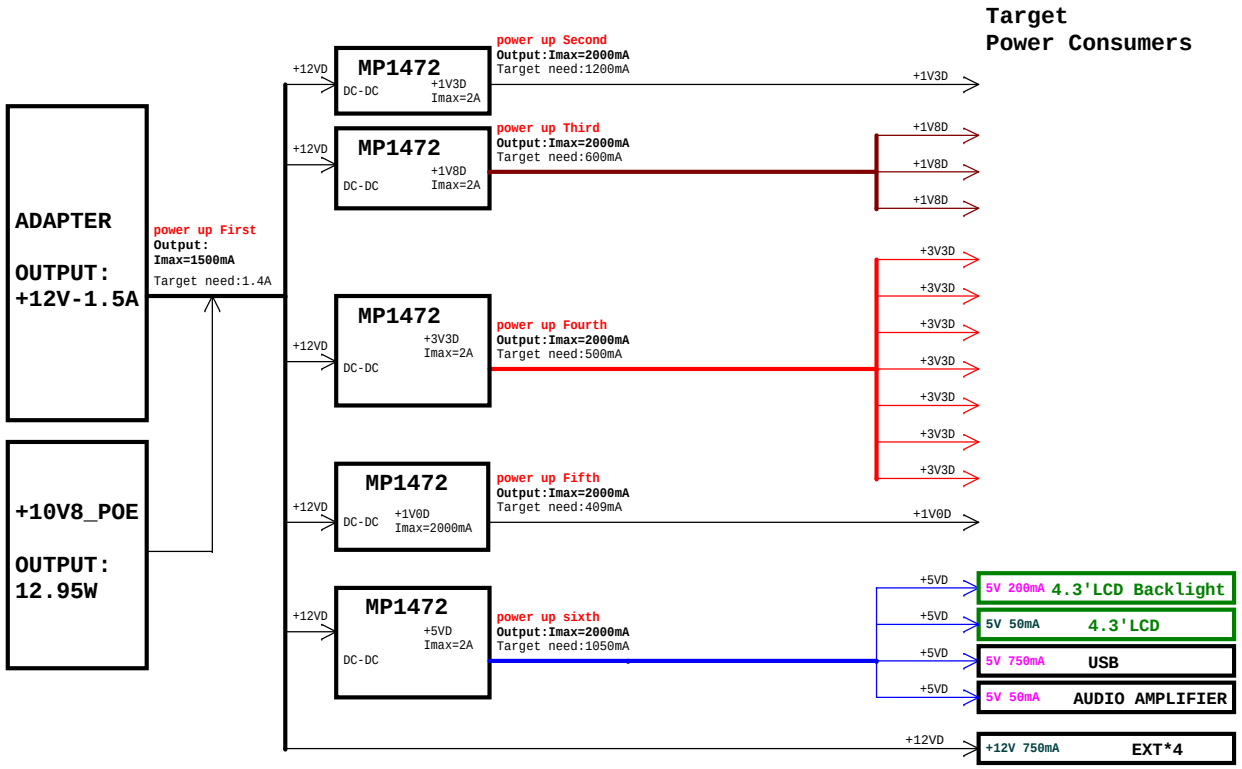
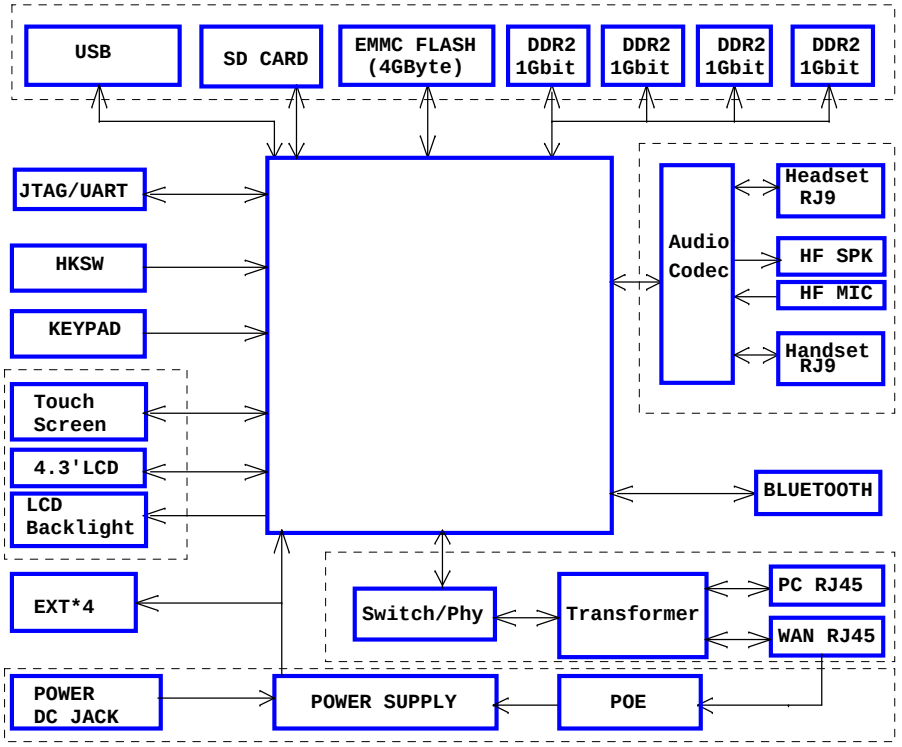
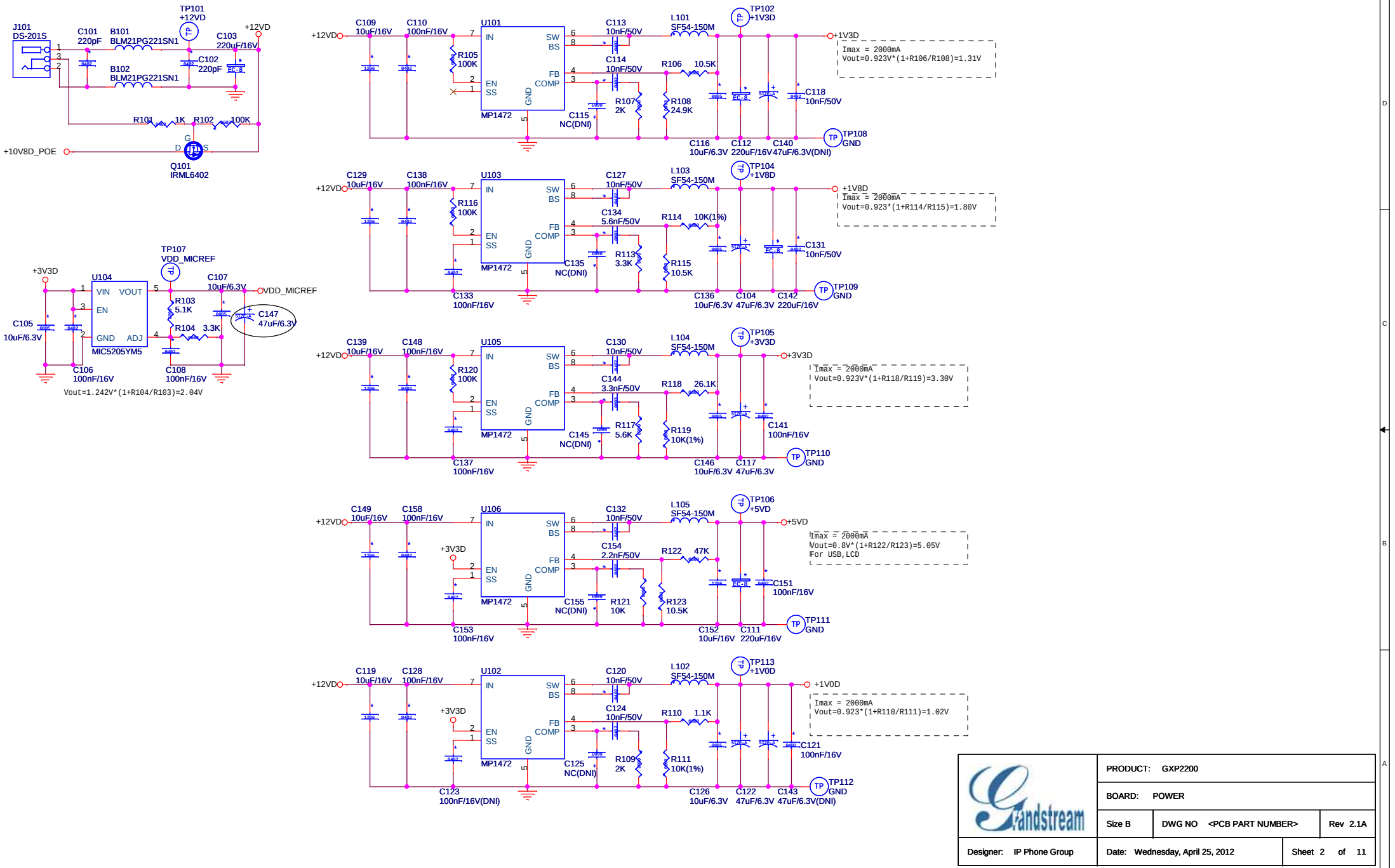
FRAMEWORK-POWER

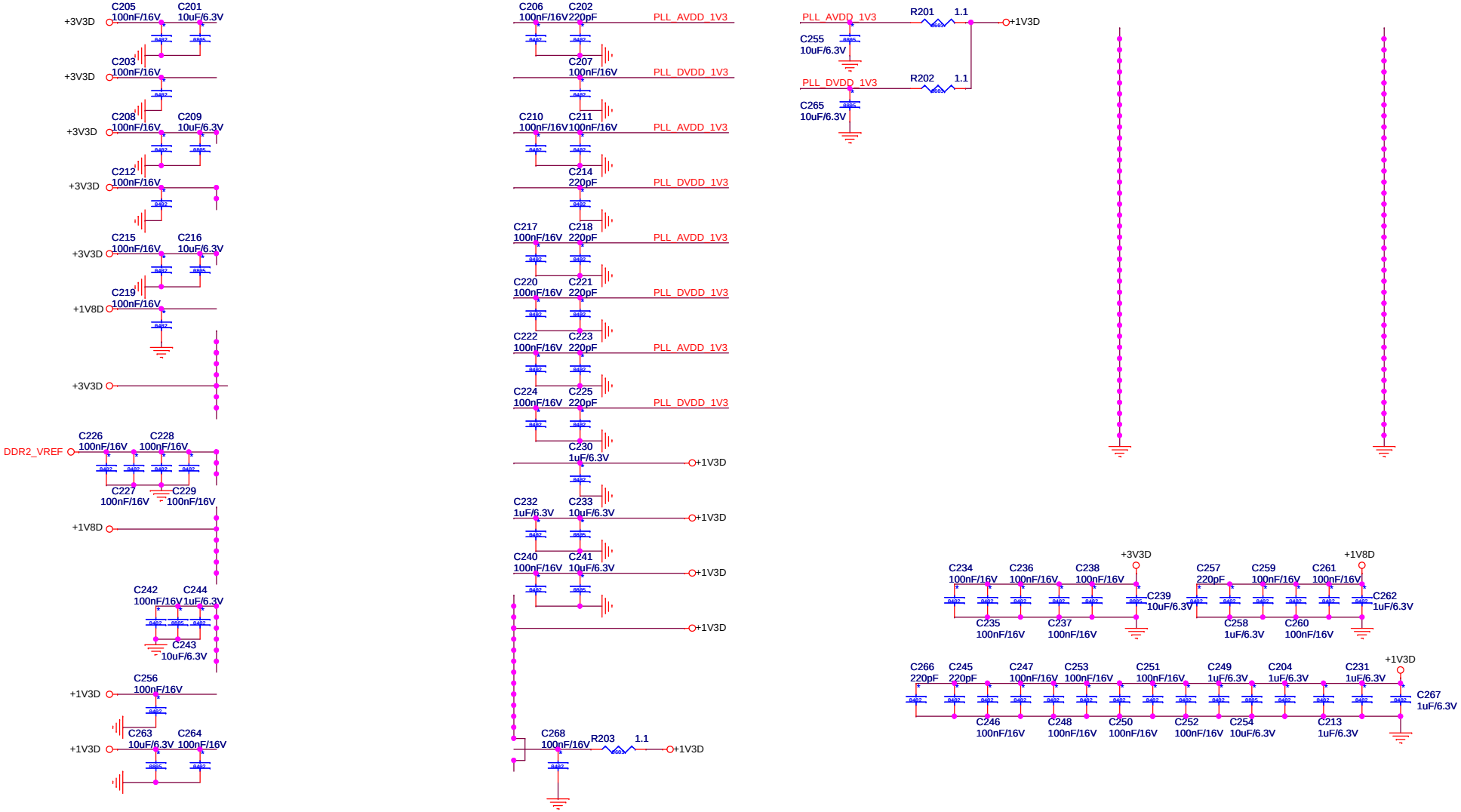


FRAMEWORK-SYSTEM

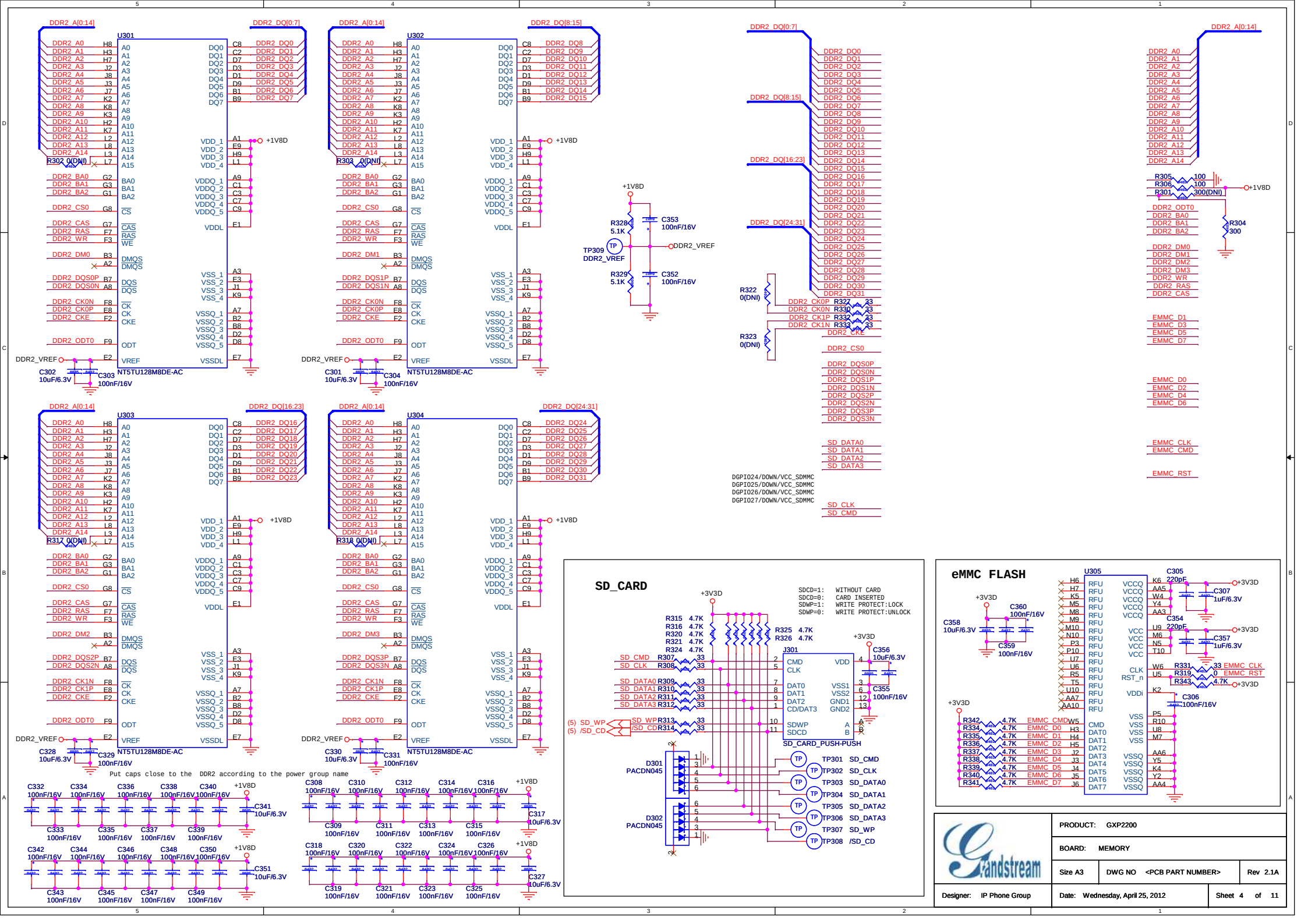


Grandstream	PRODUCT: GXP2200		
	BOARD: FRAMEWORK		
	Size B	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012		Sheet 1 of 11


J101
DS-201S
TP101
+12VD
C101
220pF
B101
BLM21PG221SN1
C103
220uF/16V
+12VD
B102
BLM21PG221SN1
C102
220pF
R101
1K
R102
100K
+10V8D_POE
Q101
IRML6402
TP107
VDD_MICREF
+3V3D
U104
VIN
VOUT
EN
GND
ADJ
MIC5205YM5
C105
10uF/6.3V
C106
100nF/16V
R103
5.1K
R104
3.3K
C107
10uF/6.3V
C147
47uF/6.3V
C108
100nF/16V
VDD_MICREF
Vout=1.242V*(1+R104/R103)=2.04V
C109
10uF/16V
C110
100nF/16V
U101
IN
SW
BS
FB
COMP
EN
SS
GND
MP1472
R105
100K
C113
10nF/50V
C114
10nF/50V
R107
2K
C115
NC(DNI)
L101
SF54-150M
TP102
+1V3D
R106
10.5K
R108
24.9K
C118
10nF/50V
C116
10uF/6.3V
C112
220uF/16V
C140
47uF/6.3V(DNI)
TP108
GND
+1V3D
Imax = 2000mA
Vout=0.923V*(1+R106/R108)=1.31V
C129
10uF/16V
C138
100nF/16V
U103
R116
100K
C127
10nF/50V
C134
5.6nF/50V
R113
3.3K
C135
NC(DNI)
L103
SF54-150M
TP104
+1V8D
R114
10K(1%)
R115
10.5K
C131
10nF/50V
C133
100nF/16V
C136
10uF/6.3V
C104
47uF/6.3V
C142
220uF/16V
TP109
GND
+1V8D
Imax = 2000mA
Vout=0.923*(1+R114/R115)=1.80V
C139
10uF/16V
C148
100nF/16V
U105
R120
100K
C130
10nF/50V
C144
3.3nF/50V
R117
5.6K
C145
NC(DNI)
L104
SF54-150M
TP105
+3V3D
R118
26.1K
R119
10K(1%)
C141
100nF/16V
C137
100nF/16V
C146
10uF/6.3V
C117
47uF/6.3V
TP110
GND
+3V3D
Imax = 2000mA
Vout=0.923V*(1+R118/R119)=3.30V
C149
10uF/16V
C158
100nF/16V
U106
C132
10nF/50V
C154
2.2nF/50V
R121
10K
C155
NC(DNI)
L105
SF54-150M
TP106
+5VD
R122
47K
R123
10.5K
C151
100nF/16V
C153
100nF/16V
C152
10uF/16V
C111
220uF/16V
TP111
GND
+5VD
Imax = 2000mA
Vout=0.8V*(1+R122/R123)=5.05V
For USB,LCD
C119
10uF/16V
C128
100nF/16V
U102
C120
10nF/50V
C124
10nF/50V
R109
2K
C125
NC(DNI)
L102
SF54-150M
TP113
+1V0D
R110
1.1K
R111
10K(1%)
C121
100nF/16V
C123
100nF/16V(DNI)
C126
10uF/6.3V
C122
47uF/6.3V
C143
47uF/6.3V(DNI)
TP112
GND
+1V0D
Imax = 2000mA
Vout=0.923*(1+R110/R111)=1.02V
Grandstream
PRODUCT: GXP2200
BOARD: POWER
Size B
DWG NO <PCB PART NUMBER>
Rev 2.1A
Designer: IP Phone Group
Date: Wednesday, April 25, 2012
Sheet 2 of 11



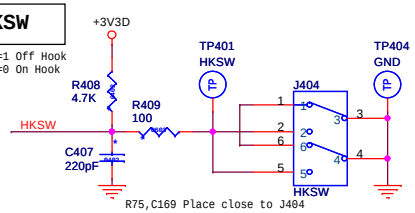
Grandstream	PRODUCT: GXP2200		
	BOARD:		
	Size B	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012	Sheet 3 of 11	


U301
U302
U303
U304
NT5TU128M8DE-AC
DDR2_A[0:14]
DDR2_DQ[0:7]
DDR2_DQ[8:15]
DDR2_DQ[16:23]
DDR2_DQ[24:31]
+1V8D
DDR2_VREF
TP309 DDR2_VREF
R328 5.1K
R329 5.1K
C353 100nF/16V
C352 100nF/16V
R322 0(DNI)
R323 0(DNI)
R302 0(DNI)
R303 0(DNI)
R317 0(DNI)
R318 0(DNI)
C302 10uF/6.3V
C303 100nF/16V
C301 10uF/6.3V
C304 100nF/16V
C328 10uF/6.3V
C329 100nF/16V
C330 10uF/6.3V
C331 100nF/16V
DDR2_CK0P R327 33
DDR2_CK0N R330 33
DDR2_CK1P R332 33
DDR2_CK1N R333 33
SD_DATA0
SD_DATA1
SD_DATA2
SD_DATA3
SD_CLK
SD_CMD
DGPIO24/DOWN/VCC_SDMMC
DGPIO25/DOWN/VCC_SDMMC
DGPIO26/DOWN/VCC_SDMMC
DGPIO27/DOWN/VCC_SDMMC
R305 100
R306 100
R301 300(DNI)
R304 300
DDR2_ODT0
DDR2_BA0
DDR2_BA1
DDR2_BA2
DDR2_DM0
DDR2_DM1
DDR2_DM2
DDR2_DM3
DDR2_RAS
DDR2_CAS
EMMC_D1
EMMC_D3
EMMC_D5
EMMC_D7
EMMC_D0
EMMC_D2
EMMC_D4
EMMC_D6
EMMC_CLK
EMMC_CMD
EMMC_RST
Put caps close to the DDR2 according to the power group name
C332 100nF/16V
C334 100nF/16V
C336 100nF/16V
C338 100nF/16V
C340 100nF/16V
C341 10uF/6.3V
C333 100nF/16V
C335 100nF/16V
C337 100nF/16V
C339 100nF/16V
C342 100nF/16V
C344 100nF/16V
C346 100nF/16V
C348 100nF/16V
C350 100nF/16V
C351 10uF/6.3V
C343 100nF/16V
C345 100nF/16V
C347 100nF/16V
C349 100nF/16V
C308 100nF/16V
C310 100nF/16V
C312 100nF/16V
C314 100nF/16V
C316 100nF/16V
C317 10uF/6.3V
C309 100nF/16V
C311 100nF/16V
C313 100nF/16V
C315 100nF/16V
C318 100nF/16V
C320 100nF/16V
C322 100nF/16V
C324 100nF/16V
C326 100nF/16V
C327 10uF/6.3V
C319 100nF/16V
C321 100nF/16V
C323 100nF/16V
C325 100nF/16V
SD_CARD
SDCD=1: WITHOUT CARD
SDCD=0: CARD INSERTED
SDWP=1: WRITE PROTECT:LOCK
SDWP=0: WRITE PROTECT:UNLOCK
J301
SD_CARD_PUSH-PUSH
R315 4.7K
R316 4.7K
R320 4.7K
R321 4.7K
R324 4.7K
R325 4.7K
R326 4.7K
SD_CMD R307 33
SD_CLK R308 33
SD_DATA0 R309 33
SD_DATA1 R310 33
SD_DATA2 R311 33
SD_DATA3 R312 33
SD_WP R313 33
/SD_CD R314 33
(5) SD_WP
(5) /SD_CD
D301 PACDN045
D302 PACDN045
TP301 SD_CMD
TP302 SD_CLK
TP303 SD_DATA0
TP304 SD_DATA1
TP305 SD_DATA2
TP306 SD_DATA3
TP307 SD_WP
TP308 /SD_CD
C356 10uF/6.3V
C355 100nF/16V
eMMC FLASH
U305
C358 10uF/6.3V
C360 100nF/16V
C359 100nF/16V
C305 220pF
C307 1uF/6.3V
C354 220pF
C357 1uF/6.3V
C306 100nF/16V
R331 33 EMMC_CLK
R319 0 EMMC_RST
R343 4.7K
R342 4.7K EMMC_CMD
R334 4.7K EMMC_D0
R335 4.7K EMMC_D1
R336 4.7K EMMC_D2
R337 4.7K EMMC_D3
R338 4.7K EMMC_D4
R339 4.7K EMMC_D5
R340 4.7K EMMC_D6
R341 4.7K EMMC_D7
Grandstream
PRODUCT: GXP2200
BOARD: MEMORY
Size A3
DWG NO <PCB PART NUMBER>
Rev 2.1A
Designer: IP Phone Group
Date: Wednesday, April 25, 2012
Sheet 4 of 11

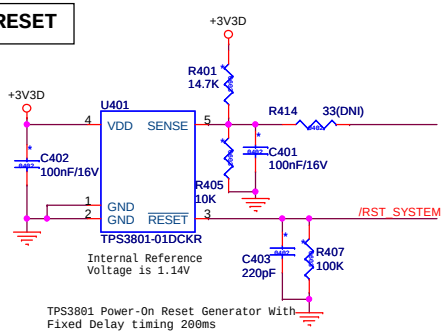
Boot option configuration(UCFG =UDS)

UCFG[0]	0: Do not touch UART0 at all (no init, no transfers) 1: Use UART0 for debug messages (ignored if Secure Boot performed, forced if Boot from UART is specified)
UCFG[3..1]	000: Boot from NAND 001: Boot from NAND (no ECC) 010: Boot from JTAG 011: Production Testing 100: Boot from eMMC 101: Boot from UART (overrides UCFG[0]) 110: Reserved 111: Reserved

HKSW



RESET



UART_TXD1
UART_RXD1
BGPIO27/PULL UP/SUPPLY VCC
BGPIO3/PULL UP/SUPPLY VCC
UART_TXD2
UART_RXD2
BGPIO67/PULL UP/SUPPLY VCC
BGPIO7/PULL UP/SUPPLY VCC
R436 4.7K
(7) UART_TXD3
(7) UART_RXD3
(7) UART_RTS3
(7) UART_CTS3
UART_TXD3
UART_RXD3
UART_RTS3
UART_CTS3
(9) IIC1_SDA
(9) IIC1_SCL
IIC1_SDA
IIC1_SCL
(6) IIC2_SDA
(6) IIC2_SCL
IIC2_SDA
IIC2_SCL
+3V3D
R406 1K IIC1_SDA
R403 1K IIC1_SCL
R404 1K IIC2_SDA
R402 1K IIC2_SCL

TDO/PULL UP/SUPPLY VCC
TMS/PULL UP/SUPPLY VCC
TDI/PULL UP/SUPPLY VCC
TCK/PULL UP/SUPPLY VCC
TRST/PULL UP/SUPPLY VCC
TDO
TMS
TDI
TCK
TRST

/RST_SYSTEM
R410 4.7K
C421 10pF(DNI)
CRYS402 32.768KHz(DNI)
32K
R419 15M
C422 10pF(DNI)
C405 12pF/50V
SYS_CLK_IN
CRYS401 12MHz
R418 1M
C406 12pF/50V

ROW0
ROW1
ROW2
ROW3
ROW4
HS_HF_MICSW
/USB1_EN
HS_HF_MICSW (6)
/USB1_EN (10)
COL0
COL1
COL2
COL3
COL4
COL5
DC_HIGH_/POE_LOW
/RST_DMW
DC_HIGH_/POE_LOW (11)
/USB1_EN R420 4.7K
RST_TS R437 4.7K
+3V3D
EXT_SEL R422 47K
/RST_BT R454 4.7K
/RST_CODEC R455 4.7K
/RST_ETH R439 4.7K
EXT_INT R429 4.7K
TS_EINT R835 4.7K
/USB1_FAULT
/ETH_INT
RST_TS
EXT_SEL
/MSG_CTRL2
/MSG_CTRL1
HKSW
EXT_INT
TS_EINT
/RST_BT
/RST_ETH
/RST_CODEC
/SD_SPK
MIC_DET
SD_WP
/SD_CD
/USB1_FAULT (10)
/ETH_INT (8)
RST_TS (9)
TS_EINT (9)
/RST_BT (7)
/RST_ETH (8)
/RST_CODEC (6)
/SD_SPK (6)
MIC_DET (6)
SD_WP (4)
/SD_CD (4)
R438 4.7K(DNI)
AGPIO26/PULL UP/SUPPLY VCC
MCLK
MCLK (6)

BUS	Device	Address	PN
IIC1	TSC	0X38H	TDB
IIC2	Codec	0X18H	AIC3104
	EXT		

BUS	Device
UART1	Cortex core DEBUG
UART2	Arm926 core DEBUG
UART3	For Bluetooth

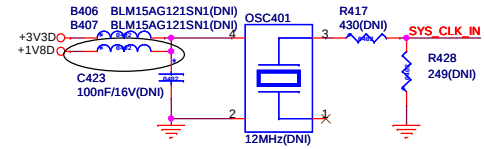
Function	L state	H state
Handset and Handfree MIC control	Handfree MIC+	Handset MIC+
USB current limited IC EN	Enable Input	Disenable Input

FGPIO Direction:

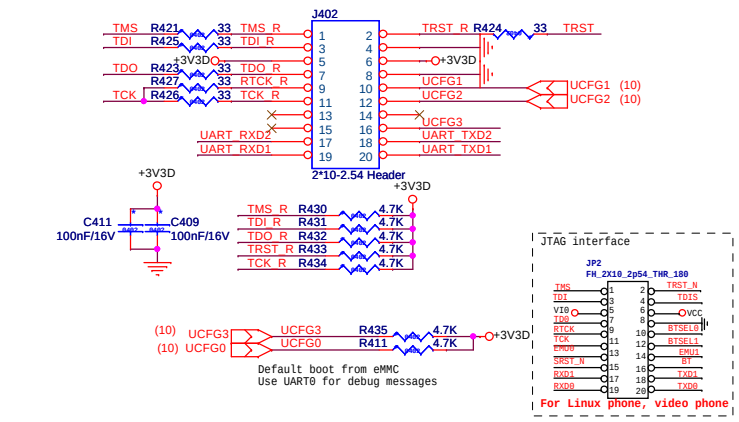
Default function: GPIO
Dafult Pull type:FGPIO[21-0] pull up, FGPIO[31-22] pull down
For Keypad function: ROW[7:0] Input, Rows COL[7:0] Open Drain Columns output

Function	L state	H state
Overcurrent Output	Overcurrent	Normal output
	Interrupt	X
Touch screen Interrupt	X	Interrupt
EXT select	X	Select
MSG2 LED On/oFF	LED ON	LED OFF
MSG1 LED On/oFF	LED ON	LED OFF
Hook Switch input	On Hook	Off Hook
EXT Interrupt	X	Interrupt
TouchScreen reset	X	reset
	reset(>5ms)	X
	reset	X
AIC3104 reset	reset	X
Handfree SPK PA control	Shutdown	Enable
MIC_DET	Headset input	Headset output
SD card write-protection	Unlock	Lock
SD card detection	Card Inserted	Without Inserted

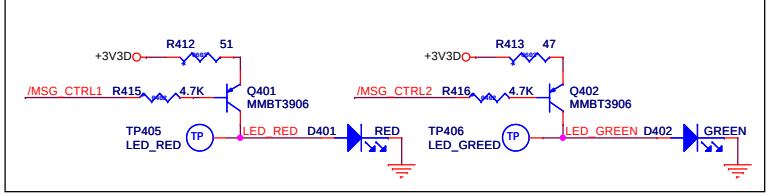
Reserved OSC



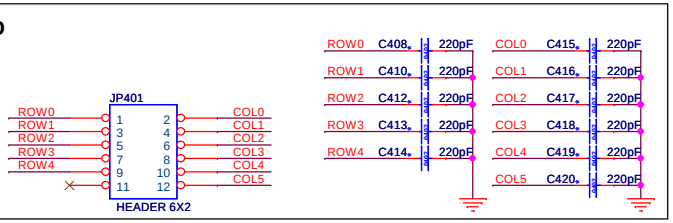
JTAG



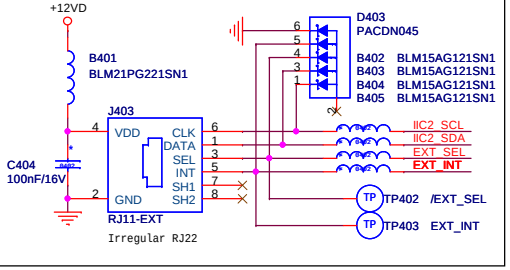
MSG LED



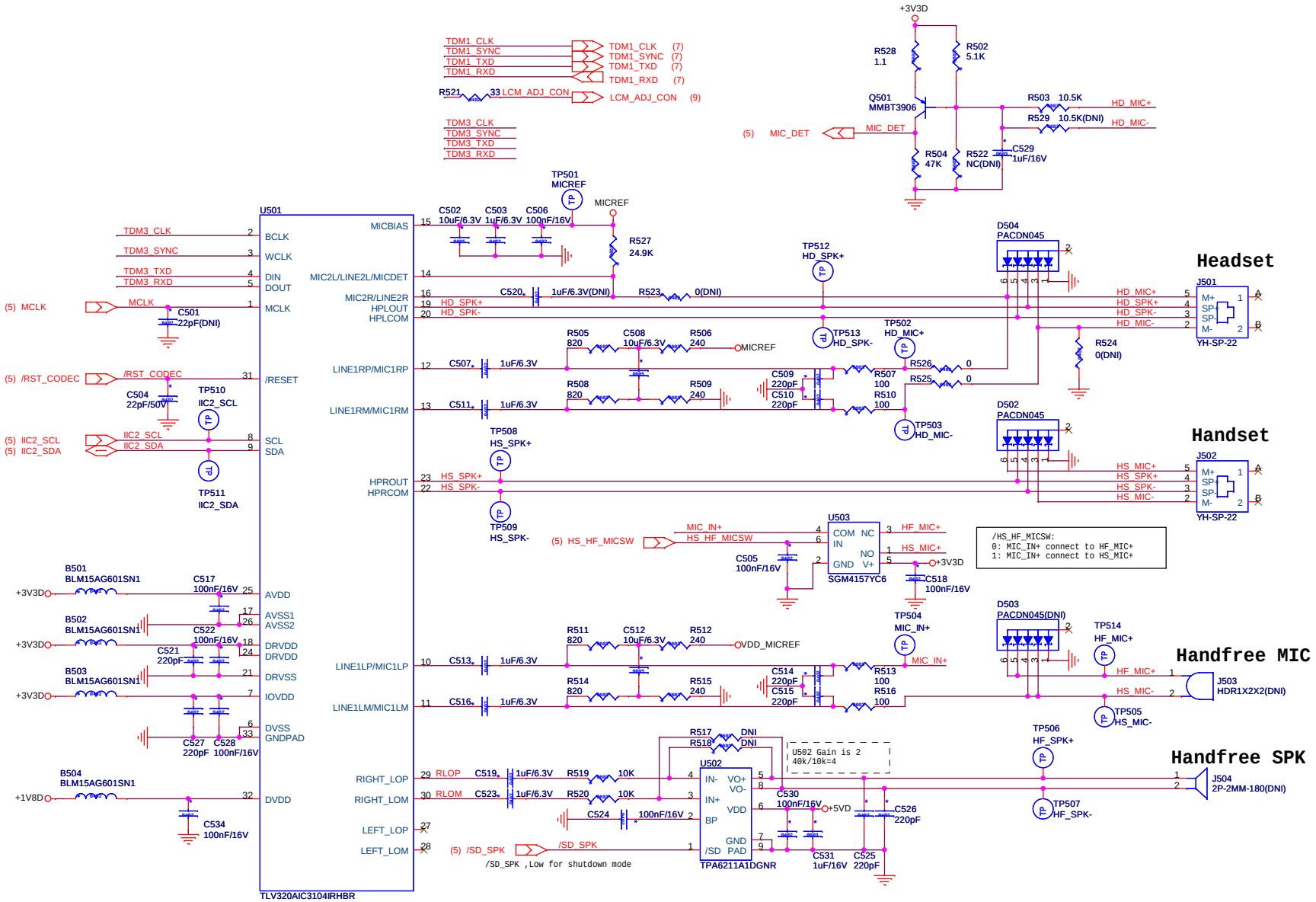
KEYPAD



EXT

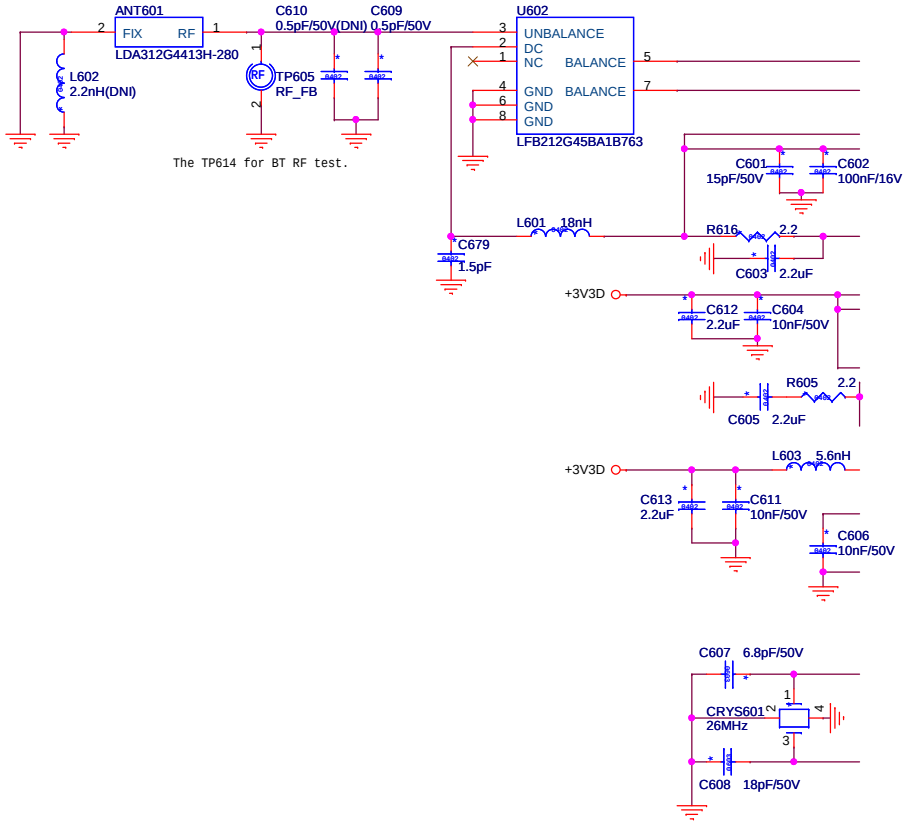


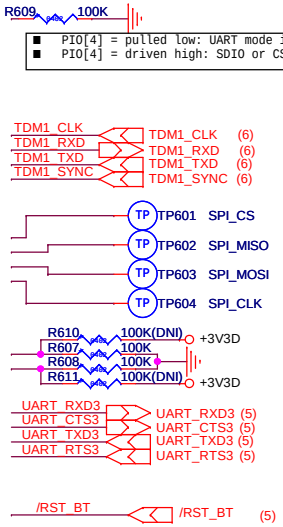
Grandstream	PRODUCT: GXP2200		
	BOARD: SYSTEM		
	Size A3	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012		Sheet 5 of 11



Grandstream	PRODUCT: GXP2200	
	BOARD: AUDIO	
Size A3	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012	Sheet 6 of 11

Bluetooth



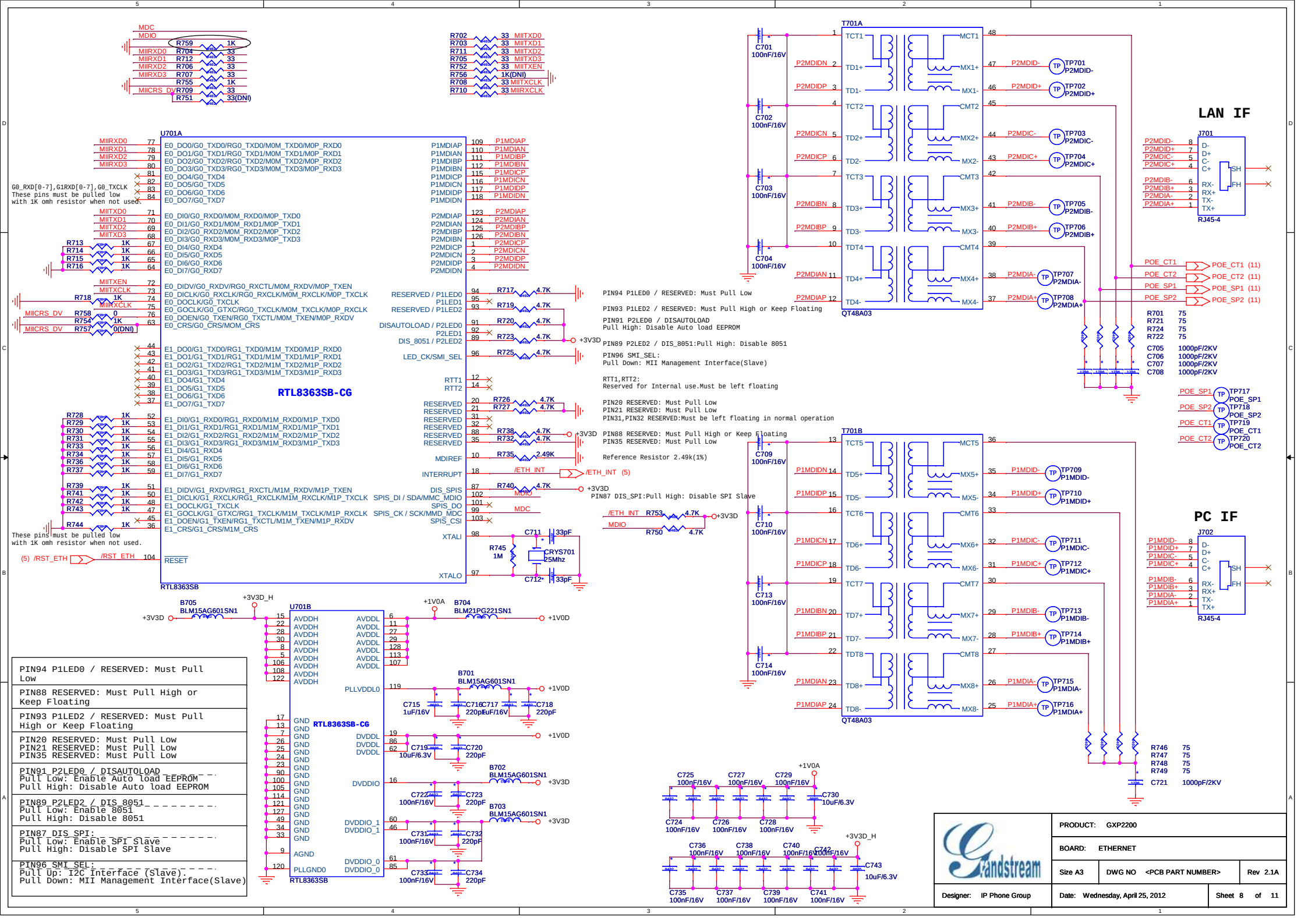


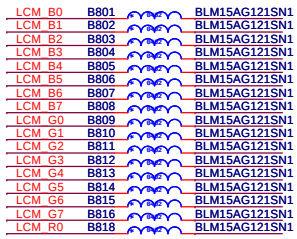
CLK	CMD	UART Protocol
0	0	BCSP
0	1	H4
1	0	H4DS
1	1	H5

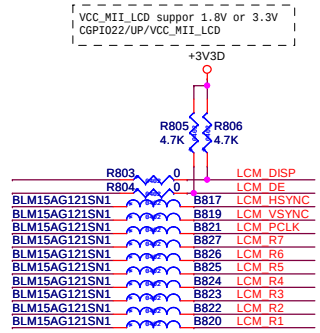
Reset if low.Input debounced so must be low for > 5ms to cause a reset

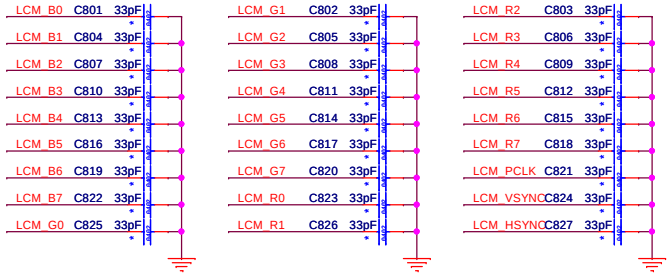
To select BCSP, connect 100kΩ pull-downs to both SDIO_CLK and SDIO_CMD.

Grandstream	PRODUCT: GXP2200		
	BOARD: BLUETOOTH		
	Size B	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012		Sheet 7 of 11

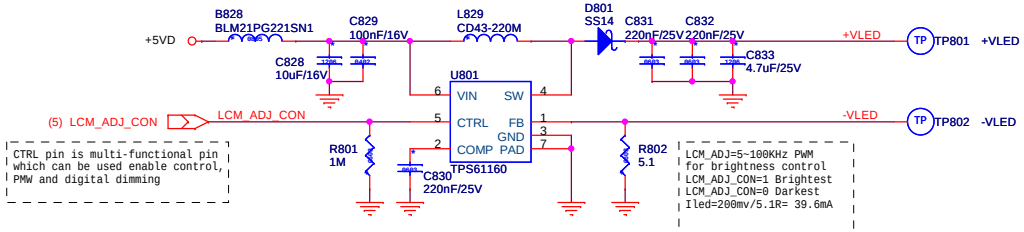

MDC
MDIO
R759 1K
MIIRXD0 R704 33
MIIRXD1 R712 33
MIIRXD2 R706 33
MIIRXD3 R707 33
R755 1K
MIICRS_DV R709 33
R751 33(DNI)
R702 33 MIITXD0
R703 33 MIITXD1
R711 33 MIITXD2
R705 33 MIITXD3
R752 33 MIITXEN
R756 1K(DNI)
R708 33 MIITXCLK
R710 33 MIIRXCLK
U701A
RTL8363SB-CG
RTL8363SB
G0_RXD[0-7],G1RXD[0-7],G0_TXCLK
These pins must be pulled low
with 1K omh resistor when not used.
These pins must be pulled low
with 1K omh resistor when not used.
(5) /RST_ETH
/RST_ETH
RESET
XTALI
XTALO
CRYS701
25Mhz
C711 33pF
C712 33pF
R745 1M
MDIO
MDC
/ETH_INT
/ETH_INT (5)
INTERRUPT
MDIREF
Reference Resistor 2.49k(1%)
PIN94 P1LED0 / RESERVED: Must Pull Low
PIN93 P1LED2 / RESERVED: Must Pull High or Keep Floating
PIN91 P2LED0 / DISAUTOLOAD
Pull High: Disable Auto load EEPROM
PIN89 P2LED2 / DIS_8051:Pull High: Disable 8051
PIN96 SMI_SEL:
Pull Down: MII Management Interface(Slave)
RTT1,RTT2:
Reserved for Internal use.Must be left floating
PIN20 RESERVED: Must Pull Low
PIN21 RESERVED: Must Pull Low
PIN31,PIN32 RESERVED:Must be left floating in normal operation
PIN88 RESERVED: Must Pull High or Keep Floating
PIN35 RESERVED: Must Pull Low
PIN87 DIS_SPI:Pull High: Disable SPI Slave
PIN94 P1LED0 / RESERVED: Must Pull Low
PIN88 RESERVED: Must Pull High or Keep Floating
PIN93 P1LED2 / RESERVED: Must Pull High or Keep Floating
PIN20 RESERVED: Must Pull Low
PIN21 RESERVED: Must Pull Low
PIN35 RESERVED: Must Pull Low
PIN91 P2LED0 / DISAUTOLOAD
Pull Low: Enable Auto load EEPROM
Pull High: Disable Auto load EEPROM
PIN89 P2LED2 / DIS_8051
Pull Low: Enable 8051
Pull High: Disable 8051
PIN87 DIS_SPI:
Pull Low: Enable SPI Slave
Pull High: Disable SPI Slave
PIN96 SMI_SEL:
Pull Up: I2C Interface (Slave).
Pull Down: MII Management Interface(Slave)
B705 BLM15AG601SN1
B704 BLM21PG221SN1
B701 BLM15AG601SN1
B702 BLM15AG601SN1
B703 BLM15AG601SN1
+3V3D
+3V3D_H
+1V0A
+1V0D
T701A
T701B
QT48A03
C701 100nF/16V
C702 100nF/16V
C703 100nF/16V
C704 100nF/16V
C709 100nF/16V
C710 100nF/16V
C713 100nF/16V
C714 100nF/16V
R701 75
R721 75
R724 75
R722 75
C705 1000pF/2KV
C706 1000pF/2KV
C707 1000pF/2KV
C708 1000pF/2KV
R746 75
R747 75
R748 75
R749 75
C721 1000pF/2KV
LAN IF
PC IF
J701
J702
RJ45-4
TP701 P2MDID-
TP702 P2MDID+
TP703 P2MDIC-
TP704 P2MDIC+
TP705 P2MDIB-
TP706 P2MDIB+
TP707 P2MDIA-
TP708 P2MDIA+
TP709 P1MDID-
TP710 P1MDID+
TP711 P1MDIC-
TP712 P1MDIC+
TP713 P1MDIB-
TP714 P1MDIB+
TP715 P1MDIA-
TP716 P1MDIA+
TP717 POE_SP1
TP718 POE_SP2
TP719 POE_CT1
TP720 POE_CT2
POE_CT1 (11)
POE_CT2 (11)
POE_SP1 (11)
POE_SP2 (11)
Grandstream
PRODUCT: GXP2200
BOARD: ETHERNET
Size A3
DWG NO <PCB PART NUMBER>
Rev 2.1A
Designer: IP Phone Group
Date: Wednesday, April 25, 2012
Sheet 8 of 11



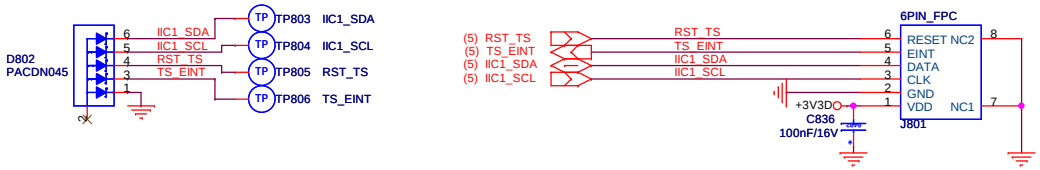




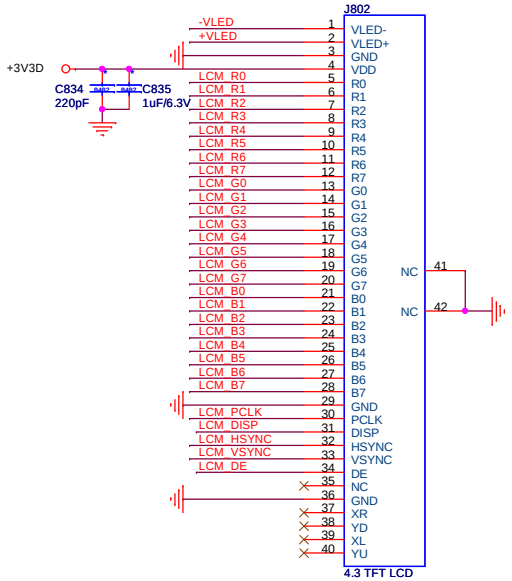
BACKLIGHT



Touch Screen Controller



4.3'' TFT Digital LCD Interface

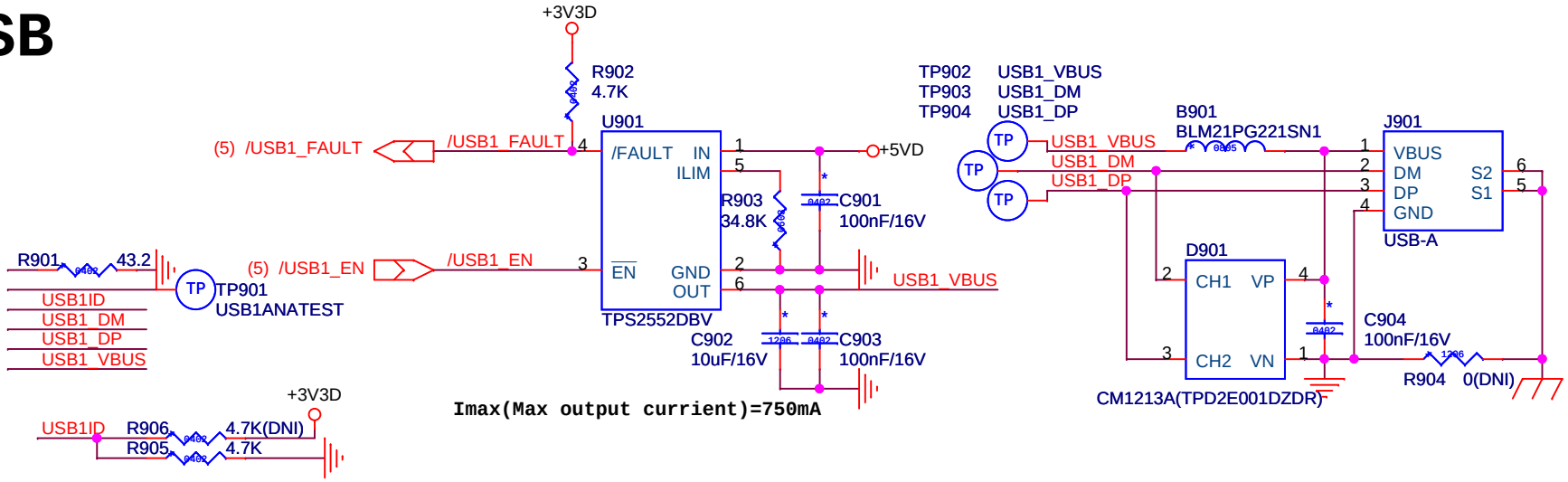


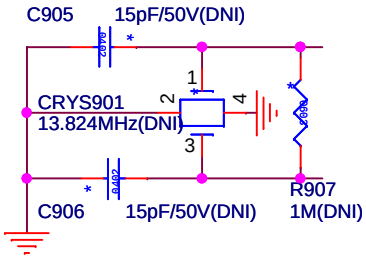
TOUCH PANEL(capacitance)

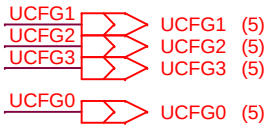
DISP:	Display on/off signal(this pin is pulled high internally)
DE:	Input data enable control.internally pulled low.
PCLK:	Clock signal to sample each data.
HSYNC:	Horizontal synchronizing signal.
HSYNC:	Vertical synchronizing signal.

Grandstream	PRODUCT: GXP2200		
	BOARD: LCD&BACK LIGHT		
	Size A3	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012		Sheet 9 of 11

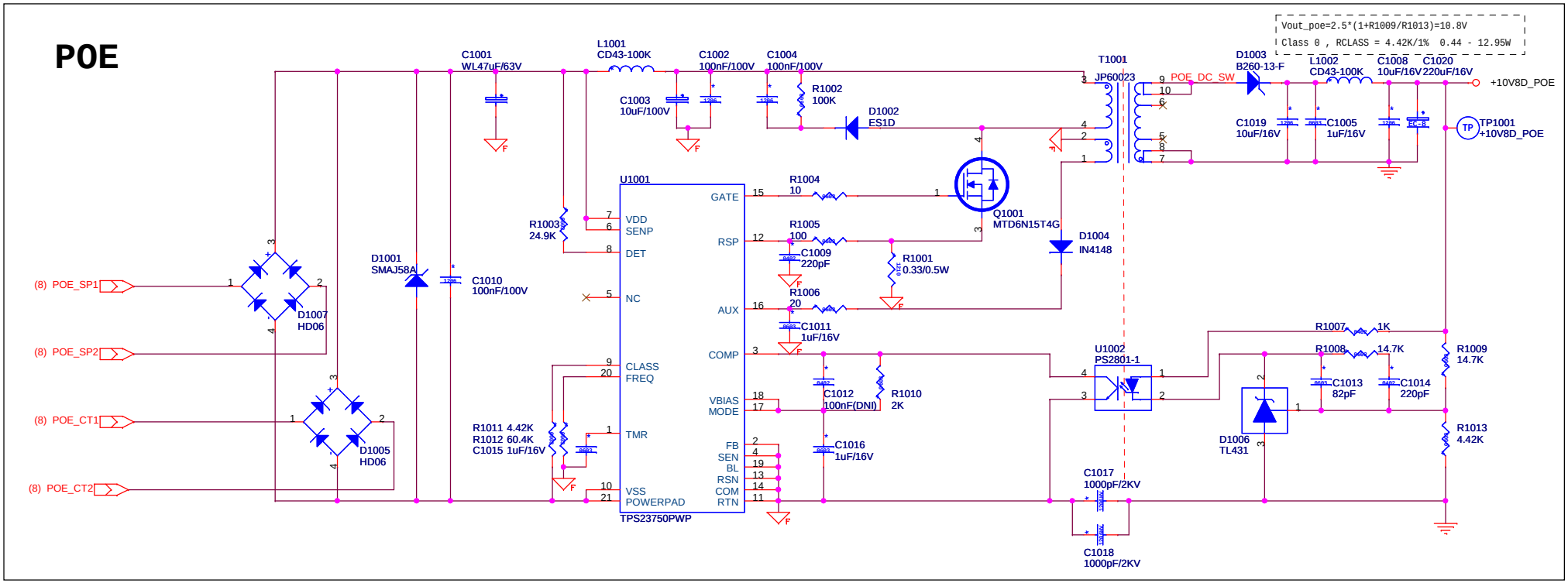
HOST USB

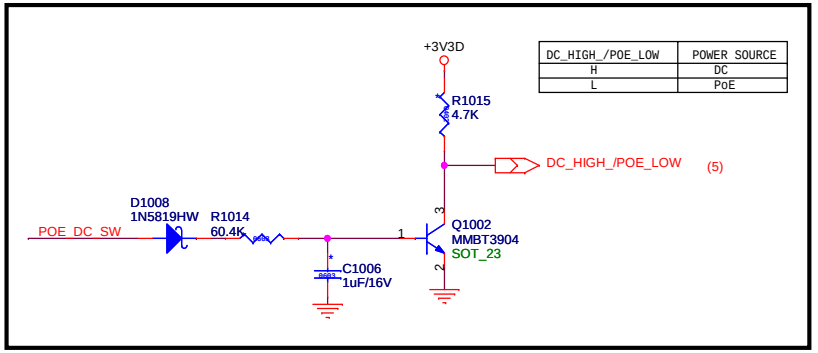






Grandstream	PRODUCT: GXP2200	
	BOARD: USB	
	Size A	DWG NO <PCB PART NUMBER> Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012	Sheet 10 of 11





DC_HIGH_/POE_LOW	POWER SOURCE
H	DC
L	PoE

Grandstream	PRODUCT: GXP2200		
	BOARD: POE		
	Size B	DWG NO <PCB PART NUMBER>	Rev 2.1A
Designer: IP Phone Group	Date: Wednesday, April 25, 2012	Sheet 11 of 11	