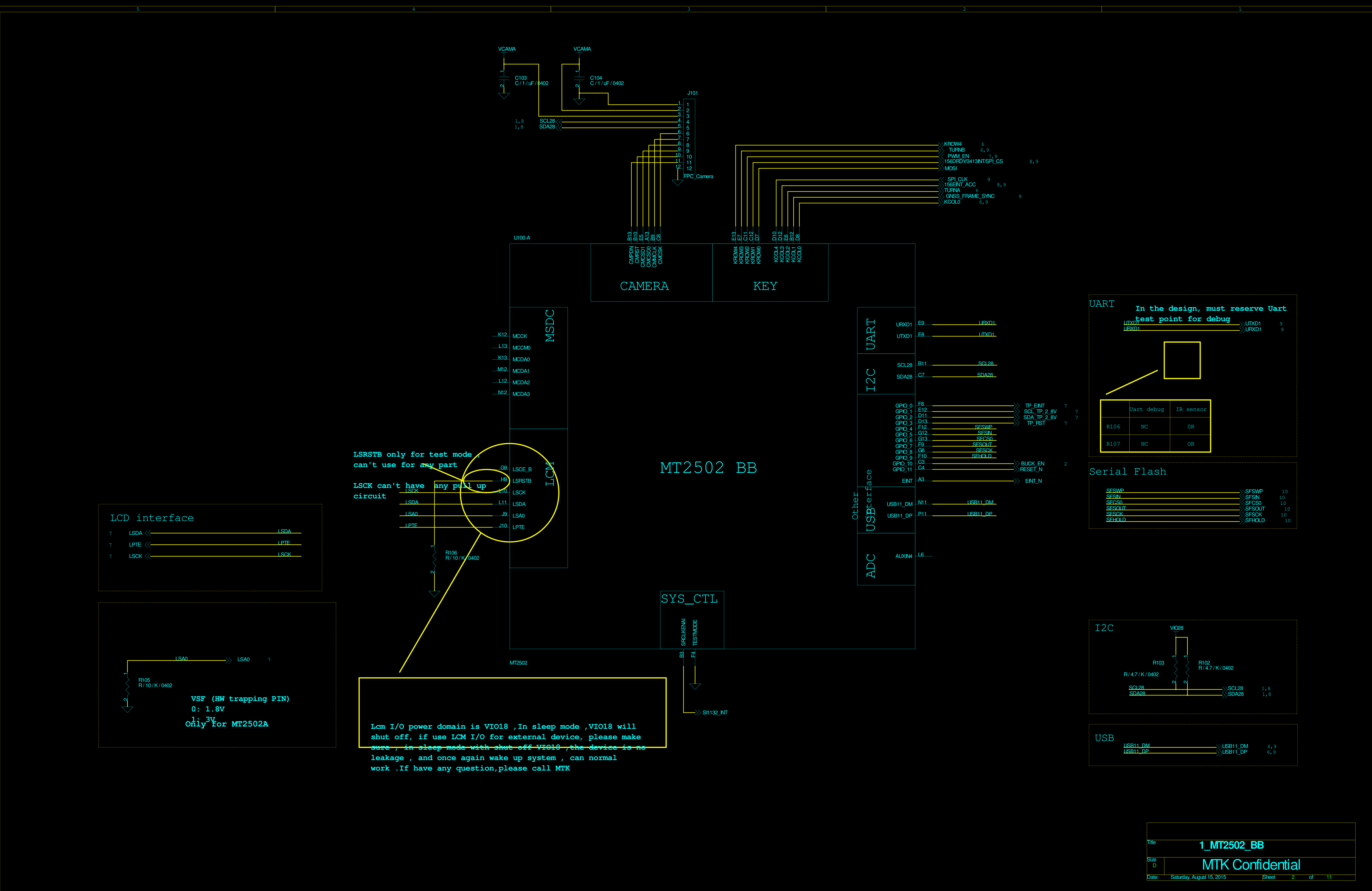
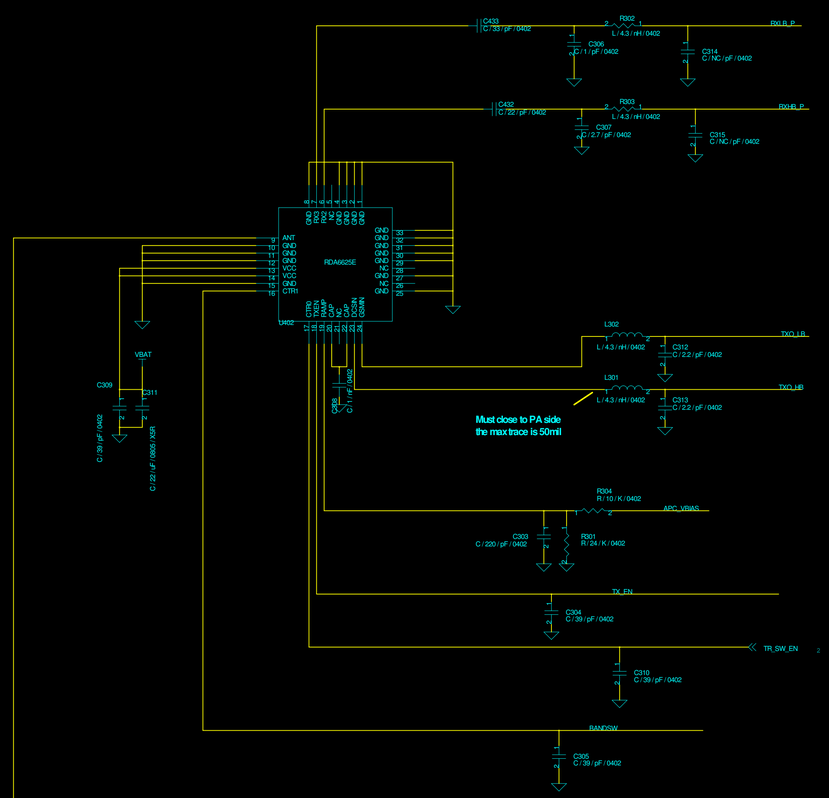
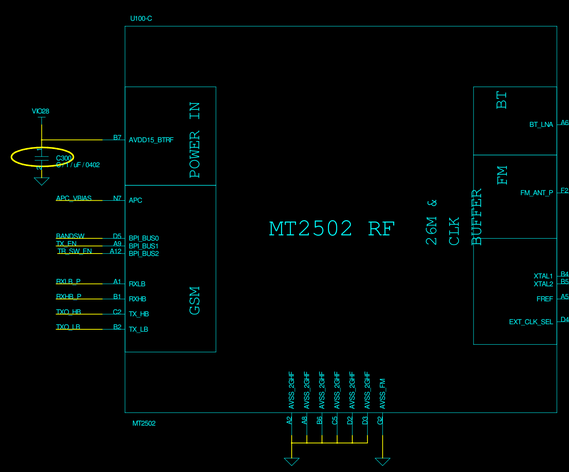
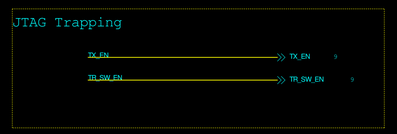
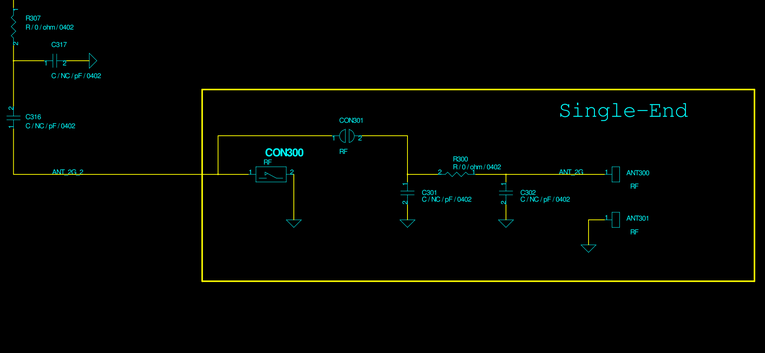

VCAMA
C103
C / 1 / uF / 0402
C104
C / 1 / uF / 0402
J101
FPC_Camera
SCL28
SDA28
KROW4
TURNB
PWM_EN
156DRDY/3413INT/SPI_CS
MOSI
SPI_CLK
156EINT_ACC
TURNA
GNSS_FRAME_SYNC
KCOL0
U100-A
CMPDN
CMRST
CMCSD1
CMCSD0
CMMCLK
CMCSK
CAMERA
KROW4
KROW3
KROW2
KROW1
KROW0
KCOL4
KCOL3
KCOL2
KCOL1
KCOL0
KEY
MSDC
MCCK
MCCM0
MCDA0
MCDA1
MCDA2
MCDA3
LCM
LSCE_B
LSRSTB
LSCK
LSDA
LSA0
LPTE
MT2502 BB
UART
URXD1
UTXD1
I2C
SCL28
SDA28
GPIO_0
GPIO_1
GPIO_2
GPIO_3
GPIO_4
GPIO_5
GPIO_6
GPIO_7
GPIO_8
GPIO_9
GPIO_10
GPIO_11
EINT
Other Interface
TP_EINT
SCL_TP_2_8V
SDA_TP_2_8V
TP_RST
SFSWP
SFSIN
SFCS0
SFSOUT
SFSCK
SFHOLD
BUCK_EN
RESET_N
EINT_N
USB
USB11_DM
USB11_DP
ADC
AUXIN4
SYS_CTL
SRCLKENAI
TESTMODE
SI1132_INT
MT2502
LSRSTB only for test mode ,
can't use for any part
LSCK can't have any pull up
circuit
R106
R / 10 / K / 0402
LCD interface
LSDA
LPTE
LSCK
LSA0
R105
R / 10 / K / 0402
VSF (HW trapping PIN)
0: 1.8V
1: 3V
Only for MT2502A
Lcm I/O power domain is VIO18 ,In sleep mode ,VIO18 will
shut off, if use LCM I/O for external device, please make
sure , in sleep mode with shut off VIO18 ,the device is no
leakage , and once again wake up system , can normal
work .If have any question,please call MTK
UART
In the design, must reserve Uart
test point for debug
UTXD1
URXD1
Uart debug
IR sensor
R106
NC
0R
R107
NC
OR
Serial Flash
SFSWP
SFSIN
SFCS0
SFSOUT
SFSCK
SFHOLD
I2C
VIO28
R103
R / 4.7 / K / 0402
R102
R / 4.7 / K / 0402
SCL28
SDA28
USB
USB11_DM
USB11_DP
Title
1_MT2502_BB
Size
D
MTK Confidential
Date: Saturday, August 15, 2015
Sheet 2 of 11

Audio
VBAT IN
shieding case ¥~
close to MT2502 each power in ball (M10,E1)
POWER IN
With or without use of the external buck£¬
R200 must SMT
close to MT2502 VDDK Pin (A11)
DC-DC Backup
BUCK_EN cotroled by gpio ,can't use Vcore
Material Determination of single BUCK£º
RTC_XOSC32_ENB
XTAL_SEL: VRTC domain
1: f32k_ck src INT clock source
0: f32k_ck src EXT clock source
LCD IF:
SYSTEM CONTROL
This CAP(330pF) are optional for better ESD performance
This Cap shoud be placed near BB
MT2502 ABB
AUDIO
Boost
VBAT IN
POWER IN
PMU LDO
CHARGER
LED DRV
SYS CTL
RTC
SIM
For low power design.in sleep mode ,VIO18 will shut off
If use VIO18 for external device , please make sure in
sleep mode with shut off VIO18 ,the device's power is no
leakage ,and once again wake up system ,can normal work
when VIO18 can't meet your requirements ,could use
Vsim1 /Vsim2/VMC with 1.8V for external device ,which
always can supply 1.8V in sleep mode , the power current
capability see the right figure .If have any question,please
call MTK
This R is optional for better FM de-sense performance
mount the capacitor with 1uF when no external flash
mount the capacitor with 1uF when no sd card ,but use msdc IO
For FM desense,C226 close to MT2502 ball
PMU LDO
close to MT2502 each LDO out ball
shieding case ¥~
C214 close to MT2502 LDO out ball
Vibrator
Charge
40mils
This Cap shoud be placed near BB
Place this resister close to battery connector, and SNS trace should be 4mil~6mil, and others are 40mils
Battery connector
If need the function of temperature detect, can refer to the following design
2_MT2502_ABB
MTK Confidential
Saturday, August 15, 2015



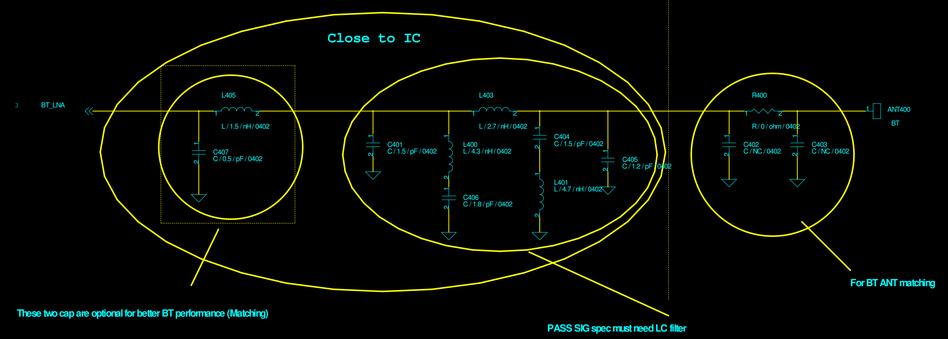






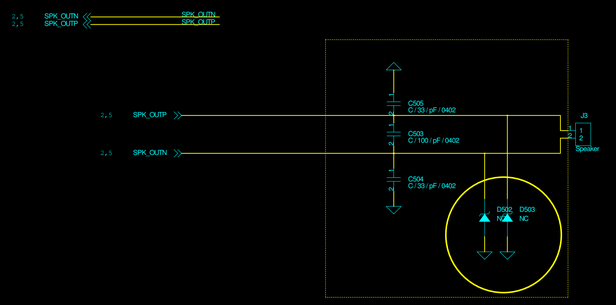
Title	3_MT2502_RF/BT/FM
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 4 of 11

BT



Title	4_MT2502_BT/FM
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 5 of 11

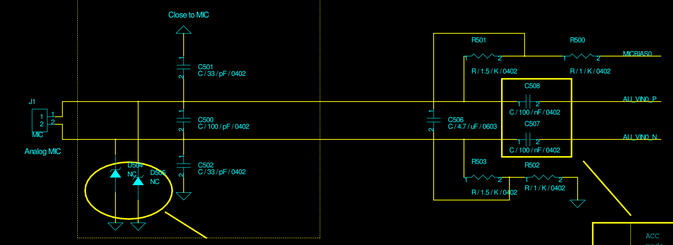
Speaker



This ESD components are optional for better ESD performance
NOTE: 1. Total C load of Audio output must < 330pf and close to JACK
2. For DC couple case please choose Bi-direction component

MIC

HANDSET MICOPHONE

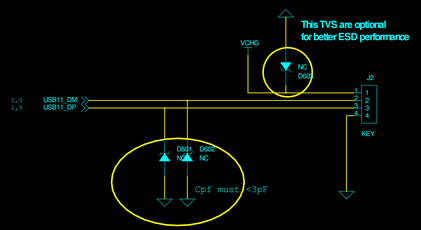


	ACC mode	Low cost mode
C508	100nF	Short
C507	100nF	Short

This ESD components are optional for better ESD performance
NOTE: 1. Total C load of mic input must < 330pf and close to JACK
2. For DC couple case please choose Bi-direction component

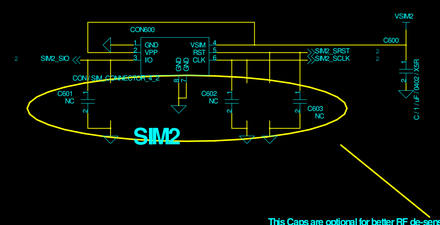
Title	5_MT2502_Audio
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 6 of 11

USB



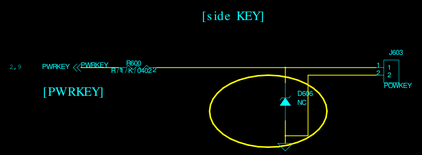
This ESD components are optional for better ESD performance
NOTE: 1. C load must < 3pf and close to JACK

SIM

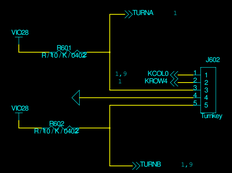


This Caps are optional for better RF de-sense performance C load on trace <45pF)

KEY

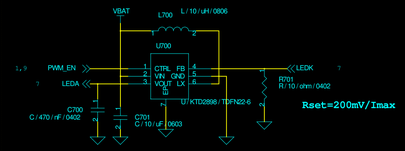


This TVS are optional
for better ESD performance

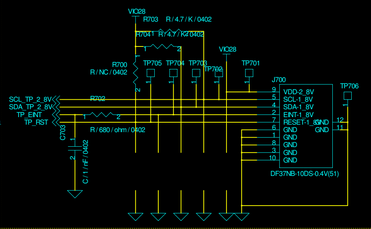


Title	6_MT2502_USB/KEY/SIM
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 7 of 11

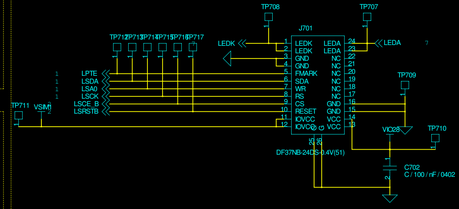
Backlight Boost



CTP Connector

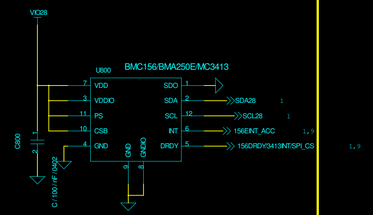


LCM



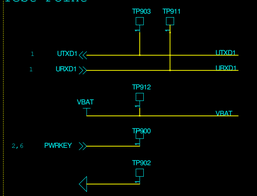
Title	7_MT2502_LCM/CTP	
Size: D	MTK Confidential	
Date: Saturday, August 15, 2015	Sheet 8 of 11	

G-Sensor

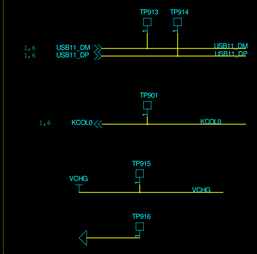


Title	8_MT2502_SENSOR
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 9 of 11

Test Point

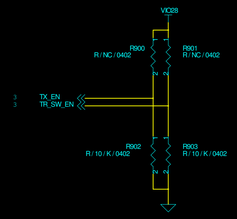


Must reserve uart ,vbat,gnd test point for debug



Must reserver usb ,vchg ,gnd ,kcol0 test point for download and debug

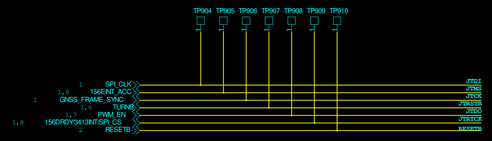
MCU JTAG Trapping



JTAG trap
00:X(BPI_BUS1,BPI_BUS2)
01:KEYPAD(BPI_BUS1,BPI_BUS2)
10:Reserve
11:CAM(BPI_BUS1,BPI_BUS2)

MT2502 JTAG MUX Keypad / CAM by HW trapping , Pull high use 10K , pull down use 10K

JTAG Test Point



JTAG Pin mux with keypad , Please reserve test point on related GPIO / Keypad interface

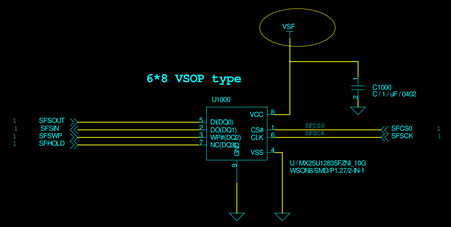
MK1 MK2 MK3 MK4

Title	9_MT2502_Debug interface
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 10 of 11

Serial Flash

Shieding case all sheet

MXIC MX25U12835FZNI-10G,
1.8V,128Mb,WSON 6*8:



SHOLD : SIO3
SWP : SIO2
SOUT : SQI_SI : DQ0
SIN : SQI_SO : DQ1 Option only for MT2502A

Title	10_MEMORY
Size: D	MTK Confidential
Date: Saturday, August 15, 2015	Sheet 11 of 11