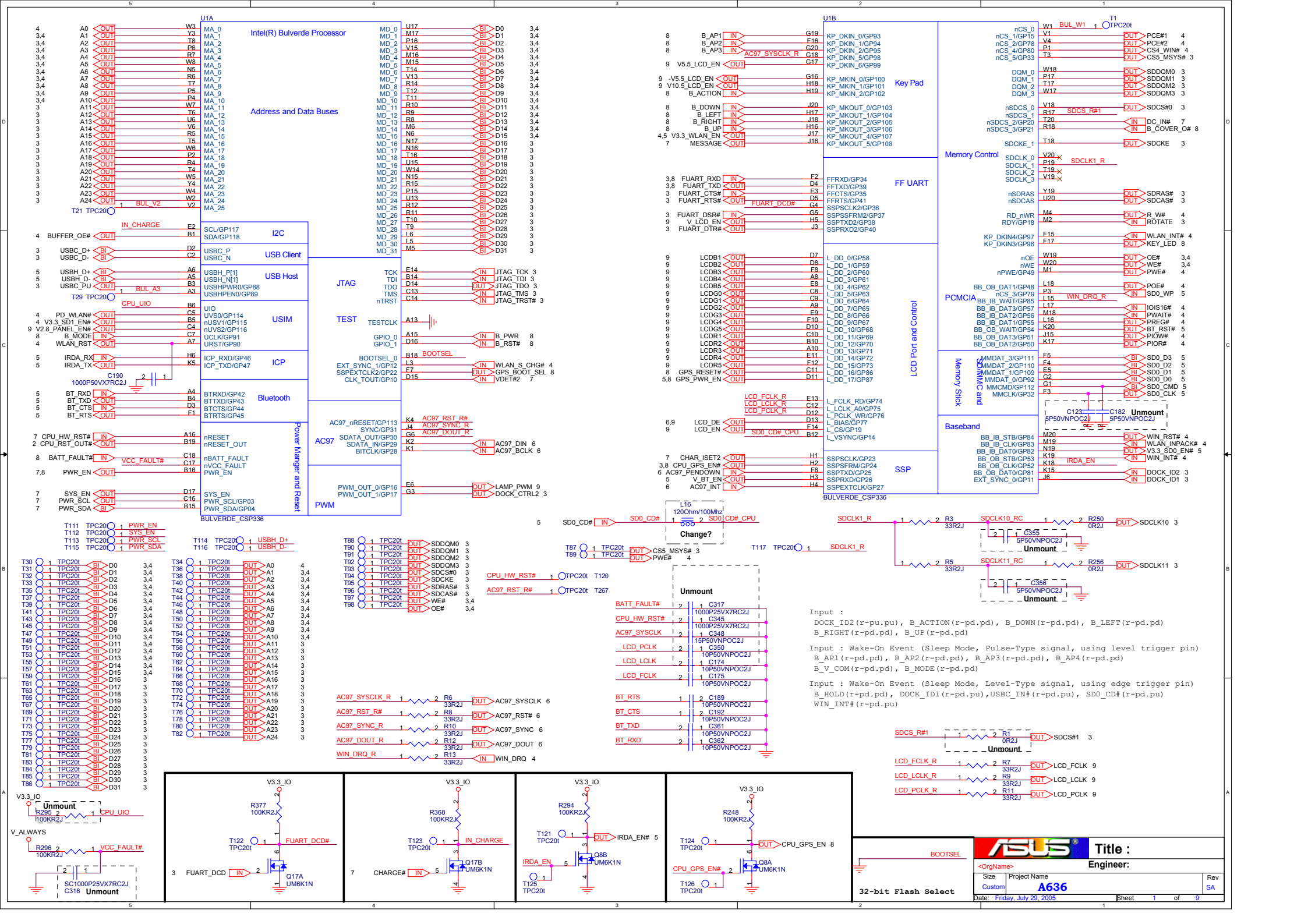
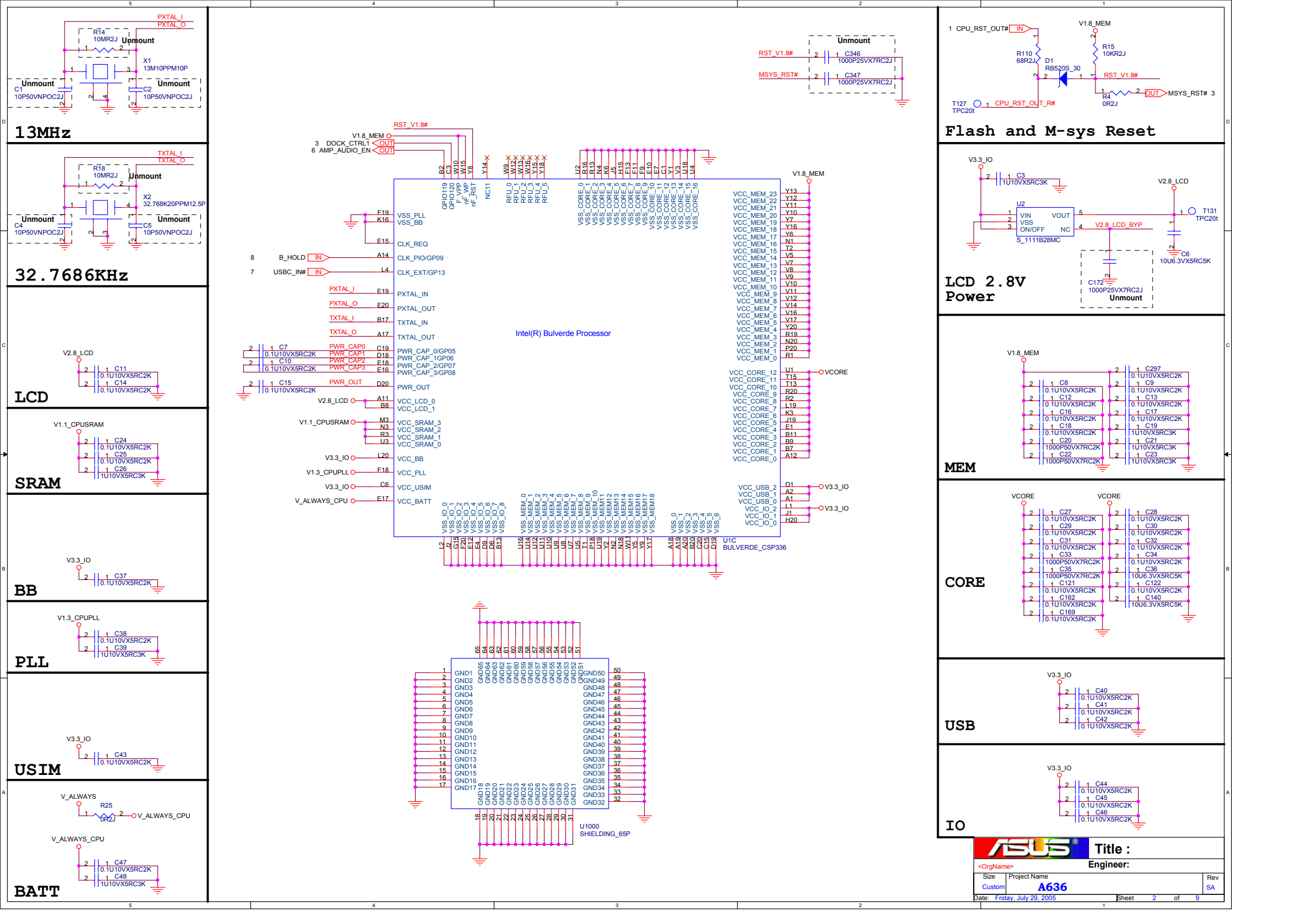
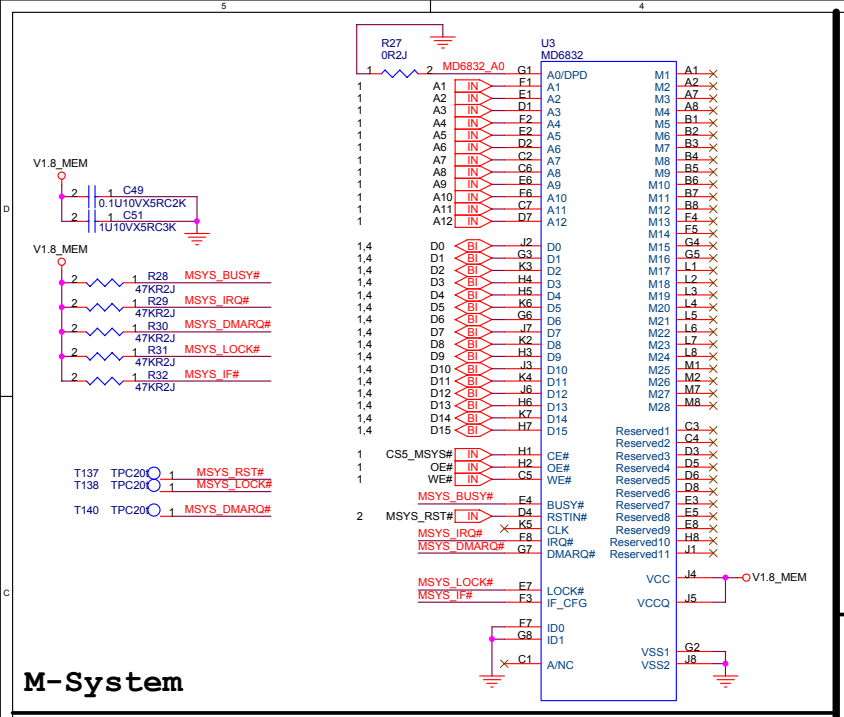
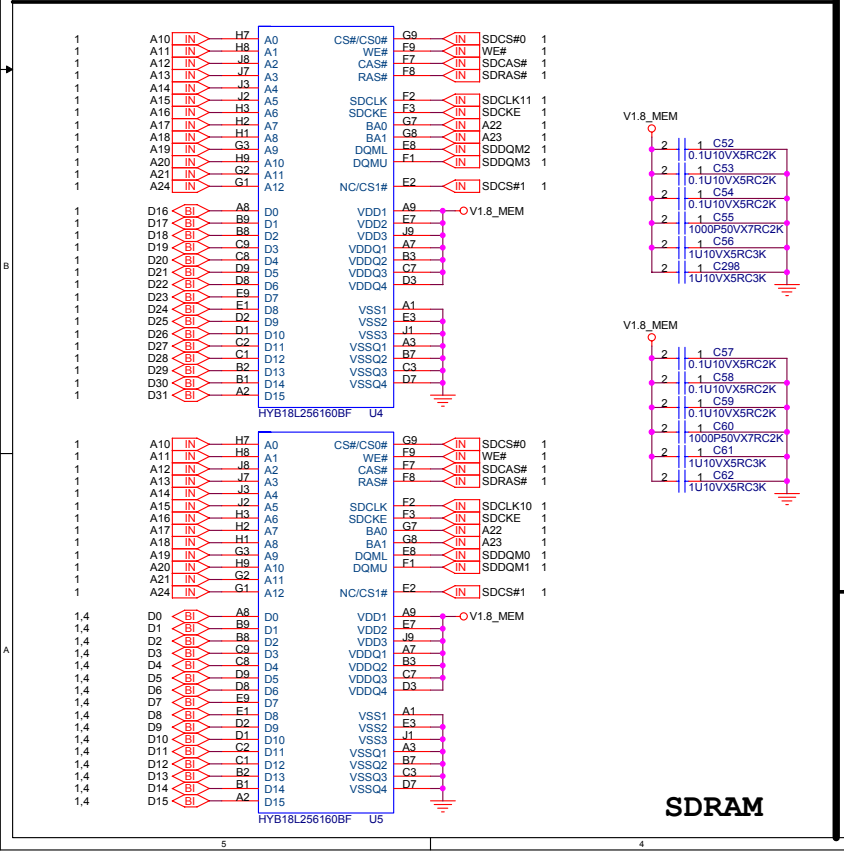
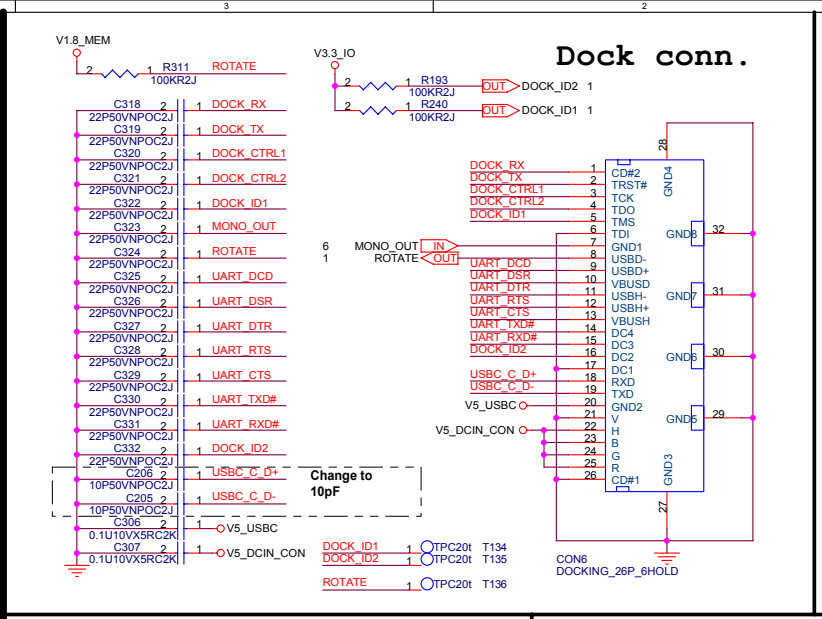
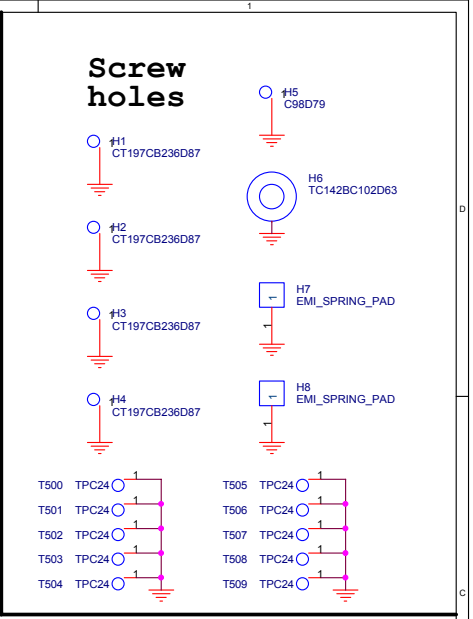

U1A
Intel(R) Bulverde Processor
Address and Data Buses
I2C
USB Client
USB Host
USIM
ICP
Bluetooth
JTAG
TEST
AC97
PWM
Power Manger and Reset
BULVERDE_CSP336
U1B
Key Pad
FF UART
LCD Port and Control
Memory Control
PCMCIA
Memory Stick
SDMMC and
Baseband
SSP
BULVERDE_CSP336
T1
TPC20t
Change?
Unmount
Input :
DOCK_ID2(r-pu.pu), B_ACTION(r-pd.pd), B_DOWN(r-pd.pd), B_LEFT(r-pd.pd)
B_RIGHT(r-pd.pd), B_UP(r-pd.pd)
Input : Wake-On Event (Sleep Mode, Pulse-Type signal, using level trigger pin)
B_AP1(r-pd.pd), B_AP2(r-pd.pd), B_AP3(r-pd.pd), B_AP4(r-pd.pd)
B_V_COM(r-pd.pd), B_MODE(r-pd.pd)
Input : Wake-On Event (Sleep Mode, Level-Type signal, using edge trigger pin)
B_HOLD(r-pd.pd), DOCK_ID1(r-pu.pu),USBC_IN#(r-pu.pu), SD0_CD#(r-pu.pu)
WIN_INT#(r-pu.pu)
32-bit Flash Select
Title :
Engineer:
Project Name
A636
Rev
SA
Sheet 1 of 9

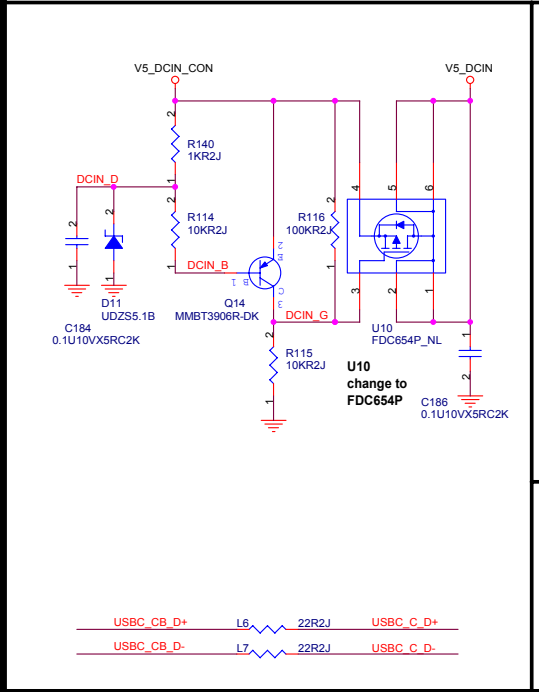

13MHz
32.7686KHz
LCD
SRAM
BB
PLL
USIM
BATT
Intel(R) Bulverde Processor
U1C
BULVERDE_CSP336
U1000
SHIELDING_65P
Flash and M-sys Reset
LCD 2.8V
Power
MEM
CORE
USB
IO
Title :
Engineer:
<OrgName>
Size
Custom
Project Name
A636
Rev
SA
Date: Friday, July 29, 2005
Sheet 2 of 9

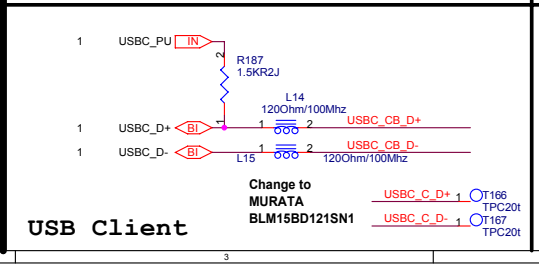

M-System
U3
MD6832
MD6832_A0
R27
0R2J
V1.8_MEM
C49
0.1U10VX5RC2K
C51
1U10VX5RC3K
R28 MSYS_BUSY#
R29 MSYS_IRQ#
R30 MSYS_DMARQ#
R31 MSYS_LOCK#
R32 MSYS_IF#
47KR2J
T137 TPC20t MSYS_RST#
T138 TPC20t MSYS_LOCK#
T140 TPC20t MSYS_DMARQ#
A0/DPD
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
CS5_MSYS#
OE#
WE#
MSYS_BUSY#
MSYS_RST#
MSYS_IRQ#
MSYS_DMARQ#
MSYS_LOCK#
MSYS_IF#
BUSY#
RSTIN#
CLK
IRQ#
DMARQ#
LOCK#
IF_CFG
ID0
ID1
A/NC
CE#
OE#
WE#
Reserved1
Reserved2
Reserved3
Reserved4
Reserved5
Reserved6
Reserved7
Reserved8
Reserved9
Reserved10
Reserved11
VCC
VCCQ
VSS1
VSS2
V1.8_MEM

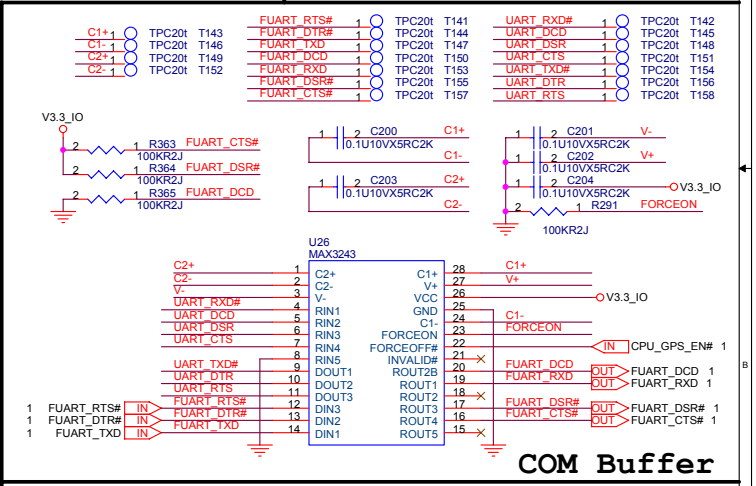

SDRAM
HYB18L256160BF U4
HYB18L256160BF U5
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
BA0
BA1
CS#/CS0#
WE#
CAS#
RAS#
SDCLK
SDCKE
DQML
DQMU
NC/CS1#
SDCLK11
SDCKE
A22
A23
SDDQM2
SDDQM3
SDCS#1
SDCLK10
SDDQM0
SDDQM1
SDCS#0
SDCAS#
SDRAS#
VDD1
VDD2
VDD3
VDDQ1
VDDQ2
VDDQ3
VDDQ4
VSS1
VSS2
VSS3
VSSQ1
VSSQ2
VSSQ3
VSSQ4
V1.8_MEM
C52
C53
C54
C55
C56
C57
C58
C59
C60
C61
C62
0.1U10VX5RC2K
1000P50VX7RC2K
1U10VX5RC3K
C298

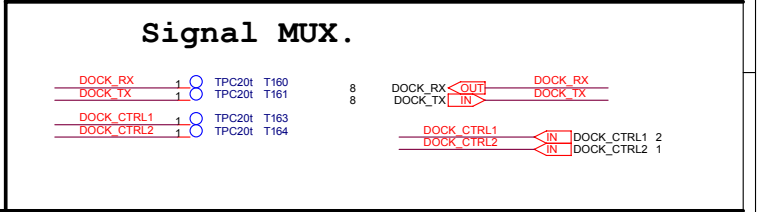

Dock conn.
V1.8_MEM
V3.3_IO
R311 ROTATE
100KR2J
R193 DOCK_ID2
R240 DOCK_ID1
C318 DOCK_RX
C319 DOCK_TX
C320 DOCK_CTRL1
C321 DOCK_CTRL2
C322 DOCK_ID1
C323 MONO_OUT
C324 ROTATE
C325 UART_DCD
C326 UART_DSR
C327 UART_DTR
C328 UART_RTS
C329 UART_CTS
C330 UART_TXD#
C331 UART_RXD#
C332 DOCK_ID2
C206 USBC_C_D+
C205 USBC_C_D-
C306 V5_USBC
C307 V5_DCIN_CON
22P50VNPOC2J
0.1U10VX5RC2K
10P50VNPOC2J
Change to 10pF
DOCK_ID1 T134
DOCK_ID2 T135
ROTATE T136
CON6
DOCKING_26P_6HOLD
CD#2
TRST#
TCK
TDO
TMS
TDI
GND1
USBD-
USBD+
VBUSD
USBH-
USBH+
VBUSH
DC4
DC3
DC2
DC1
RXD
TXD
GND2
V
H
B
G
R
CD#1
GND3
GND4
GND8
GND7
GND6
GND5

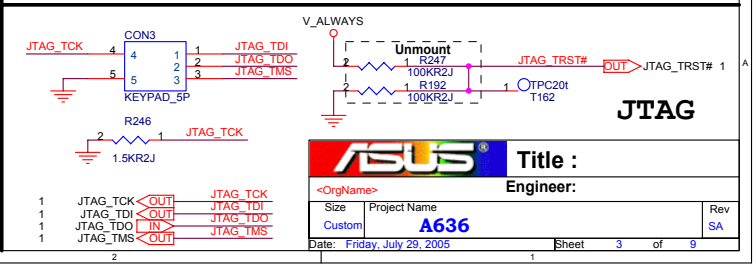

Screw holes
H1 CT197CB236D87
H2 CT197CB236D87
H3 CT197CB236D87
H4 CT197CB236D87
H5 C98D79
H6 TC142BC102D63
H7 EMI_SPRING_PAD
H8 EMI_SPRING_PAD
T500 TPC24
T501 TPC24
T502 TPC24
T503 TPC24
T504 TPC24
T505 TPC24
T506 TPC24
T507 TPC24
T508 TPC24
T509 TPC24

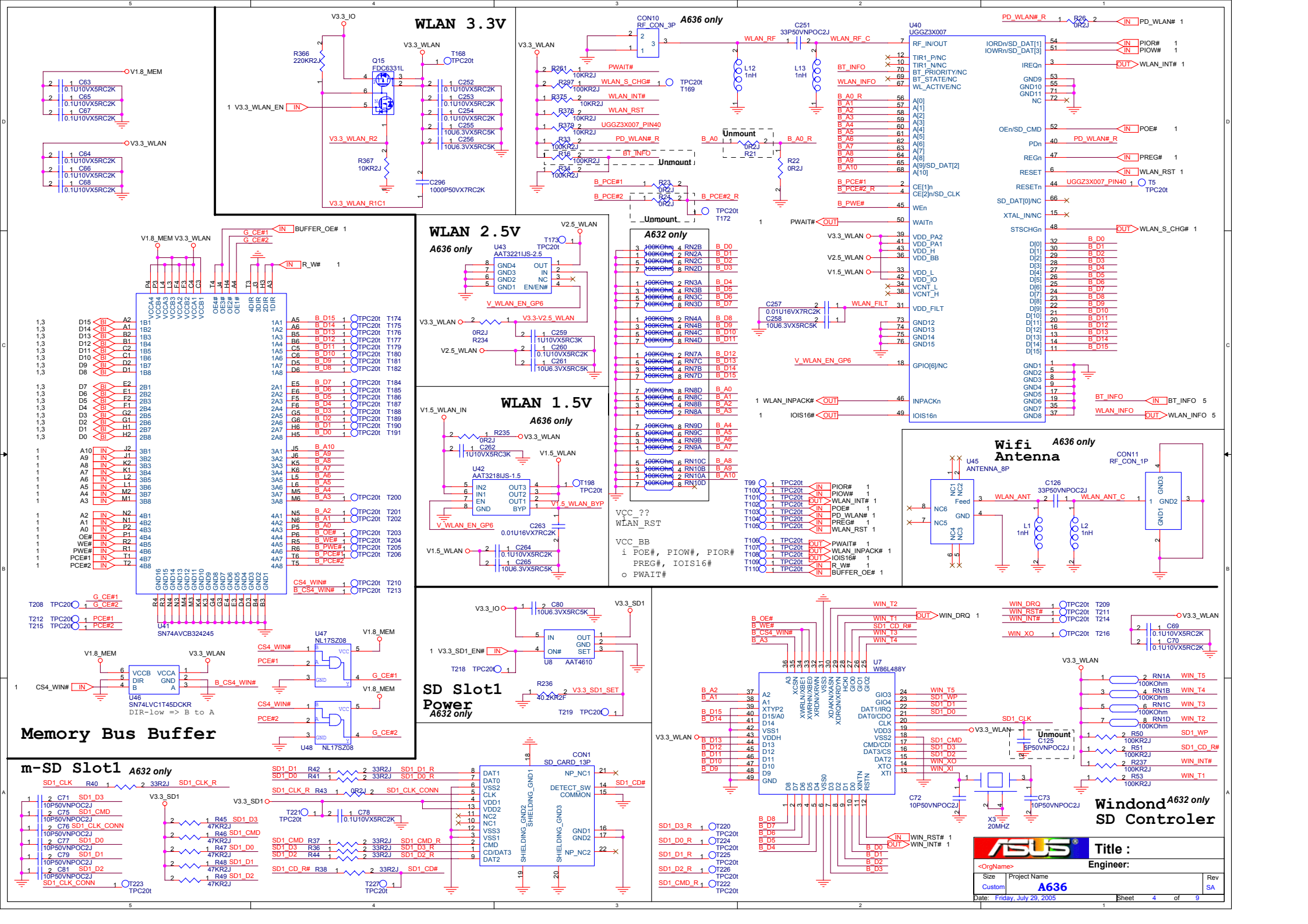

V5_DCIN_CON
V5_DCIN
R140 1KR2J
R114 10KR2J
R116 100KR2J
R115 10KR2J
DCIN_D
DCIN_B
DCIN_G
D11 UDZS5.1B
Q14 MMBT3906R-DK
U10 FDC654P_NL
C184 0.1U10VX5RC2K
C186 0.1U10VX5RC2K
U10 change to FDC654P
USBC_CB_D+
USBC_CB_D-
L6 22R2J
L7 22R2J
USBC_C_D+
USBC_C_D-

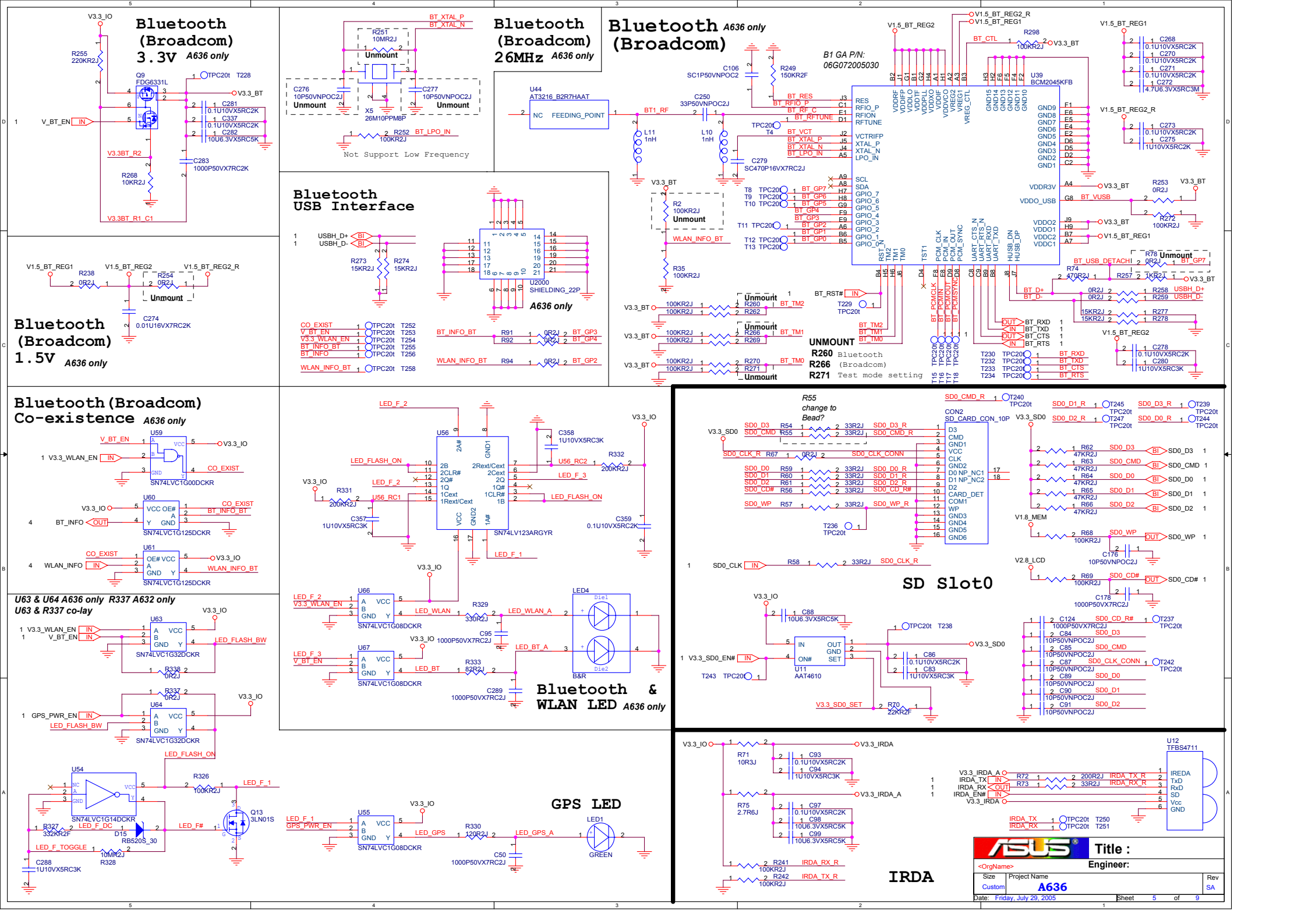

USB Client
USBC_PU
R187 1.5KR2J
L14 120Ohm/100Mhz
L15 120Ohm/100Mhz
USBC_D+
USBC_D-
USBC_CB_D+
USBC_CB_D-
Change to MURATA BLM15BD121SN1
USBC_C_D+ T166 TPC20t
USBC_C_D- T167 TPC20t

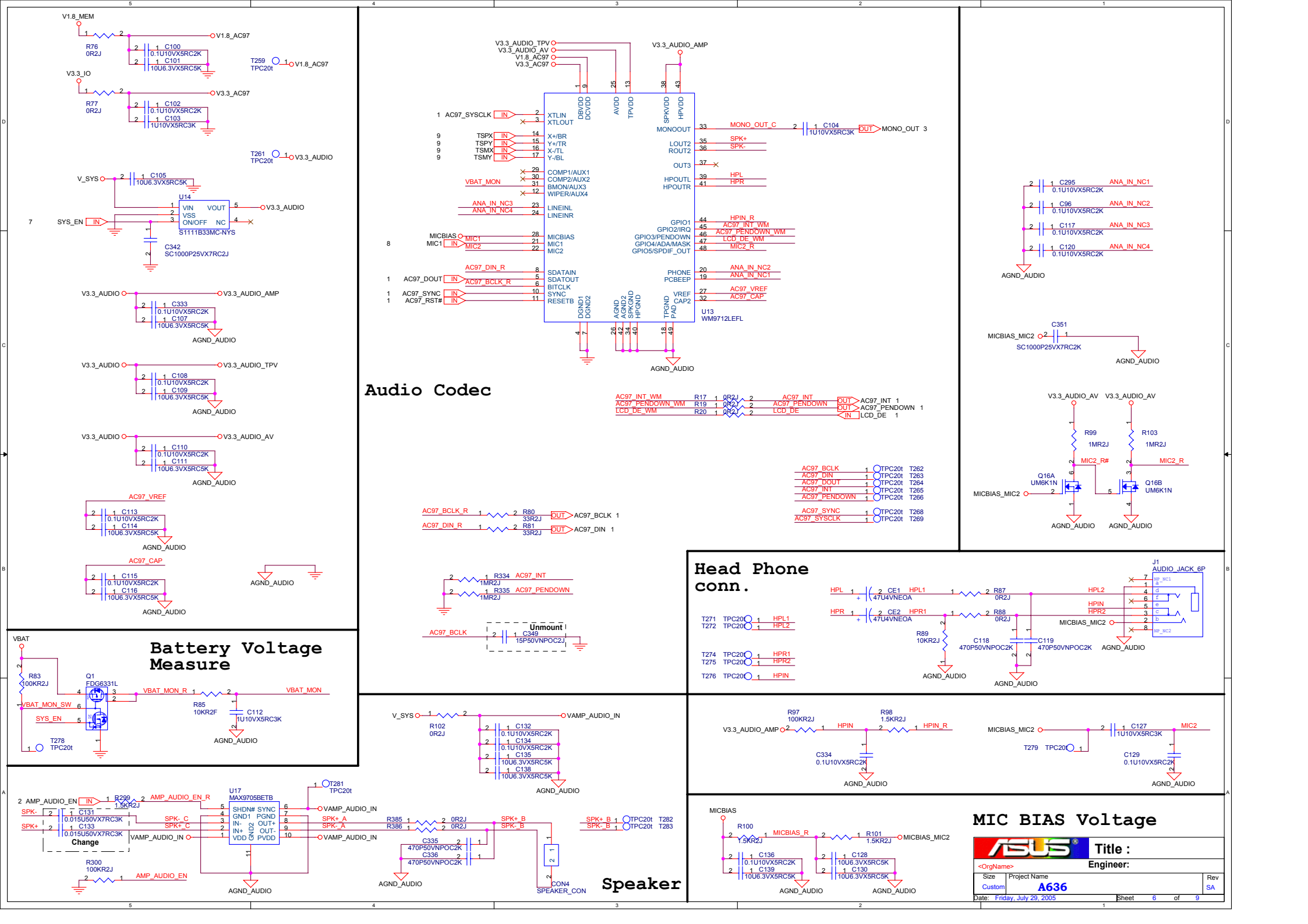

COM Buffer
C1+ TPC20t T143
C1- TPC20t T146
C2+ TPC20t T149
C2- TPC20t T152
FUART_RTS# TPC20t T141
FUART_DTR# TPC20t T144
FUART_TXD TPC20t T147
FUART_DCD TPC20t T150
FUART_RXD TPC20t T153
FUART_DSR# TPC20t T155
FUART_CTS# TPC20t T157
UART_RXD# TPC20t T142
UART_DCD TPC20t T145
UART_DSR TPC20t T148
UART_CTS TPC20t T151
UART_TXD# TPC20t T154
UART_DTR TPC20t T156
UART_RTS TPC20t T158
V3.3_IO
R363 FUART_CTS#
R364 FUART_DSR#
R365 FUART_DCD
100KR2J
C200 C1+ C1-
C203 C2+ C2-
C201 V-
C202 V+
C204 V3.3_IO
R291 FORCEON
U26
MAX3243
C2+
C2-
V-
RIN1
RIN2
RIN3
RIN4
RIN5
DOUT1
DOUT2
DOUT3
DIN3
DIN2
DIN1
C1+
V+
VCC
GND
C1-
FORCEON
FORCEOFF#
INVALID#
ROUT2B
ROUT1
ROUT2
ROUT3
ROUT4
ROUT5
CPU_GPS_EN#
FUART_DCD
FUART_RXD
FUART_DSR#
FUART_CTS#

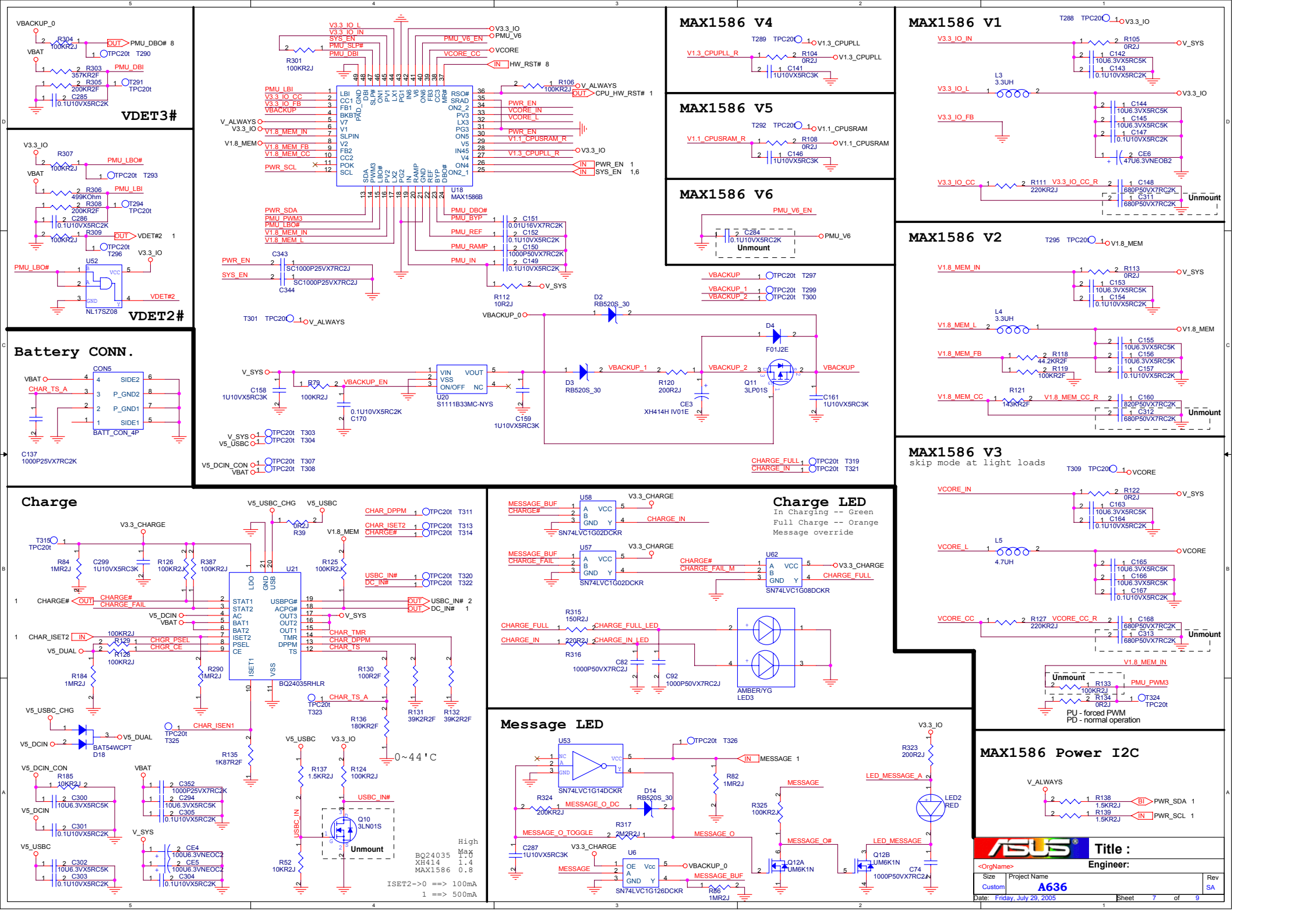

Signal MUX.
DOCK_RX TPC20t T160
DOCK_TX TPC20t T161
DOCK_CTRL1 TPC20t T163
DOCK_CTRL2 TPC20t T164


JTAG
V_ALWAYS
JTAG_TCK
CON3
KEYPAD_5P
JTAG_TDI
JTAG_TDO
JTAG_TMS
R246 1.5KR2J
Unmount
R247 100KR2J
R192 100KR2J
JTAG_TRST#
TPC20t T162
Title :
Engineer:
<OrgName>
Size Custom
Project Name A636
Rev SA
Date: Friday, July 29, 2005
Sheet 3 of 9


WLAN 3.3V
WLAN 2.5V
A636 only
WLAN 1.5V
A636 only
A632 only
Wifi Antenna
A636 only
Memory Bus Buffer
m-SD Slot1
A632 only
SD Slot1 Power
A632 only
Windond SD Controler
A632 only
U40 UGGZ3X007
U42 AAT3218IJS-1.5
U43 AAT3221IJS-2.5
U45 ANTENNA_8P
U46 SN74LVC1T45DCKR
DIR-low => B to A
U47 NL17SZ08
U48 NL17SZ08
U41 SN74AVCB324245
U7 W86L488Y
U8 AAT4610
CON1 SD_CARD_13P
CON10 RF_CON_3P
CON11 RF_CON_1P
Unmount
Title :
Engineer:
<OrgName>
Size Custom
Project Name A636
Rev SA
Date: Friday, July 29, 2005
Sheet 4 of 9


Bluetooth (Broadcom) 3.3V A636 only
Bluetooth (Broadcom) 1.5V A636 only
Bluetooth (Broadcom) 26MHz A636 only
Not Support Low Frequency
Bluetooth (Broadcom) A636 only
B1 GA P/N: 06G072005030
Bluetooth USB Interface
A636 only
UNMOUNT
R260 Bluetooth
R266 (Broadcom)
R271 Test mode setting
Bluetooth (Broadcom) Co-existence A636 only
U63 & U64 A636 only R337 A632 only
U63 & R337 co-lay
Bluetooth & WLAN LED A636 only
SD Slot0
R55 change to Bead?
GPS LED
IRDA
Title :
Engineer:
<OrgName>
Size Custom
Project Name A636
Rev SA
Date: Friday, July 29, 2005
Sheet 5 of 9


V1.8_MEM
R76 0R2J
C100 0.1U10VX5RC2K
C101 10U6.3VX5RC5K
V1.8_AC97
T259 TPC20t
V3.3_IO
R77 0R2J
C102 0.1U10VX5RC2K
C103 1U10VX5RC3K
V3.3_AC97
T261 TPC20t
V3.3_AUDIO
V_SYS
C105 10U6.3VX5RC5K
U14
VIN VOUT
VSS
ON/OFF NC
S1111B33MC-NYS
SYS_EN
C342 SC1000P25VX7RC2J
C333 0.1U10VX5RC2K
C107 10U6.3VX5RC5K
V3.3_AUDIO_AMP
C108 0.1U10VX5RC2K
C109 10U6.3VX5RC5K
V3.3_AUDIO_TPV
C110 0.1U10VX5RC2K
C111 10U6.3VX5RC5K
V3.3_AUDIO_AV
AC97_VREF
C113 0.1U10VX5RC2K
C114 10U6.3VX5RC5K
AC97_CAP
C115 0.1U10VX5RC2K
C116 10U6.3VX5RC5K
AGND_AUDIO
V3.3_AUDIO_TPV
V3.3_AUDIO_AV
V1.8_AC97
V3.3_AC97
V3.3_AUDIO_AMP
AC97_SYSCLK
XTLIN
XTLOUT
DBVDD
DCVDD
AVDD
TPVDD
SPKVDD
HPVDD
MONOOUT
MONO_OUT_C
C104 1U10VX5RC3K
MONO_OUT 3
TSPX
TSPY
TSMX
TSMY
X+/BR
Y+/TR
X-/TL
Y-/BL
LOUT2
ROUT2
SPK+
SPK-
OUT3
COMP1/AUX1
COMP2/AUX2
BMON/AUX3
WIPER/AUX4
VBAT_MON
HPOUTL
HPOUTR
HPL
HPR
ANA_IN_NC3
ANA_IN_NC4
LINEINL
LINEINR
GPIO1
GPIO2/IRQ
GPIO3/PENDOWN
GPIO4/ADA/MASK
GPIO5/SPDIF_OUT
HPIN_R
AC97_INT_WM
AC97_PENDOWN_WM
LCD_DE_WM
MIC2_R
MICBIAS
MIC1
MIC2
AC97_DIN_R
AC97_DOUT
AC97_BCLK_R
AC97_SYNC
AC97_RST#
SDATAIN
SDATOUT
BITCLK
SYNC
RESETB
PHONE
PCBEEP
ANA_IN_NC2
ANA_IN_NC1
VREF
CAP2
AC97_VREF
AC97_CAP
DGND1
DGND2
AGND
AGND2
SPKGND
HPGND
TPGND
PAD
U13
WM9712LEFL
AGND_AUDIO
C295 0.1U10VX5RC2K
C96 0.1U10VX5RC2K
C117 0.1U10VX5RC2K
C120 0.1U10VX5RC2K
C351
MICBIAS_MIC2
SC1000P25VX7RC2K
Audio Codec
AC97_INT_WM
AC97_PENDOWN_WM
LCD_DE_WM
R17 0R2J
R19 0R2J
R20 0R2J
AC97_INT
AC97_PENDOWN
LCD_DE
AC97_INT 1
AC97_PENDOWN 1
LCD_DE 1
AC97_BCLK
AC97_DIN
AC97_DOUT
AC97_INT
AC97_PENDOWN
AC97_SYNC
AC97_SYSCLK
TPC20t T262
TPC20t T263
TPC20t T264
TPC20t T265
TPC20t T266
TPC20t T268
TPC20t T269
AC97_BCLK_R
AC97_DIN_R
R80 33R2J
R81 33R2J
AC97_BCLK 1
AC97_DIN 1
R334 1MR2J
R335 1MR2J
AC97_INT
AC97_PENDOWN
AC97_BCLK
C349 15P50VNPOC2J
Unmount
V3.3_AUDIO_AV
R99 1MR2J
R103 1MR2J
MIC2_R#
MIC2_R
Q16A UM6K1N
Q16B UM6K1N
MICBIAS_MIC2
AGND_AUDIO
Head Phone conn.
HPL
HPR
CE1 47U4VNEOA
CE2 47U4VNEOA
HPL1
HPR1
R87 0R2J
R88 0R2J
R89 10KR2J
C118 470P50VNPOC2K
C119 470P50VNPOC2K
HPL2
HPIN
HPR2
MICBIAS_MIC2
J1
AUDIO_JACK_6P
T271 TPC20t HPL1
T272 TPC20t HPL2
T274 TPC20t HPR1
T275 TPC20t HPR2
T276 TPC20t HPIN
AGND_AUDIO
Battery Voltage Measure
VBAT
R83 100KR2J
Q1 FDG6331L
VBAT_MON_R
VBAT_MON
VBAT_MON_SW
SYS_EN
R85 10KR2F
C112 1U10VX5RC3K
T278 TPC20t
AGND_AUDIO
V_SYS
R102 0R2J
VAMP_AUDIO_IN
C132 0.1U10VX5RC2K
C134 0.1U10VX5RC2K
C135 10U6.3VX5RC5K
C138 10U6.3VX5RC5K
AGND_AUDIO
R97 100KR2J
R98 1.5KR2J
V3.3_AUDIO_AMP
HPIN
HPIN_R
C334 0.1U10VX5RC2K
MICBIAS_MIC2
C127 1U10VX5RC3K
MIC2
T279 TPC20t
C129 0.1U10VX5RC2K
AMP_AUDIO_EN
R299 1.5KR2J
AMP_AUDIO_EN_R
U17
MAX9705BETB
SHDN# SYNC
GND1 PGND
IN- OUT-
IN+ GND2 OUT+
VDD PVDD
T281 TPC20t
SPK-
SPK+
C131 0.015U50VX7RC3K
C133 0.015U50VX7RC3K
Change
SPK- C
SPK+ C
SPK+ A
SPK- A
SPK+ B
SPK- B
R385 0R2J
R386 0R2J
C335 470P50VNPOC2K
C336 470P50VNPOC2K
SPK+ B
SPK- B
T282
T283
CON4
SPEAKER_CON
R300 100KR2J
AMP_AUDIO_EN
Speaker
MICBIAS
R100 1.5KR2J
MICBIAS_R
R101 1.5KR2J
C136 0.1U10VX5RC2K
C139 10U6.3VX5RC5K
C128 10U6.3VX5RC5K
C130 10U6.3VX5RC5K
MIC BIAS Voltage
Title :
Engineer:
<OrgName>
Size Custom
Project Name A636
Rev SA
Date: Friday, July 29, 2005
Sheet 6 of 9


VDET3#
VDET2#
Battery CONN.
Charge
MAX1586 V4
MAX1586 V5
MAX1586 V6
MAX1586 V1
MAX1586 V2
MAX1586 V3
skip mode at light loads
Charge LED
In Charging -- Green
Full Charge -- Orange
Message override
Message LED
MAX1586 Power I2C
BQ24035 1.0
XH414 1.4
MAX1586 0.8
ISET2->0 ==> 100mA
1 ==> 500mA
PU - forced PWM
PD - normal operation
Title :
Engineer:
Project Name
A636
Date: Friday, July 29, 2005
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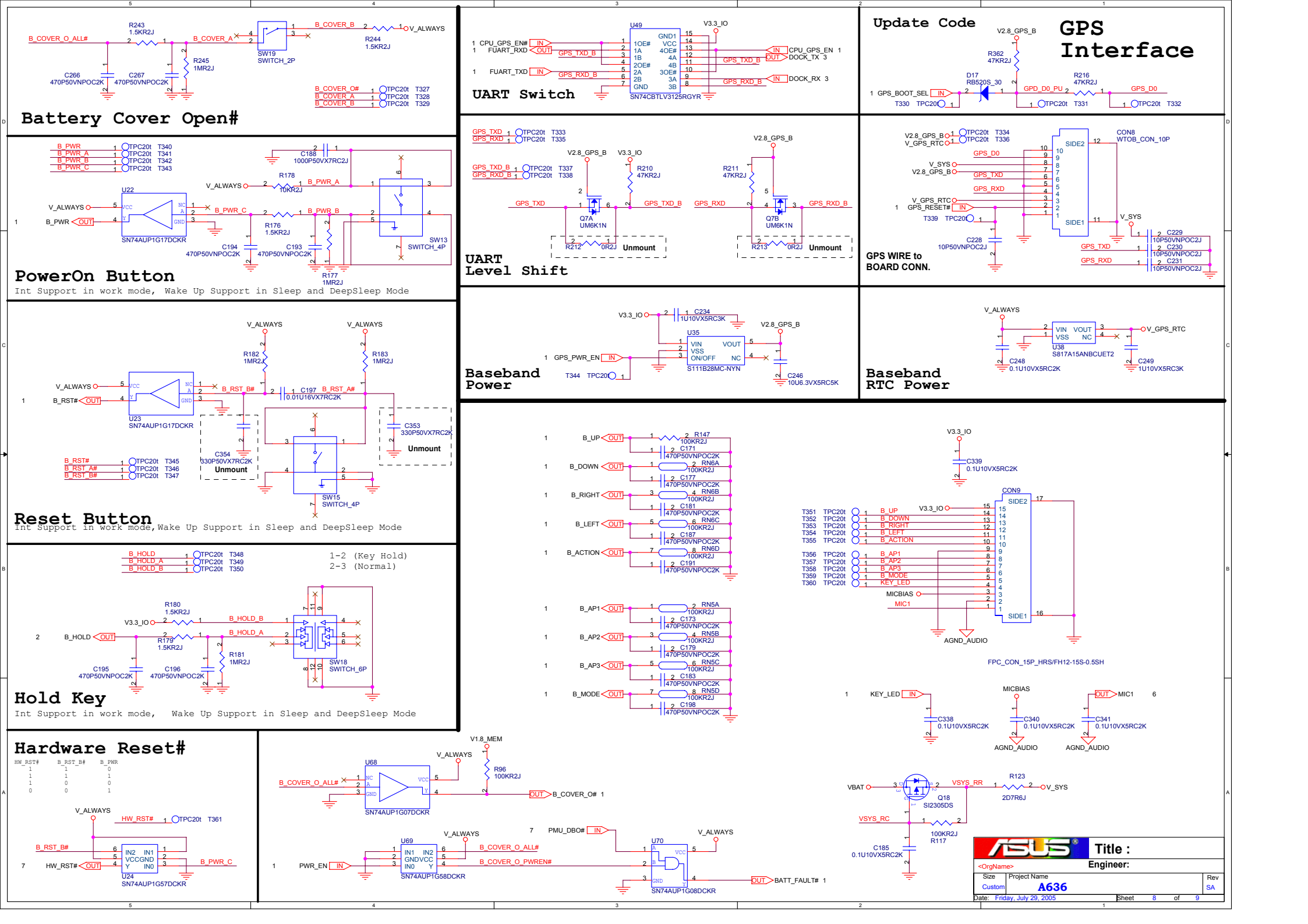
Battery Cover Open#
B_COVER_O_ALL#
R243 1.5KR2J
B_COVER_A
SW19 SWITCH_2P
B_COVER_B
R244 1.5KR2J
V_ALWAYS
R245 1MR2J
C266 470P50VNPOC2K
C267 470P50VNPOC2K
B_COVER_O#
B_COVER_A
B_COVER_B
TPC20t T327
TPC20t T328
TPC20t T329
UART Switch
U49
SN74CBTLV3125RGYR
V3.3_IO
CPU_GPS_EN#
FUART_RXD
FUART_TXD
GPS_TXD_B
GPS_RXD_B
CPU_GPS_EN
DOCK_TX
DOCK_RX
Update Code
GPS Interface
V2.8_GPS_B
R362 47KR2J
D17 RB520S_30
R216 47KR2J
GPS_BOOT_SEL
GPD_D0_PU
GPS_D0
TPC20t T330
TPC20t T331
TPC20t T332
PowerOn Button
Int Support in work mode, Wake Up Support in Sleep and DeepSleep Mode
B_PWR
B_PWR_A
B_PWR_B
B_PWR_C
TPC20t T340
TPC20t T341
TPC20t T342
TPC20t T343
U22
SN74AUP1G17DCKR
V_ALWAYS
B_PWR
R178 10KR2J
C188 1000P50VX7RC2J
R176 1.5KR2J
C194 470P50VNPOC2K
C193 470P50VNPOC2K
R177 1MR2J
SW13 SWITCH_4P
UART Level Shift
GPS_TXD
GPS_RXD
GPS_TXD_B
GPS_RXD_B
TPC20t T333
TPC20t T335
TPC20t T337
TPC20t T338
V2.8_GPS_B
V3.3_IO
R210 47KR2J
R211 47KR2J
Q7A UM6K1N
Q7B UM6K1N
R212 0R2J
R213 0R2J
Unmount
GPS WIRE to BOARD CONN.
V2.8_GPS_B
V_GPS_RTC
V_SYS
GPS_D0
GPS_TXD
GPS_RXD
GPS_RESET#
TPC20t T334
TPC20t T336
TPC20t T339
CON8 WTOB_CON_10P
SIDE1
SIDE2
C228 10P50VNPOC2J
C229 10P50VNPOC2J
C230 10P50VNPOC2J
C231 10P50VNPOC2J
Baseband Power
V3.3_IO
GPS_PWR_EN
TPC20t T344
U35
S111B28MC-NYN
C234 1U10VX5RC3K
C246 10U6.3VX5RC5K
Baseband RTC Power
V_ALWAYS
V_GPS_RTC
U38 S817A15ANBCUET2
C248 0.1U10VX5RC2K
C249 1U10VX5RC3K
Reset Button
Int Support in work mode, Wake Up Support in Sleep and DeepSleep Mode
B_RST#
B_RST_A#
B_RST_B#
TPC20t T345
TPC20t T346
TPC20t T347
U23
SN74AUP1G17DCKR
R182 1MR2J
R183 1MR2J
C197 0.01U16VX7RC2K
C354 330P50VX7RC2K
C353 330P50VX7RC2K
Unmount
SW15 SWITCH_4P
Hold Key
Int Support in work mode, Wake Up Support in Sleep and DeepSleep Mode
B_HOLD
B_HOLD_A
B_HOLD_B
TPC20t T348
TPC20t T349
TPC20t T350
1-2 (Key Hold)
2-3 (Normal)
R180 1.5KR2J
R179 1.5KR2J
R181 1MR2J
C195 470P50VNPOC2K
C196 470P50VNPOC2K
SW18 SWITCH_6P
B_UP
B_DOWN
B_RIGHT
B_LEFT
B_ACTION
B_AP1
B_AP2
B_AP3
B_MODE
R147 100KR2J
RN6A 100KR2J
RN6B 100KR2J
RN6C 100KR2J
RN6D 100KR2J
RN5A 100KR2J
RN5B 100KR2J
RN5C 100KR2J
RN5D 100KR2J
C171 470P50VNPOC2K
C177 470P50VNPOC2K
C181 470P50VNPOC2K
C187 470P50VNPOC2K
C191 470P50VNPOC2K
C173 470P50VNPOC2K
C179 470P50VNPOC2K
C183 470P50VNPOC2K
C198 470P50VNPOC2K
V3.3_IO
C339 0.1U10VX5RC2K
CON9
FPC_CON_15P_HRS/FH12-15S-0.5SH
MICBIAS
MIC1
AGND_AUDIO
KEY_LED
C338 0.1U10VX5RC2K
C340 0.1U10VX5RC2K
C341 0.1U10VX5RC2K
Hardware Reset#
HW_RST#
B_RST_B#
B_PWR
HW_RST#
B_RST_B#
B_PWR_C
U24
SN74AUP1G57DCKR
V1.8_MEM
R96 100KR2J
B_COVER_O_ALL#
B_COVER_O#
U68
SN74AUP1G07DCKR
PWR_EN
B_COVER_O_PWREN#
U69
SN74AUP1G58DCKR
PMU_DBO#
U70
SN74AUP1G08DCKR
BATT_FAULT#
VBAT
VSYS_RR
VSYS_RC
Q18 SI2305DS
R123 2D7R6J
R117 100KR2J
C185 0.1U10VX5RC2K
V_SYS
Title :
Engineer:
<OrgName>
Size Custom
Project Name A636
Rev SA
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H/W ID Pins

H/W ID setting

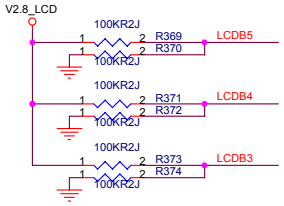
Model	B5	B4	B3
A632	L	L	L
A636	L	L	H
A632BT	L	H	L

Unmount

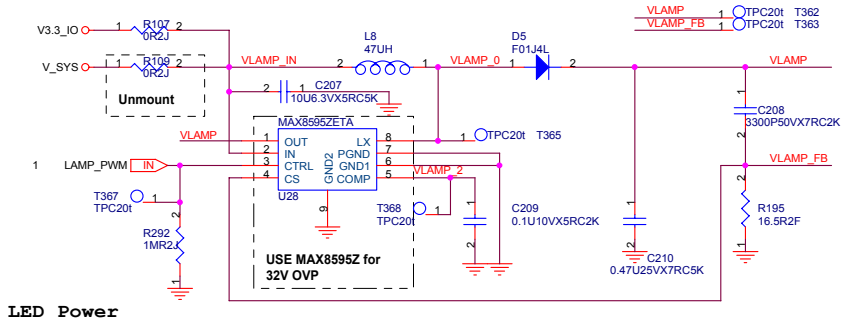
A632 -- R369, R371, R373

A636 -- R369, R371, R374

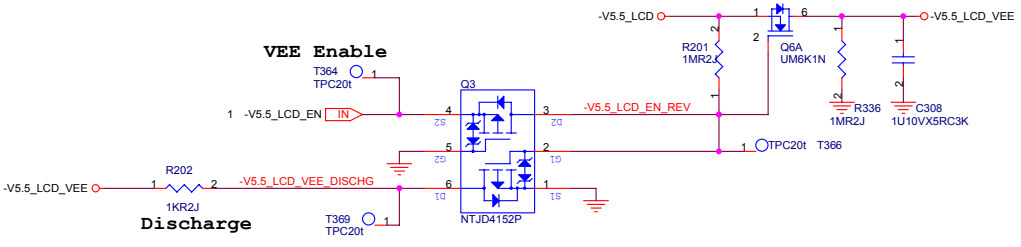
A632BT -- R369, R372, R374



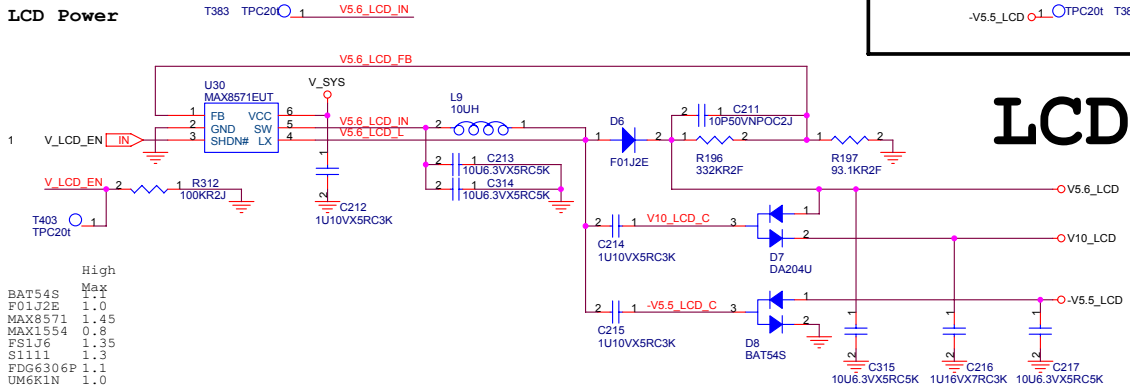
LED Power



VEE Enable

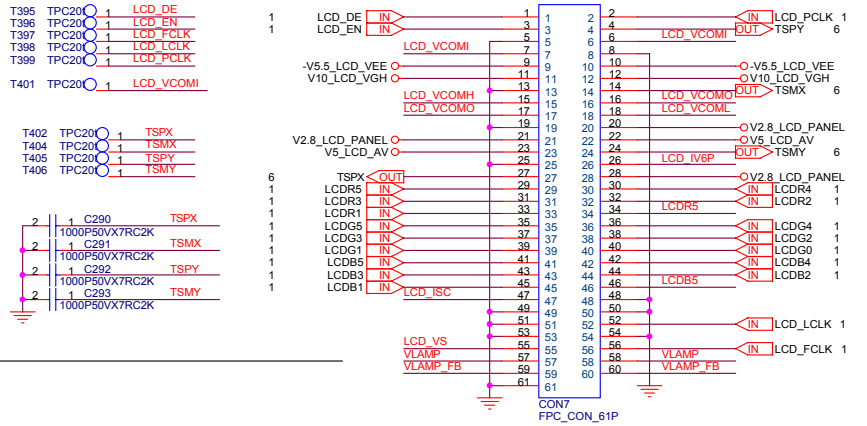


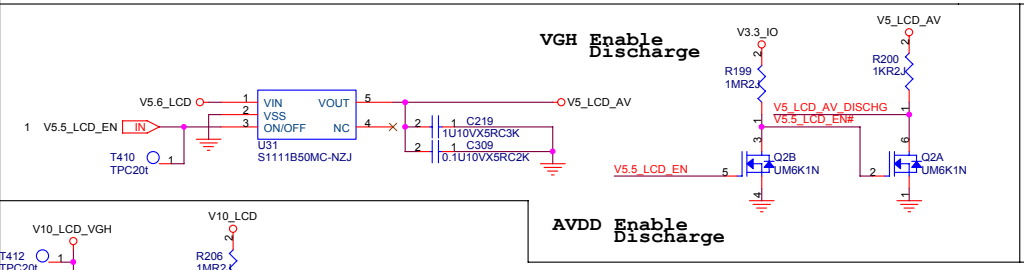
LCD Power

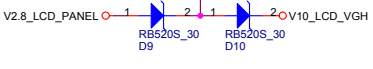


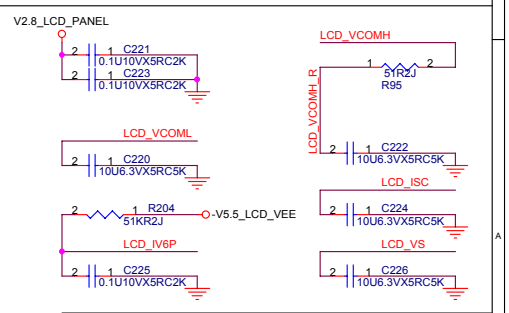
	High Max
BAT54S	1.1
F01J2E	1.0
MAX8571	1.45
MAX1554	0.8
FS1J6	1.35
S1111	1.3
FDG6306P	1.1
UM6K1N	1.0

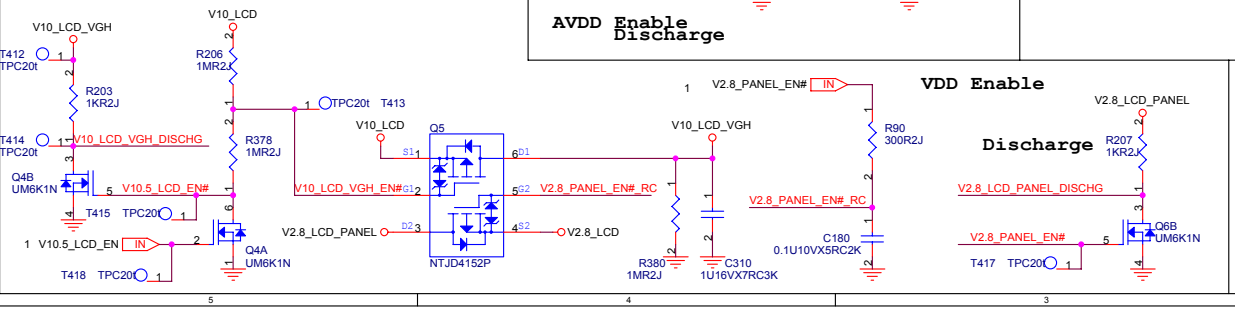
LCD

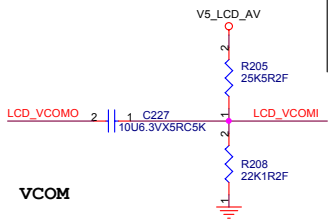












ASUS

Title :

Engineer:

<OrgName>

Size	Project Name	Rev
Custom	A636	SA

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