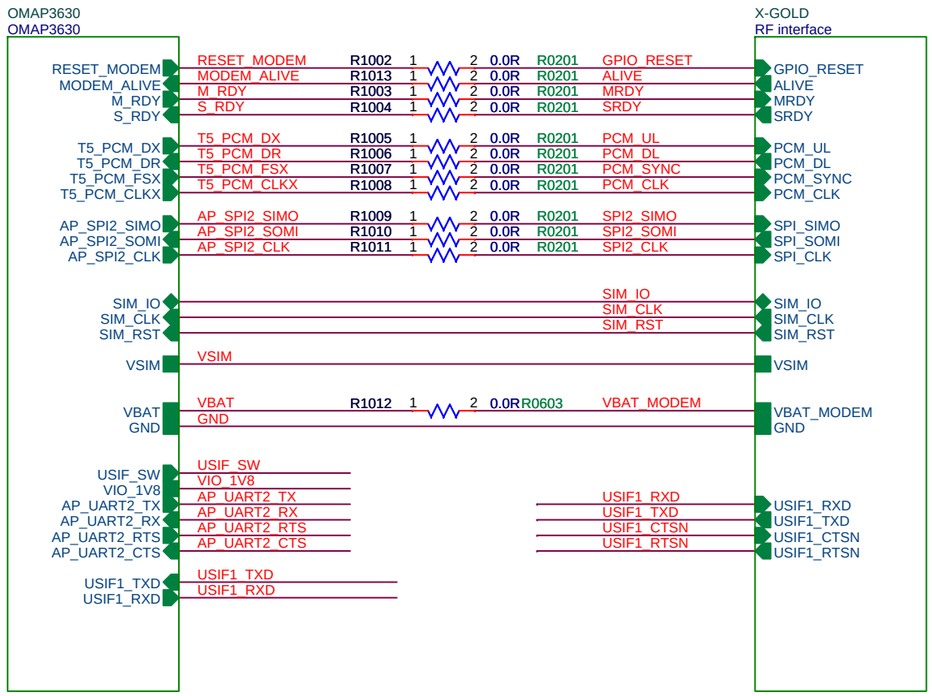

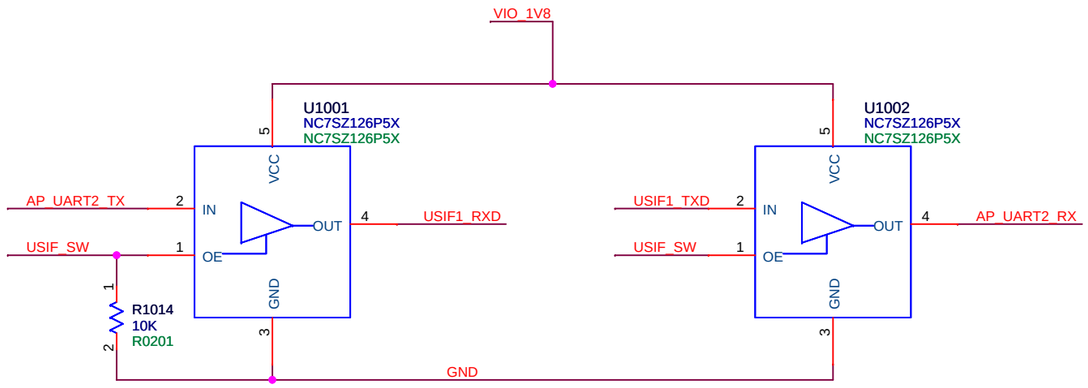

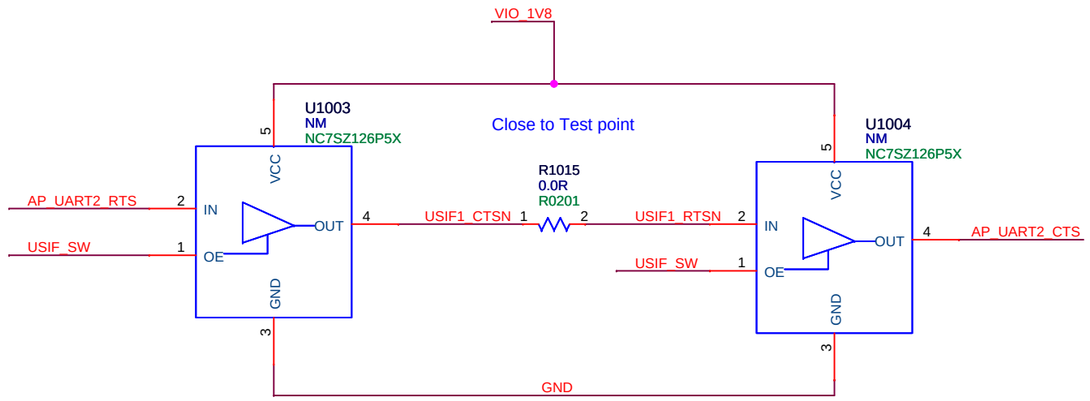

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U1101A
OMAP3630+KA100O012A-AJTT

PoP Hynix 4Gb NAND+4Gb DDR
H8KES0UU0MER-4EM
PoP Max H=1.66mm

VDD_DSS Power Doman (1.8V)
Will be turned off in suspend mode.

VDD_SIM Power Domain (3V)

H10	SDRC_BA1	C21	POP_NC
H9	SDRC_BA0	B21	POP_NC
		A21	POP_NC
E1	POP_NC	D20	POP_NC
E2	POP_NC	B20	POP_NC
D1	POP_NC	B19	POP_NC
D2	POP_NC	A19	POP_NC
D3	POP_NC	C18	POP_NC
D4	POP_NC	D14	POP_NC
C1	POP_NC	B13	POP_NC
C2	POP_NC	A11	POP_NC
C3	POP_NC	C12	POP_NC
D5	POP_NC	D12	POP_NC
C4	POP_NC	C11	POP_NC
C5	POP_NC	B10	POP_NC
B3	POP_NC	D11	POP_NC
B4	POP_NC	D18	POP_NC
A4	POP_NC	B17	SDRC_D15
		C17	SDRC_D14
H14	SDRC_nRAS	D17	SDRC_D13
H13	SDRC_nCAS	B16	SDRC_D12
H15	SDRC_nWE	C15	SDRC_D11
A13	SDRC_CLK	B14	SDRC_D10
A14	SDRC_nCLK	C14	SDRC_D9
H17	SDRC_CKE1_OUT1	A9	SDRC_D8
H16	SDRC_CKE0_OUT1	B9	POP_NC
H12	SDRC_nCS1	A7	POP_NC
H11	SDRC_nCS0	C9	POP_NC
C20	POP_NC	C8	POP_NC
B11	POP_NC	B6	POP_NC
A16	SDRC_DM1	C6	POP_NC
B7	POP_NC	D6	POP_NC
A20	POP_NC		
A10	POP_NC	K3	GPMC_A10/SYS_nDMAREQ3/GPIO_43
A17	SDRC_DQS1	L3	GPMC_A9/SYS_nDMAREQ2/GPIO_42
A6	POP_NC	M3	GPMC_A8/GPIO_41
		N3	GPMC_A7/GPIO_40
AG22	DSS_DATA0/DSI_DX0/UART1_CTS/GPIO_70	R3	GPMC_A6/GPIO_39
AH22	DSS_DATA1/DSI_DY0/UART1_RTS/GPIO_71	T3	GPMC_A5/GPIO_38
AG23	DSS_DATA2/DSI_DX1/GPIO_72	K4	GPMC_A4/GPIO_37
AH23	DSS_DATA3/DSI_DY1/GPIO_73	L4	GPMC_A3/GPIO_36
AG24	DSS_DATA4/DSI_DX2/UART3_RX_IRRX/GPIO_74	M4	GPMC_A2/GPIO_35
AH24	DSS_DATA5/DSI_DY2/UART3_TX_IRTX/GPIO_75	N4	GPMC_A1/GPIO_34
E26	DSS_DATA6/UART1_TX/GPIO_76/HW_DBG14		
F28	DSS_DATA7/UART1_RX/GPIO_77/HW_DBG15	Y1	GPMC_D15/GPIO_51
F27	DSS_DATA8/UART3_RX_IRRX/GPIO_78/HW_DBG16	W1	GPMC_D14/GPIO_50
G26	DSS_DATA9/UART3_TX_IRTX/GPIO_79/HW_DBG17	T2	GPMC_D13/GPIO_49
AD28	DSS_DATA10/GPIO_80	R2	GPMC_D12/GPIO_48
AD27	DSS_DATA11/GPIO_81	R1	GPMC_D11/GPIO_47
AB28	DSS_DATA12/GPIO_82	P1	GPMC_D10/GPIO_46
AB27	DSS_DATA13/GPIO_83	K2	GPMC_D9/GPIO_45
AA28	DSS_DATA14/GPIO_84	H2	GPMC_D8/GPIO_44
AA27	DSS_DATA15/GPIO_85	W2	GPMC_D7
G25	DSS_D16/GPIO_86	V2	GPMC_D6
H27	DSS_D17/GPIO_87	V1	GPMC_D5
H26	DSS_DATA18/MCSPI3_CLK/DSS_DATA0/GPIO_88	T1	GPMC_D4
H25	DSS_DATA19/MCSPI3_SIMO/DSS_DATA1/GPIO_89	P2	GPMC_D3
E28	DSS_DATA20/MCSPI3_SOMI/DSS_DATA2/GPIO_90	L2	GPMC_D2
J26	DSS_DATA21/MCSPI3_CS0/DSS_DATA3/GPIO_91	L1	GPMC_D1
AC27	DSS_DATA22/MCSPI3_CS1/DSS_DATA4/GPIO_92	K1	GPMC_D0
AC28	DSS_DATA23/DSS_DATA5/GPIO_93		
D28	DSS_PCLK/GPIO_66/HW_DBG12	G4	GPMC_nCS0
D26	DSS_HSYNC/GPIO_67/HW_DBG13	H3	GPMC_nCS1/GPIO_52
D27	DSS_VSYNC/GPIO_68	V8	GPMC_nCS2/GPIO_53
E27	DSS_ACBIAS/GPIO_69	U8	GPMC_nCS3/SYS_nDMAREQ0/GPIO_54
		T8	GPMC_NCS4/SYS_NDMAREQ1/MCBSP4_CLKX/GPT_9_PWM_EVT/GPIO_55
N28	SDMMC1_CLK/MS_CLK/GPIO_120	R8	GPMC_NCS5/SYS_NDMAREQ2/MCBSP4_DR/GPT_10_PWM_EVT/GPIO_56
M27	SDMMC1_CMD/MS_BS/GPIO_121	P8	GPMC_NCS6/SYS_NDMAREQ3/MCBSP4_DX/GPT_11_PWM_EVT/GPIO_57
N27	SDMMC1_DAT0/MS_DAT0/GPIO_122	N8	GPMC_NCS7/GPMC_IO_DIR/MCBSP4_FSX/GPT_8_PWM_EVT/GPIO_58
N26	SDMMC1_DAT1/MS_DAT1/GPIO_123	T4	GPMC_CLK/GPIO_59
N25	SDMMC1_DAT2/MS_DAT2/GPIO_124	F4	GPMC_nWE
P28	SDMMC1_DAT3/MS_DAT3/GPIO_125	G2	GPMC_nOE
P27	SIM_IO/SIM_IO_LOW_IMPEDANCE/GPIO_126	F3	GPMC_nADV_ALE
P26	SIM_CLK/GPIO_127	G3	GPMC_nBE0_CLE/GPIO_60
R27	SIM_PWRCTRL/GPIO_128	U3	GPMC_nBE1/GPIO_61
R25	SIM_RST/GPIO_129	H1	GPMC_nWP/GPIO_62
		M8	GPMC_WAIT0
AE2	SDMMC2_CLK/MCSPI3_CLK/GPIO_130	L8	GPMC_WAIT1/GPIO_63
AG5	SDMMC2_CMD/MCSPI3_SIMO/GPIO_131	K8	GPMC_WAIT2/UART4_TX/GPIO_64
AH5	SDMMC2_DAT0/MCSPI3_SOMI/GPIO_132	J8	GPMC_WAIT3/SYS_NDMAREQ1/UART4_RX/GPIO_65
AH4	SDMMC2_DAT1/GPIO_133		
AG4	SDMMC2_DAT2/MCSPI3_CS1/GPIO_134	AB26	UART2_CTS/MCBSP3_DX/GPT_9_PWM_EVT/GPIO_144
AF4	SDMMC2_DAT3/MCSPI3_CS0/GPIO_135	AB25	UART2_RTS/MCBSP3_DR/GPT_10_PWM_EVT/GPIO_145
AE4	SDMMC2_DAT4/SDMMC2_DIR_DAT0/SDMMC3_DAT0/GPIO_136	AA25	UART2_TX/MCBSP3_CLKX/GPT_11_PWM_EVT/GPIO_146
AH3	SDMMC2_DAT5/SDMMC2_DIR_DAT1/CAM_GLOBAL_RESET/SDMMC3_DAT1/GPIO_137/HSUSB3_TLL_STP/MM3_RXDP	AD25	UART2_RX/MCBSP3_FSX/GPT_8_PWM_EVT/GPIO_147
AF3	SDMMC2_DAT6/SDMMC2_DIR_CMD/CAM_SHUTTER/SDMMC3_DAT2/GPIO_138/HSUSB3_TLL_DIR		
AE3	SDMMC2_DAT7/SDMMC2_CLKIN/SDMMC3_DAT3/GPIO_139/HSUSB3_TLL_NXT/MM3_RXDM	H18	UART3_CTS_RCTX/GPIO_163
		H19	UART3_RTS_SD/GPIO_164
		H20	UART3_RX_IRRX/GPIO_165
		H21	UART3_TX_IRTX/GPIO_166

P29 DSS_G[0:5] → DSS_G0 … DSS_G5
P29 DSS_R[0:5] → DSS_R0 … DSS_R5
P29 DSS_B[0:5] → DSS_B0 … DSS_B5
P29 DSS_PCLK
P29 DSS_HSYNC
P29 DSS_VSYNC
P29 DSS_DE

P18 SD_CLK
P18 SD_CMD
P18 SD_DAT[0:3] → SD_DAT0 … SD_DAT3

P27 eNAND_CLK
P27 eNAND_CMD
P12,27 eNAND_D[0:7] → eNAND_D0 … eNAND_D3
P19 SDIO3_D0
P19 SDIO3_D1
P19 SDIO3_D2
P19 SDIO3_D3

FACTORY_TOOL_DET — R1105 1 — 2 4.7K R0201 — TP1103 TP-1.5

HW_VER_S1	R1102	1	2 NM R0201
HW_VER_S2	R1103	1	2 NM R0201
HW_VER_S3	R1104	1	2 NM R0201
MEM_DET_S1	R1106	1	2 NM R0201
MEM_DET_S2	R1107	1	2 NM R0201

G-SENSOR_EN P24
CHG_CE# P28
STAT1 P28
STAT2 P28

R1101
10K
R0201
1 — 2 — VIO_1V8

FPGA_AWAKE — FPGA_AWAKE P29
FPGA_SUSPEND — FPGA_SUSPEND# P29
FPGA_DONE — FPGA_DONE P29
AMP_EN — AMP_EN P20
LCD_HDIR — LCD_HDIR P29
LCD_VDIR — LCD_VDIR P29

G-SENSOR_INT P18

UART4
UART4_TX — 1 — TP1104 TP-0.5
UART4_RX — 1 — TP1105 TP-0.5

GPS_ON — GPS_ON P22
VBUS_HOST_EN — VBUS_HOST_EN P26
GPS_UART2_TX — GPS_UART2_TX P22
GPS_UART2_RX — GPS_UART2_RX P22

VBUS_HOST_FLT# — VBUS_HOST_FLT# P26

UART3_RX — 1 — TP1101 TP-1.5
UART3_TX — 1 — TP1102 TP-1.5

UART3_TX P21
UART3_RX P21

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V_GS_1V8 VIO_1V8 V_GS_1V8

R1203 R1204 R1201 R1202 R1205 R1206 R1207 R1208 — 4.7K R0201

U1101B
OMAP3630+KA100O012A-AJTT

P19 BT_UART1_TX — AA8 — UART1_TX/SSI1_DAT_TX/GPIO_148
P19 BT_UART1_RTS — AA9 — UART1_RTS/SSI1_FLAG_TX/GPIO_149
P19 BT_UART1_CTS — W8 — UART1_CTS/SSI1_RDY_TX/GPIO_150/HSUSB3_TLL_CLK
P19 BT_UART1_RX — Y8 — UART1_RX/McBSP1_CLKR/McSPI4_CLK/GPIO_151

P14 I2C1_SCL — K21 — I2C1_SCL
P14 I2C1_SDA — J21 — I2C1_SDA

P17,18 I2C2_SCL — AF15 — I2C2_SCL/GPIO_168
P17,18 I2C2_SDA — AE15 — I2C2_SDA/GPIO_183

P17 I2C3_SCL — AF14 — I2C3_SCL/GPIO_184
P17 I2C3_SDA — AG14 — I2C3_SDA/GPIO_185

P15 SMART_I2C4_SCL — AD26 — I2C4_SCL/SYS_nVMODE1
P15 SMART_I2C4_SDA — AE26 — I2C4_SDA/SYS_nVMODE2

P17 CAM_XCLKA — C25 — CAM_XCLKA/GPIO_96
B26 — CAM_XCLKB/GPIO_111
P17 CAM_PCLK — C27 — CAM_PCLK/GPIO_97/HW_DBG2
P17 CAM_VSYNC — A23 — CAM_VS/SSI2_FLAG_TX/GPIO_95/HW_DBG1
P17 CAM_HSYNC — A24 — CAM_HS/SSI2_DAT_TX/GPIO_94/HW_DBG0
P17 CAM_nRESET — C23 — CAM_FLD/CAM_GLOBAL_RESET/GPIO_98/HW_DBG3
P17 CAM_nSTANDBY — B23 — CAM_WEN/CAM_SHUTTER/GPIO_167/HW_DBG10
D25 — CAM_STROBE/GPIO_126/HW_DBG11
AG17 — CAM_D0/CSI2_DX2/GPIO_99(INPUT ONLY)
AH17 — CAM_D1/CSI2_DY2/GPIO_100(INPUT ONLY)

10 bit Camera Data

CAM_D2 — B24 — CAM_D2/SSI2_RDY_TX/GPIO_101/HW_DBG4
CAM_D3 — C24 — CAM_D3/SSI2_DAT_RX/GPIO_102/HW_DBG5
CAM_D4 — D24 — CAM_D4/SSI2_FLAG_RX/GPIO_103/HW_DBG6
CAM_D5 — A25 — CAM_D5/SSI2_RDY_RX/GPIO_104/HW_DBG7
CAM_D6 — K28 — CAM_D6/GPIO_105(INPUT ONLY)
CAM_D7 — L28 — CAM_D7/GPIO_106(INTPUT ONLY)
CAM_D8 — K27 — CAM_D8/GPIO_107(INPUT ONLY)
CAM_D9 — L27 — CAM_D9/GPIO_108(INTPUT ONLY)
CAM_D10 — B25 — CAM_D10/SSI2_WAKE/GPIO_109/HW_DBG8
CAM_D11 — C26 — CAM_D11/GPIO_110/HW_DBG9

P17 CAM_D[11:2] — CAM_D[11:2]

VDD_CSI = 0V

AG19 — CSI2_DX0/GPIO_112(INPUT ONLY)
AH19 — CSI2_DY0/GPIO_113(INPUT ONLY)
AG18 — CSI2_DX1/GPIO_114(INPUT ONLY)
AH18 — CSI2_DY1/GPIO_115(INPUT ONLY)

TP1201 TP-0.5 AP_JTAG_TDO — AA19 — JTAG_TDO
TP1202 TP-0.5 AP_JTAG_nTRST — AA17 — JTAG_nTRST
TP1203 TP-0.5 AP_JTAG_TMS — AA18 — JTAG_TMS
TP1204 TP-0.5 AP_JTAG_TDI — AA20 — JTAG_TDI
TP1205 TP-0.5 AP_JTAG_TCK — AA13 — JTAG_TCK
TP1206 TP-0.5 AP_JTAG_RTCK — AA12 — JTAG_RTCK
TP1207 TP-0.5 AP_JTAG_EMU0 — AA11 — JTAG_EMU0/SDTI_CLK/SDTI_TXD0/GPIO_11
TP1208 TP-0.5 AP_JTAG_EMU1 — AA10 — JTAG_EMU1/SDTI_TXD0/SDTI_TXD1/GPIO_31

TP1211 TP-0.5 — J25 — HDQ_SIO/SYS_ALTCLK/I2C2_SCCBE/I2C3_SCCBE/GPIO_170

W28 — CVIDEO2_OUT
Y28 — CVIDEO1_OUT
Y27 — CVIDEO1_VFB
W27 — CVIDEO2_VFB
W26 — CVIDEO1_RSET

P14 T5_nRESPWRON — AH25 — SYS_nRESPWRON
P13,14,24,27 SYS_nRESWARM — AF24 — SYS_nRESWARM/GPIO_30
P14 T5_nINT1 — AF26 — SYS_NIRQGPIO_0
P15 SYS_OFF_MODE — AF22 — SYS_OFF_MODEGPIO_9
TP1209 TP-0.5
AG25 — SYS_CLKOUT1/GPIO_10
P19 WL_EN — AE22 — SYS_CLKOUT2/GPIO_186
P14 T5_CLKREQ — AF25 — SYS_CLKREQ/GPIO_1
TP1210 TP-0.5
P14 T5_HFCLKOUT — AE17 — SYS_XTALIN
AF17 — SYS_XTALOUT
P14,19,22 T5_CLK32K_OUT — AE25 — SYS_32K

MCSPI1_CLK/SDMMC2_DAT4/GPIO_171 — AB3 — eNAND_D4 — eNAND_D[0:7] — eNAND_D[0:7] P11,27
MCSPI1_SIMO/SDMMC2_DAT5/GPIO_172 — AB4 — eNAND_D5
MCSPI1_SOMI/SDMMC2_DAT6/GPIO_173 — AA4 — eNAND_D6
MCSPI1_CS0/SDMMC2_DAT7/GPIO_174 — AC2 — eNAND_D7
MCSPI1_CS1/ADPLLV2D_DITHERING_EN2/SDMMC3_CMD/GPIO_175 — AC3 — SDIO3_CMD — SDIO3_CMD P19
MCSPI1_CS2/SDMMC3_CLK/GPIO_176 — AB1 — SDIO3_CLK — SDIO3_CLK P19
MCSPI1_CS3/HSUSB2_TLL_DATA2/HSUSB2_DATA2/GPIO_177/MM2_TXDAT — AB2 — EC_RST# — EC_RST# P18

McSPI2_CLK/HSUSB2_TLL_D7/HSUSB2_D7/GPIO_178 — AA3 — AP_SPI2_CLK — AP_SPI2_CLK P1
MCSPI2_SIMO/GPT_9_PWM_EVT/HSUSB2_TLL_DATA4/HSUSB2_DATA4/GPIO_179 — Y2 — AP_SPI2_SIMO — AP_SPI2_SIMO P1
MCSPI2_SOMI/GPT_10_PWM_EVT/HSUSB2_TLL_DATA5/HSUSB2_DATA5/GPIO_180 — Y3 — AP_SPI2_SOMI — AP_SPI2_SOMI P1
MCSPI2_CS0/GPT_11_PWM_EVT/HSUSB2_TLL_DATA6/HSUSB2_DATA6/GPIO_181 — Y4 — LCD_3V3_EN — LCD_3V3_EN P23
MCSPI2_CS1/GPT_8_PWM_EVT/HSUSB2_TLL_DATA3/HSUSB2_DATA3/GPIO_182/MM2_TXEN_N — V3 — GS_3V3_EN — GS_3V3_EN P23

McBSP2_FSX/GPIO_116 — P21 — AP_T5_I2S2_FSX — AP_T5_I2S2_FSX P14
McBSP2_CLKX/GPIO_117 — N21 — AP_T5_I2S2_CLKX — AP_T5_I2S2_CLKX P14
McBSP2_DR/GPIO_118 — R21 — AP_T5_I2S2_DR — AP_T5_I2S2_DR P14
McBSP2_DX/GPIO_119 — M21 — AP_T5_I2S2_DX — AP_T5_I2S2_DX P14

MCBSP3_DX/UART2_CTS/GPIO_140/HSUSB3_TLL_DATA4 — AF6 — AP_UART2_CTS — AP_UART2_CTS P1
MCBSP3_DR/UART2_RTS/GPIO_141/HSUSB3_TLL_DATA5 — AE6 — AP_UART2_RTS — AP_UART2_RTS P1
MCBSP3_CLKX/UART2_TX/GPIO_142/HSUSB3_TLL_DATA6 — AF5 — AP_UART2_TX — AP_UART2_TX P1
MCBSP3_FSX/UART2_RX/GPIO_143/HSUSB3_TLL_DATA7 — AE5 — AP_UART2_RX — AP_UART2_RX P1

MCBSP4_CLKX/SSI1_DAT_RX/GPIO_152/HSUSB3_TLL_DATA1/MM3_TXSE0 — AE1 — WLAN_IRQ# — WLAN_IRQ# P19
MCBSP4_DR/SSI1_FLAG_RX/GPIO_153/HSUSB3_TLL_DATA0/MM3_RXRCV — AD1 — TP_INT — TP_INT P17
MCBSP4_DX/SSI1_RDY_RX/GPIO_154/HSUSB3_TLL_DATA2/MM3_TXDAT — AD2 — TK_INT — TK_INT P17
MCBSP4_FSX/SSI1_WAKE/GPIO_155/HSUSB3_TLL_DATA3/MM3_TXEN_N — AC1 — USIF_SW — USIF_SW P1

HSUSB0_DATA0/UART3_TX_IRTX/GPIO_125/UART2_TX — T27 — T5_USB0HS_DAT0 — T5_USB0HS_DAT[7:0] P14
HSUSB0_DATA1/UART3_RX_IRRX/GPIO_130/UART2_RX — U28 — T5_USB0HS_DAT1
HSUSB0_DATA2/UART3_RTS_SD/GPIO_131/UART2_RTS — U27 — T5_USB0HS_DAT2
HSUSB0_DATA3/UART3_CTS_RCTX/GPIO_169/UART2_CTS — U26 — T5_USB0HS_DAT3
HSUSB0_D4/GPIO_188 — U25 — T5_USB0HS_DAT4
HSUSB0_D5/GPIO_189 — V28 — T5_USB0HS_DAT5
HSUSB0_D6/GPIO_190 — V27 — T5_USB0HS_DAT6
HSUSB0_D7/GPIO_191 — V26 — T5_USB0HS_DAT7
USB0HS_CLK/GPIO_120 — T28 — T5_USB0HS_CLK P14
USB0HS_STP/GPIO_121 — T25 — T5_USB0HS_STP P14
USB0HS_DIR/GPIO_122 — R28 — T5_USB0HS_DIR P14
USB0HS_NXT/GPIO_124 — T26 — T5_USB0HS_NXT P14

McBSP1_CLKR/McSPI4_CLK/SIM_CD/GPIO_156 — Y21 — BT_EN — BT_EN P19
McBSP1_FSR/CAM_GLOBAL_RESET/GPIO_157 — AA21 — T5_MSECURE — T5_MSECURE P14
McBSP1_DX/McSPI4_SIMO/McBSP3_DX/GPIO_158 — V21 — HEADSET_MUTE — HEADSET_MUTE P20
McBSP1_DR/McSPI4_SOMI/McBSP3_DR/GPIO_159 — U21 — PS_INT — PS_INT P18
MCBSP_CLKS/CAM_SHUTTER/GPIO_160/UART1_CTS — T21 — McBSP_CLKS — McBSP_CLKS P14
McBSP1_FSX/McSPI4_CS0/McBSP3_FSX/GPIO_161 — K26 — RESET_MODEM — RESET_MODEM P1
McBSP1_CLKX/McBSP3_CLKX/GPIO_162 — W21 — CHG_ISET1 — CHG_ISET1 P28

Delete POWER_ON_MODEM

ETK_CLK/MCBSP5_CLKX/SDMMC3_CLK/HSUSB1_STP/GPIO_12/MM1_RXDP/HSUSB1_TLL_STP/HW_DBG0 — AF10
ETK_CTL/SDMMC3_CMD/HSUSB1_CLK/GPIO_13/HSUSB1_TLL_CLK/HW_DBG1 — AE10
ETK_D0/MCSPI3_SIMO/SDMMC3_DAT4/HSUSB1_DATA0/GPIO_14/MM1_RXRCV/HSUSB1_TLL_DATA0/HW_DBG2 — AF11
ETK_D1/MCSPI3_SOMI/HSUSB1_DATA1/GPIO_15/MM1_TXSE0/HSUSB1_TLL_DATA1/HW_DBG3 — AG12
ETK_D2/MCSPI3_CS0/HSUSB1_DATA2/GPIO_16/MM1_TXDAT/HSUSB1_TLL_DATA2/HW_DBG4 — AH12
ETK_D3/MCSPI3_CLK/SDMMC3_DAT3/HSUSB1_DATA7/GPIO_17/HSUSB1_TLL_DATA7/HW_DBG5 — AE13
ETK_D4/MCBSP5_DR/SDMMC3_DAT0/HSUSB1_DATA4/GPIO_18/HSUSB1_TLL_DATA4/HW_DBG6 — AE11
ETK_D5/MCBSP5_FSX/SDMMC3_DAT1/HSUSB1_DATA5/GPIO_19/HSUSB1_TLL_DATA5/HW_DBG7 — AH9
ETK_D6/MCBSP5_DX/SDMMC3_DAT2/HSUSB1_DATA6/GPIO_20/HSUSB1_TLL_DATA6/HW_DBG8 — AF13
ETK_D7/MCSPI3_CS1/SDMMC3_DAT7/HSUSB1_DATA3/GPIO_21/MM1_TXEN_N/HSUSB1_TLL_DATA3/HW_DBG9 — AH14
ETK_D8/SYS_DRM_MSECURE/SDMMC3_DAT6/HSUSB1_DIR/GPIO_22/HSUSB1_TLL_DIR/HW_DBG10 — AF9
ETK_D9/SYS_SECURE_INDICATOR/SDMMC3_DAT5/HSUSB1_NXT/GPIO_23/MM1_RXDM/HSUSB1_TLL_NXT/HW_DBG11 — AG9
ETK_D10/UART1_RX/HSUSB2_CLK/GPIO_24/HSUSB2_TLL_CLK/HW_DBG12 — AE7
ETK_D11/HSUSB2_STP/GPIO_25/MM2_RXDP/HSUSB2_TLL_STP/HW_DBG13 — AF7
ETK_D12/SYS_DRM_MSECURE/HSUSB2_DIR/GPIO_26/HSUSB2_TLL_DIR/HW_DBG14 — AG7
ETK_D13/HSUSB2_NXT/GPIO_27/MM2_RXDM/HSUSB2_TLL_NXT/HW_DBG15 — AH7
ETK_D14/HSUSB2_DATA0/GPIO_28/MM2_RXRCV/HSUSB2_TLL_DATA0/HW_DBG16 — AG8
ETK_D15/HSUSB2_DATA1/GPIO_29/MM2_TXSE0/HSUSB2_TLL_DATA1/HW_DBG17 — AH8

Reserve HSUSB1 ULPI Interface

GPS_RESET# — GPS_RESET# P22
M_RDY — M_RDY P1
S_RDY — S_RDY P1
MODEM_ALIVE — MODEM_ALIVE P1
CHG_DET# — CHG_DET# P28

SYS_BOOT0/DSS_DATA18/GPIO_2 — AH26 — OMAP_SYSBOOT0
SYS_BOOT1/DSS_DATA19/GPIO_3 — AG26 — OMAP_SYSBOOT1
SYS_BOOT2/GPIO_4 — AE14 — OMAP_SYSBOOT2
SYS_BOOT3/DSS_DATA20/GPIO_5 — AF18 — OMAP_SYSBOOT3
SYS_BOOT4/SDMMC2_DIR_DAT2/DSS_DATA21/GPIO_6 — AF19 — OMAP_SYSBOOT4
SYS_BOOT5/SDMMC2_DIR_DAT3/DSS_DATA22/GPIO_7 — AE21 — OMAP_SYSBOOT5
SYS_BOOT6/DSS_DATA23/GPIO_8 — AF21 — OMAP_SYSBOOT6

AP_JTAG_TMS — R1209 10K R0201 — VIO_1V8
AP_JTAG_TDI — R1211 10K R0201
AP_JTAG_nTRST — R1214 10K R0201
AP_JTAG_TCK — R1215 10K R0201
AP_JTAG_EMU0 — R1217 100K R0201 — VIO_1V8
AP_JTAG_EMU1 — R1218 100K R0201

VIO_1V8
R1221 4.7K R0201 — OMAP_SYSBOOT0
R1224 4.7K R0201 — OMAP_SYSBOOT1
R1226 4.7K R0201 — OMAP_SYSBOOT2
R1222 4.7K R0201 — OMAP_SYSBOOT3
R1223 4.7K R0201 — OMAP_SYSBOOT6

VIO_1V8 J1207 10K
0201_3PAD — OMAP_SYSBOOT5
R1225 10K R0201 — OMAP_SYSBOOT4

Peripheral Booting Priority

SYSBOOT5 Pull Low
1.NAND 2.USB 3.UART3 4.MMC1

SYSBOOT5 Pull High
1.USB 2.UART3 3.MMC1 4.NAND

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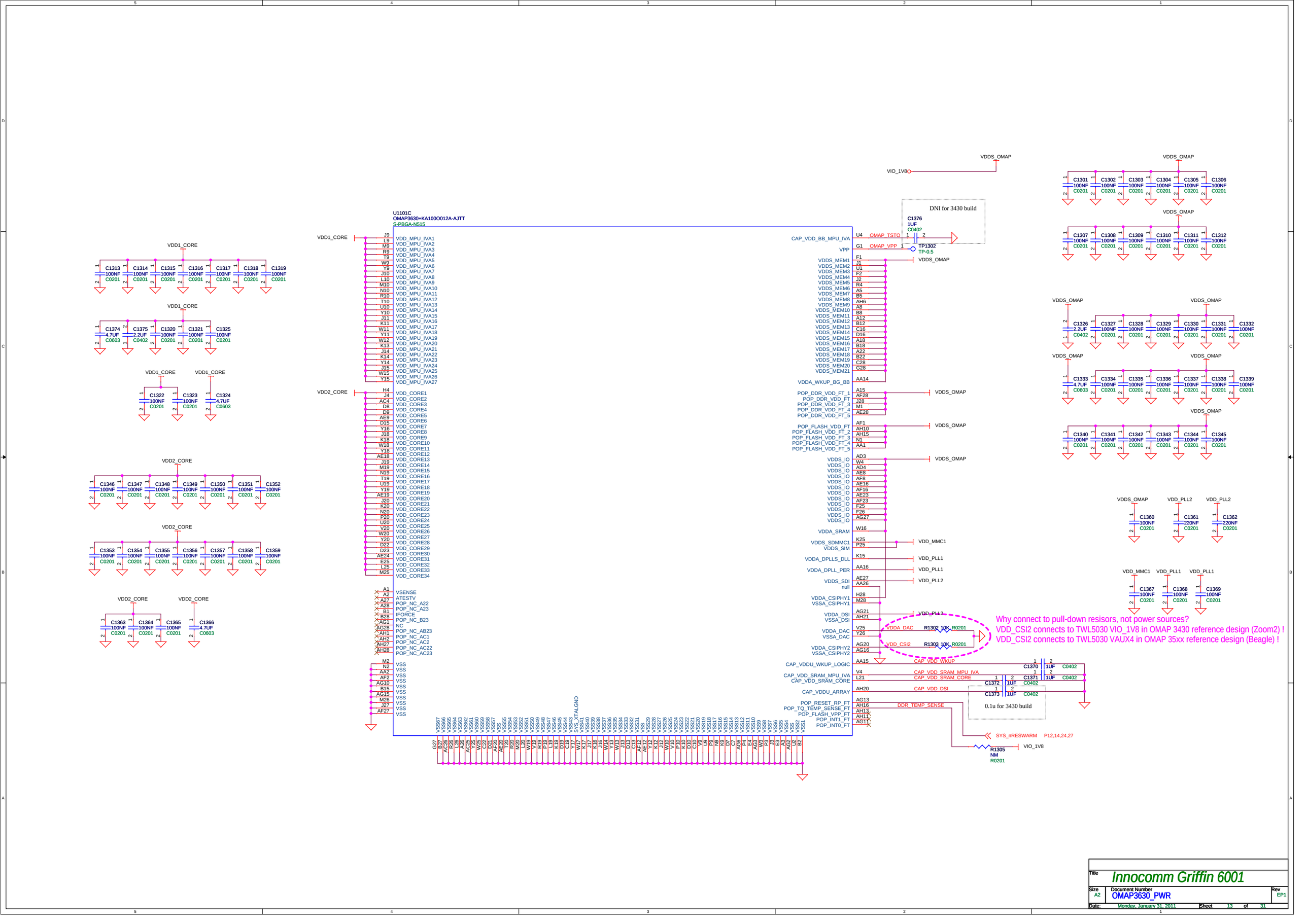

Title	Innocomm Griffin 6001
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TWL5034

PART A

X1401 26MHz CRYSTAL-3.2X2.5 (GND, VCC, EN, OUT) Q33310FE0000500
C1401 10NF C0201
C1402 2.2UF C0402
VIO_1V8
R1401 33R R0201 — 26MHZ — HFCLKIN
R1402 100K R0201
P12 T5_HFCLKOUT
TP1401 TP-0.5

U1401A
TWL5034
S-PBGA-N209

CLOCKS
- HFCLKIN — A14
- HFCLKOUT — R12
- CLKEN — C6
- CLKEN2 — D7
- CLKREQ — G10 — P12 T5_CLKREQ / P12 McBSP_CLKS — R1403 33R LT1_MCBSP_CLKS R0201 — D13
- CLK256FS

IO_1P8

ULPI
- UCLK — L15 — T5_USB0HS_CLK
- STP/GPIO.9 — L14 — T5_USB0HS_STP
- DIR/GPIO.10 — L13 — T5_USB0HS_DIR
- NXT/GPIO.11 — M13 — T5_USB0HS_NXT
- DATA0/UART4.TXD — K14 — T5_USB0HS_DAT0
- DATA1/UART4.RXD — K13 — T5_USB0HS_DAT1
- DATA2/UART4.RTSI — J14 — T5_USB0HS_DAT2
- DATA3/UART4.CTSO/GPIO.12 — J13 — T5_USB0HS_DAT3
- DATA4/GPIO.14 — G14 — T5_USB0HS_DAT4
- DATA5/GPIO.3 — G13 — T5_USB0HS_DAT5
- DATA6/GPIO.4 — F14 — T5_USB0HS_DAT6
- DATA7/GPIO.5 — F13 — T5_USB0HS_DAT7

P12 T5_USB0HS_DAT[7:0]

IO_1P8

USB
- VBUS — R8 — VUSB_BUS
- DP/UART3.RXD — T10 — P21 T5_HSUSB_DP
- DN/UART3.TXD — T11 — P21 T5_HSUSB_DN
- ID — R11 — P21 T5_HSUSB_ID

Control
- I2C.CNTL.SDA — D4 — P12 I2C1_SDA
- I2C.CNTL.SCL — D5 — P12 I2C1_SCL
- INT1 — F10 — P12 T5_nINT1 — VIO_1V8 R1405 4.7K R0201
- INT2 — F9
- PWRON — A11 — T5_PWRON — P24 T5_PWRON — VIO_1V8 R1406 10K R0201

IO_1P8

- nRESWARM — B13 — P12,13,24,27 SYS_nRESWARM
- nRESPWRON — A13 — P12 T5_nRESPWRON — VIO_1V8 R1407 10K R0201

VBAT
VREF — N16 — T5_VREF — C1404 1UF C0402

VBAT

- SYSEN — C13 — R1408 10K R0201 — T5_PWRBOOT0 — K11
- BOOT0 — T5_PWRBOOT1 — J11
- BOOT1

VRTC

- MSECURE — H8 — P12 T5_MSECURE

IO_1P8

PCM VSP
- PCM.VCK — R1 — P1,19 T5_PCM_CLKX
- PCM.VDR — T2 — P1 T5_PCM_DR
- PCM.VDX — T15 — P1 T5_PCM_DX
- PCM.VFS — R16 — P1,19 T5_PCM_FSX

IO_1P8

PCM BT
- BT.PCM.VDX/GPIO.17/DIG.MIC.CLK1 — C5 — P19 BT_T5_PCM_DX — R1415 0.0R R0201
- BT.PCM.VDR/GPIO.16/DIG.MIC.CLK0 — C3 — P19 BT_T5_PCM_DR

IO_1P8

TDM
- I2S.CLK — L3 — P12 AP_T5_I2S2_CLKX — R1416 0.0R R0201
- I2S.SYNC — K6 — P12 AP_T5_I2S2_FSX
- I2S.DIN — K4 — P12 AP_T5_I2S2_DX
- I2S.DOUT — K3 — P12 AP_T5_I2S2_DR

IO_1P8

TEST
- JTAG.TCK/BERCLK — B16 — TP1403 TP-0.5
- JTAG.TDI/BERDATA — A15 — TP1404 TP-0.5
- TEST — A1 — TP1405 TP-0.5
- TESTV2 — A16
- TESTV1 — T1
- TEST.RESET — T16 — TP1406 TP-0.5

32kHz
- 32KXOUT — P15 — C32K_XOUT
- 32KXIN — P16 — C32K_XIN
- 32KCLKOUT — N10 — P12,19,22 T5_CLK32K_OUT — R1409 0.0R R0201

IO_1P8

LED
- LEDB/VIBRA.M — G15 — R17 T5_LEDB — T5_LEDB
- LEDA/VIBRA.P — F15
- LEDSYNC/GPIO.13 — G11
- LEDGND — F16

PCB note: Isolate this area from all other digital signals.
H:1.48mm

X1402 CC7V-T1A-32.768KHZ-12.5pF CC7V-T1A
C1405 18PF C0201 — C32K_XOUT
C1406 18PF C0201 — C32K_XIN

Analog voice path:
R1005,R1006,R1007,R1008,R1415,R1416-->N.M.
R1417,R1418-->0ohm

ADC
- ADCIN0 — H4 — ADC:10Bits — ADC0:Battery ID
- ADCIN1 — J3 — R1410 NM R0201 — 1.8V/1024=1.76mV
- ADCIN2 — G3 — R1411 0.0R R0201 — BAT_TEMP P18,28
- START.ADC — J9 — R1412 NM R0201

VINANA1
VINANA2
IO_1P8

Headset UART
- UART1.TXD — B1 — T5_UART_TX P20
- UART1.RXD/GPIO.8 — D8 — T5_UART_RX P20

MCPC
- RTSO/CLK64K/BERCLK/ADCIN5 — N11
- CTSI/BERDATA/ADCIN3 — P11
- TXAF/ADCIN4 — N8 — C1403 100NF C0201
- RXAF/ADCIN6 — N9
- MANU — L10

Voiceband / stereo codec

HandFree
- IHF.LEFT.P — B9 — T5_SPEAKLP — T5_SPEAKLP P20
- IHF.LEFT.M — B10 — T5_SPEAKLM — T5_SPEAKLM P20
- IHF.RIGHT.P — B11 — T5_SPEAKRP — T5_SPEAKRP P20 (Differential Pair)
- IHF.RIGHT.M — B12 — T5_SPEAKRM — T5_SPEAKRM P20

Earpeace
- EAR.P — A6
- EAR.M — A7

Headset
- HSOL — B4 — T5_HSOL P20
- PreDriv.LEFT/VMID — B7 — PRE_LEFT P20
- HSOR — B5 — T5_HSOR P20
- PreDriv.RIGHT/ADCIN7 — B8 — PRE_RIGHT P20
- VHSMIC — E4
- HSMIC.P — E3 — Headset Microphone
- HSMIC.M — F3

ANA_MIC
- MICBIAS1/VMIC1 — D1 — T5_MIC_BIAS P20
- MIC.MAIN.P — E2 — T5_MIC_P P20
- MIC.MAIN.M — F2 — T5_MIC_M P20 (Differential Pair)
- MICBIAS2/VMIC2 — D2
- MIC.SUB.P/DIG.MIC.0 — G2 — T5_SUB_MIC+ — C1407 100NF C0201 — C1408 100NF C0201 (Differential Pair)
- MIC.SUB.M/DIG.MIC1 — H2 — T5_SUB_MIC-

AUX Input
- AUXL — F1 — T5_AUX_IN_L
- AUXR — G1 — T5_AUX_IN_R

GPIO
- GPIO.0/CD1/JTAG.TDO — P12
- GPIO.1/CD2/JTAG.TMS — N12
- GPIO2/T1 — L4
- GPIO.6/CLKOK/PWM0/T3 — M4 — SD_DETECT# — SD_DETECT# P18 — C1409 100NF C0201 — C1410 100NF C0201
- GPIO.7/VIBRA.SYNC/PWM1/T4 — N14 — HS_DET# — HS_DET# P20
- GPIO.15/T2 — P13 — LCD_BL_EN — LCD_BL_EN P17

IO_1P8

- RFID.EN — A2

VMMC2

Keypad
- KPD.R0 — K9 — KEYPAD_R0 — KEYPAD_R0 P24
- KPD.R1 — K8
- KPD.R2 — L8
- KPD.R3 — K7
- KPD.R4 — L9
- KPD.R5 — J10
- KPD.R6 — K10
- KPD.R7 — L7
- KPD.C0 — G8 — KEYPAD_C0 — KEYPAD_C0 P24
- KPD.C1 — H7 — KEYPAD_C1 — KEYPAD_C1 P24
- KPD.C2 — G6
- KPD.C3 — F7
- KPD.C4 — G7
- KPD.C5 — F4
- KPD.C6 — H6
- KPD.C7 — G4

IO_1P8

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TWL5034

Part B
Power

U1401B
TWL5034
S-PBGA-N209

Power control
A10 REGEN
VBAT
F8 VMODE1(VDD1)
D6 VMODE2(VDD2)/I2C.SR.SCL
B14 NC1
C4 NC/I2C.SR.SDA
P7 nSLEEP1
G9 nSLEEP2
IO_1P8

P12 SMART_I2C4_SCL
P12 SMART_I2C4_SDA
P12 SYS_OFF_MODE
R1501 10K R0201
T2_nSLEEP2

USB CP
R7 CP.IN
T7 CP.CAPP
T6 CP.CAPM
R6 CP.GND

VBAT
C1502 100NF C0201
C1503 10UF C0603
C1504 2.2UF C0402
T2_CPCAPP
T2_CPCAPM

C1509 close to TWL5030
C1508 close to OMAP3630

VDD1
D14 VDD1.IN1
E14 VDD1.IN2
E15 VDD1.IN3
E13 VDD1.FB
C14 VDD1.L1
D15 VDD1.L2
D16 VDD1.L3
B15 VDD1.GND1
C15 VDD1.GND2
C16 VDD1.GND3

VDD1_CORE
L1501 1UH NR3012 1.5A
PWR_VDD1
C1508 22UF C0805
C1509 22UF C0805

VBAT
C1515 100NF C0201
C1516 10UF C0603

VDD2
R13 VDD2.IN1
P14 VDD2.IN2
N13 VDD2.FB
T13 VDD2.L1
R14 VDD2.L2
T14 VDD2.GND1
R15 VDD2.GND2

VDD2_CORE
L1502 1UH NR3012
PWR_VDD2
C1517 100NF C0201
C1518 10UF C0603

VBAT
C1528 100NF C0201
C1529 10UF C0603

VIO
P3 VIO.IN1
R4 VIO.IN2
N3 VIO.FB
R3 VIO.L1
T4 VIO.L2
R2 VIO.GND1
T3 VIO.GND2

R1505 0.0R R0603
VIO_1V8
L1503 1UH NR3012
PWR_VIO
C1535 100NF C0201
C1537 10UF C0603

Domain	Type	Voltage	Current
External			
VDD1	SMPS	0.6V to 1.45V	1100mA
VDD2	SMPS	0.6V to 1.45V/1.5V	600mA
VIO	SMPS	1.8V /1.85V	600mA
VBUS	CP	4.8V	100mA
VAUX1	LDO	2.5V/2.8V/3.0V	200mA
VAUX2	LDO	1.0V/1.2V/1.5V/1.8V/2.5V/2.8V	100mA
VAUX3	LDO	1.5V/1.8V/2.5V/2.8V	200mA
VAUX4	LDO	0.7V/1.0V/1.2V/1.5V/1.8V/2.5V/2.8V	100mA
VMMC1	LDO	1.85V/2.85V/3.0V/3.15V	220mA
VMMC2	LDO	1.85V/2.6V/2.85V/3.0V/3.15V	100mA
VMIC1	LDO	1.8V	10mA
VMIC2	LDO	1.8V	10mA
VSIM	LDO	1.8V/2.8V/3.0V	50mA
VDAC	LDO	1.2V/1.3V/1.8V	65mA
VPLL1	LDO	1.0V/1.2V/1.3V/1.8V	40mA
VPLL2	LDO	0.7V/1.0V/1.2V/1.3V/1.8V	60mA
Internal			
VUSB	LDO	3.1V	15mA
VUSB_1P5	LDO	1.5V	30mA
VUSB_1P8	LDO	1.8V	30mA
VINTDIG	LDO	1.5V	50mA
VINANA1	LDO	1.5V	50mA
VINANA2	LDO	2.5V/2.75V	250mA
VRTC	LDO	1.5V	

BCI
N5 VAC
N7 ICTLAC1
P2 ICTLAC2
P6 ICTLUSB1
P1 ICTLUSB2
N2 VPRECH
N4 PCHGAC
N6 PCHGUSB
P5 VCCS
P4 VBATS
R5 VBAT
N1 BCIAUTO
T2_BCIAUTO
T2_VPRECH

To disable TWL5030 / TWL5034 BCI interface:
R1503 and R1504 are open.
R1511 and R1512 are short.

R1511 0.0R R0201
R1512 0.0R R0201
R1503 NM R0201
R1504 NM R0201
C1501 1UF C0402
PCHGUSB
VCCS
VBAT
>1.8V

Backup battery
M14 BKBAT
PWR_VBAT_BK
BT1501 XH414HG-IV01E PAS414SR-VG1

IO Level
IO.1P8
IO_1P8

R1502 0.0R R0201
C1505 100NF C0201
C8
VIO_1V8

VBAT.RIGHT2 D11
VBAT.RIGHT1 D12
VBAT.LEFT2 D9
VBAT.LEFT1 D10
C1506 1UF C0402
C1507 1UF C0402
VBAT

VMMC2.IN A3
VMMC1.IN C1
VAUX4.IN B2
VBAT.USB R9
VDAC.IN K1
VAUX12S L1
VPLLA3R H15
VINT K15
C1510 1UF C0402
C1511 1UF C0402
C1512 1UF C0402
C1513 1UF C0402
C1514 1UF C0402
VBAT

VPLL2 J15
VPLL1 H14
VDAC.OUT L2
VSIM K2
VMMC2.OUT A4
VMMC1.OUT C2
VAUX4.OUT B3
VAUX3.OUT G16
VAUX2.OUT M3
VAUX1.OUT M2
VDD_PLL2
VDD_PLL1
V_GS_1V8
VDD_HS_DRI
V_CAM_2V85
VDD_MMC1
V_CAM_1V5
V_CAM_1V8
V_GPS_1V8
V_VIBRATOR
C1519 1UF C0402
C1520 1UF C0402
C1521 1UF C0402
C1522 1UF C0402
C1523 1UF C0402
C1524 1UF C0402
C1525 1UF C0402
C1526 1UF C0402
C1527 1UF C0402
C1530 1UF C0402

VINTUSB1P8 P10
VINTUSB1P5 P8
VUSB.3P1 P9
VINTDIG L16
VRTC K16
VINTANA2.OUT2 B6
VINTANA2.OUT1 J2
VINTANA1.OUT H3
V_INTUSB1P8
V_INTUSB1P5
V_USB_3P1
V_INTDIG
V_RTC
V_INTANA2_OUT
V_INTANA1_OUT
C1531 1UF C0402
C1532 1UF C0402
C1533 1UF C0402
C1534 1UF C0402
C1536 1UF C0402
C1538 1UF C0402
C1539 1UF C0402
V_USB_3P1

DGND1 H9
DGND2 H10
DGND3 H11
DGND4 H13
GND.LEFT1 C9
GND.LEFT2 C10
GND.RIGHT1 C11
GND.RIGHT2 C12
AVSS11 J4
AVSS12 J6
AVSS13 J7
AVSS14 J8
AVSS15 E5
AVSS2 R10
AVSS3 M15
AVSS4 C7
AGND N15
MICBIAS.GND D3

R1506 0.0R R0201
GND_MIC
AGND
R1507 0.0R R0201

Charging Circuit

R1508 NM (47R) R0201
ICTLUSB1
ICTLUSB2
U1502 NM (DMP2160UFDB) MICROFET_2X2
C1540 NM (100NF) C0201
R1509 NM (0.22R_1%) R0805
VBAT
C1541 100NF C0201
C1542 10UF C0603
VCCS
R1510 NM (470K_1%) R0201
VUSB_BUS
PCHGUSB

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U1702
SN75LVDS83BDGGR
SN75LVDS83BDGGR

P29 LVDS_R0 LVDS_R0 51
P29 LVDS_R1 LVDS_R1 52
P29 LVDS_R2 LVDS_R2 54
P29 LVDS_R3 LVDS_R3 55
P29 LVDS_R4 LVDS_R4 56
P29 LVDS_R5 LVDS_R5 2
P29 LVDS_G0 LVDS_G0 3
P29 LVDS_G1 LVDS_G1 4
P29 LVDS_G2 LVDS_G2 6
P29 LVDS_G3 LVDS_G3 7
P29 LVDS_G4 LVDS_G4 8
P29 LVDS_G5 LVDS_G5 10
P29 LVDS_B0 LVDS_B0 11
P29 LVDS_B1 LVDS_B1 12
P29 LVDS_B2 LVDS_B2 14
P29 LVDS_B3 LVDS_B3 15
P29 LVDS_B4 LVDS_B4 16
P29 LVDS_B5 LVDS_B5 18
P29 LVDS_HSYNC LVDS_HSYNC 19
P29 LVDS_VSYNC LVDS_VSYNC 20
P29 LVDS_DE LVDS_DE 22
P29 LVDS_PCLK LVDS_PCLK 23
LVDS_CLK_SEL 24
SHTDN 25
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D21 D22 D23 D24 D25 D26 D27
CLKIN CLKSEL

Y0M 48 RN_0-
Y0P 47 RN_0+
Y1M 46 RN_1-
Y1P 45 RN_1+
Y2M 42 RN_2-
Y2P 41 RN_2+
Y3M 38
Y3P 37
CLKOUTM 40 R_CLK-
CLKOUTP 39 R_CLK+
LVDSVCC 44
PLLVCC 34
IOVCC1 1
IOVCC2 26
VCC1 9
GND1 5
GND2 13
GND3 21
GND4 53
GND5 49
GND6 43
GND7 36
GND8 35
GND9 33
GND10 29
GND 31

V_LCD_3V3
R1719 10K R0201
R1729 NM (100K) R0201
R1716 100K R0201
GND

C1703 100NF C0201
C1704 100NF C0201
C1705 100NF C0201
C1718 100NF C0201
C1719 100NF C0201
C1732 10NF C0201
C1733 10NF C0201

CLKSEL = 0, Rising Edge Trigger
CLKSEL = 1, Falling Edge Trigger

R1723 NM (0R) R0201
P29 FPGA_VDIF
R1717 NM (10K) R0201
R1718 NM (100K) R0201
LCD_GSP

LG 9.7" XGA TFT-LCD LP097X02-SLA3

J1701
20347-30E
20347-30E

V_LCD_3V3 VCC
V_EEDID
LCD_GSP
GSP
CLK_EEDID
DATA_EEDID
RN_0- RN_0+ RN_1- RN_1+ RN_2- RN_2+ R_CLK- R_CLK+
GND PAD1 HOLE1 HOLE2 PAD2
LCM_GND
R1722 NM R0402SHORT LCM_GND

LCD Panel Backlight Driver

VBAT
L1701 22UH NR3012
D1701 RB520S30T1G RB520S30T1G
C1706 2.2UF C0402
R1702 10R R0201
C1721 1UF C0402
U1708 HA7106 TSOT-23-6
VDD LX EN OVP GND FB
R1731 10K R0201
P14 LCD_BL_EN LCD_BL_EN
R1733 0.0R R0201
P14 T5_LEDB T5_LEDB
C1726 NM C0201
R1709 100K R0201
15mA
R1708 3.6R R0201
300mV / 3.6ohm = 83.3mA
83.3mA / 6 = 13.83mA
LCD_BL_P
LCD_BL_N
C1707 1UF/25V C0603
C1727 1UF/25V C0603
C1728 1UF/25V C0603
C1729 1UF/25V C0603
C1730 1UF/25V C0603

Jack suggests to use LEDB for Backlight diming!
LCD_BL_EN = 256Hz or 512Hz PWM
FPGA_LEDB = Up to 3MHz PWM

INT# Level Translator

V_GS_1V8
U1704 PCA9306DCU 9306DCU-8P-H0.9
V_GS_3V3
C1724 100NF C0201
R1726 4.7K R0201
R1727 4.7K R0201
R1720 100K R0201
R1724 4.7K R0201
R1725 4.7K R0201
C1725 100NF C0201
VREF1 VREF2 SDA1 SDA2 SCL1 SCL2 GND EN
P12 TK_INT
P12 TP_INT
TK_INT_FPC
TK_INT_FPC P24
TP_INT_TOUCH

I2C Level Translator

U1705 PCA9306DCU 9306DCU-8P-H0.9
R1714 100K R0201
C1710 100NF C0201
R1713 4.7K R0201
R1712 4.7K R0201
C1711 100NF C0201
P12,18 I2C2_SDA
P12,18 I2C2_SCL
I2C2_SDA
I2C2_SCL
H1.3mm
I2C_SDA_TOUCH
I2C_SCL_TOUCH
I2C_SDA_TOUCH P18
I2C_SCL_TOUCH P18

Capacitive Touch Pad

J1702
Griffin 6001 Touch Pad FPC
TSC_GND
V_GS_3V3
C1708 1UF C0402
C1709 100NF C0201
R1711 NM R0402SHORT
GND SCL SDA VDD INT NC H1 H2

U1706 PCA9306DCU 9306DCU-8P-H0.9
R1732 100K R0201
C1722 100NF C0201
C1731 100NF C0201
N.M. or 4.7K?
R1734 NM (4.7K) R0201
R1735 NM (4.7K) R0201
P12 I2C3_SDA
P12 I2C3_SCL
I2C3_SDA
I2C3_SCL
H1.3mm
I2C_SDA_FPC
I2C_SCL_FPC
I2C_SDA_FPC P24
I2C_SCL_FPC P24

Capacitive Soft Key Pad

2M Pixel Fxied Focus Camera

J1704
CM8188-A200SF-E
FH26-23S-0.3SHW
P12 CAM_D[11:2]
CAM_D11 CAM_D10 CAM_D9 CAM_D8 CAM_D7 CAM_D6 CAM_D5 CAM_D4 CAM_D3 CAM_D2
P12 CAM_HSYNC
P12 CAM_VSYNC
P12 CAM_PCLK
P12 CAM_nRESET
P12 CAM_XCLK
V_CAM_1V5
V_CAM_1V8
P12 CAM_nSTANDBY
V_CAM_2V85
D9 D8 D7 D6 D5 D4 D3 D2 D1 D0 HREF VSYNC PCLK RESET MCLK SDIO SDIC GND DVDD DOVDD PWIN AVDD AGND
B1701 BK1005HS102-T B0402
R1721 NM R0402SHORT
2M_AGND
C1714 100NF C0201
C1715 2.2UF C0402
C1712 100NF C0201
C1713 2.2UF C0402
C1723 10UF C0603
C1716 100NF C0201

Title: Innocomm Griffin 6001
Size: A2
Document Number: LCM, CAMERA, Touch Pad
Rev: EP1
Date: Monday, January 31, 2011
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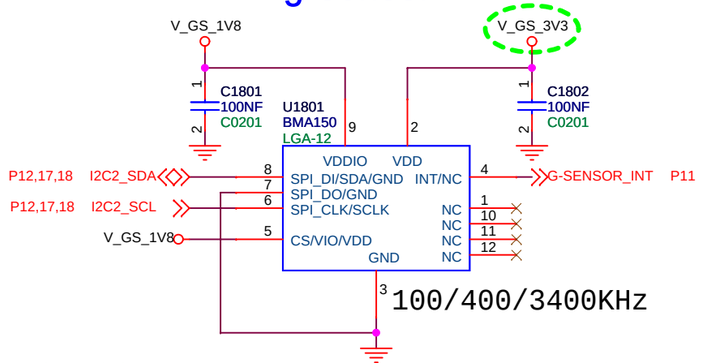
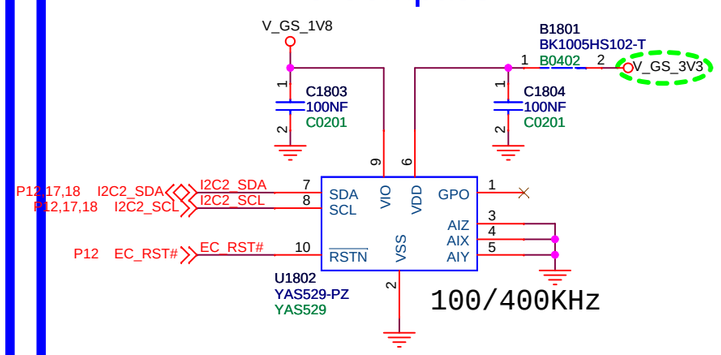
g-Sensor

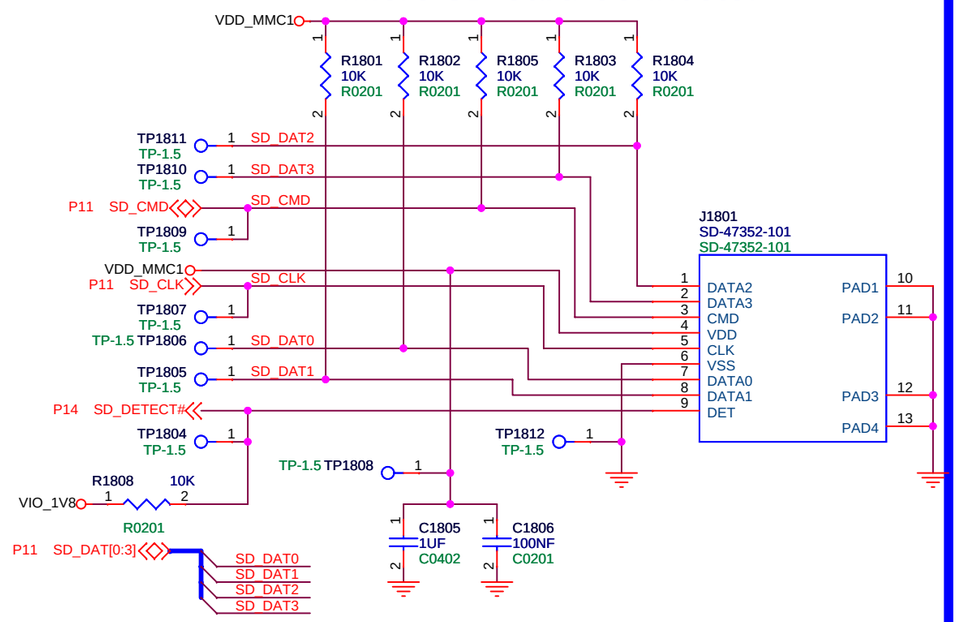


Changed from VIO_1V8 to V_GS_1V8. (Independent power for G-Sensor I/O and e-Compass I/O)

e-Compass

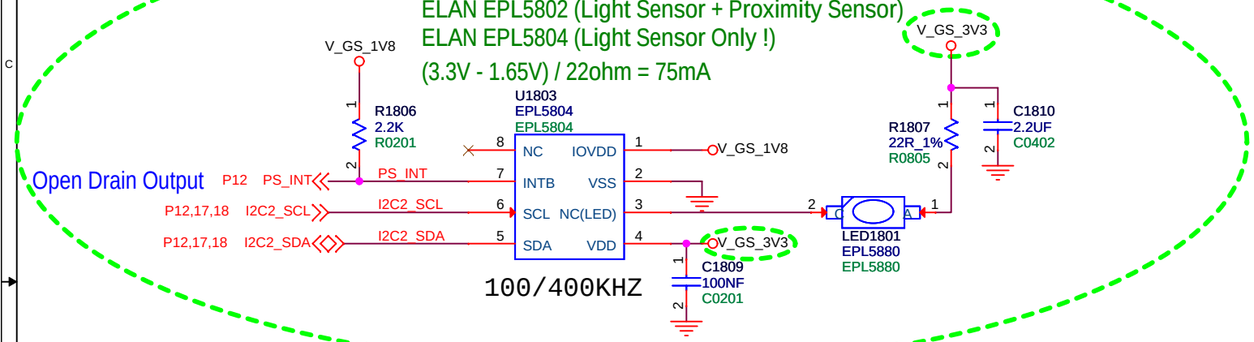


Micro SD Card Connector

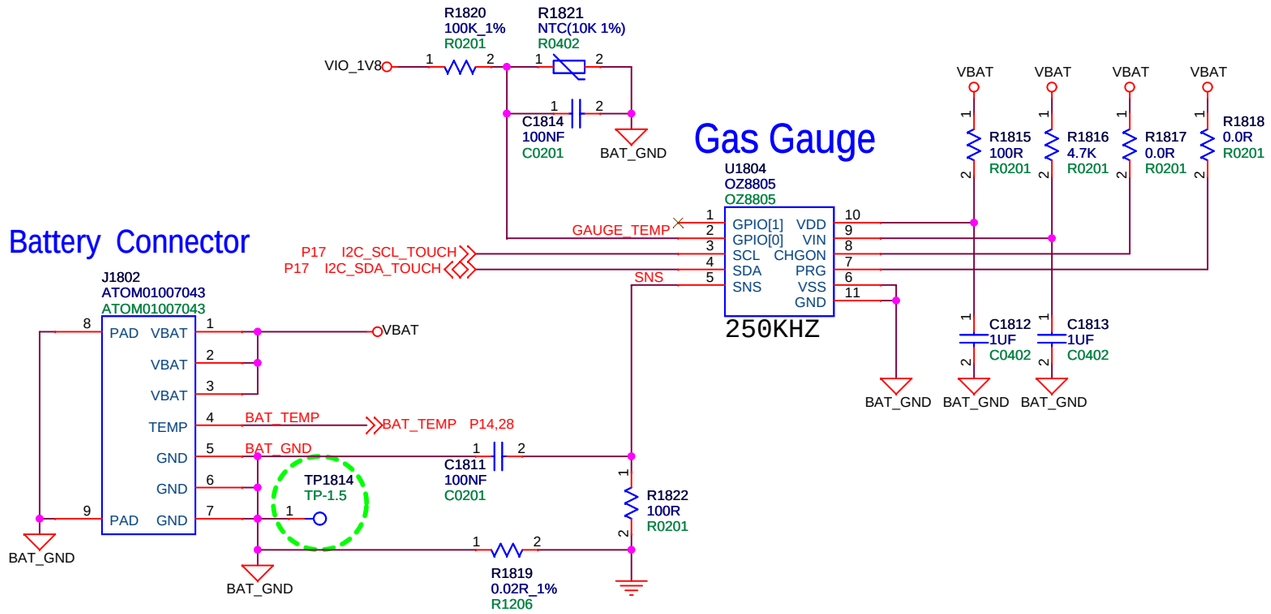


Light-Proximity Sensor

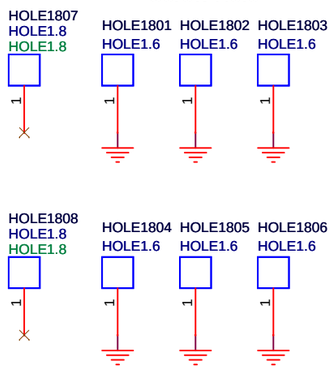
ELAN EPL5802 (Light Sensor + Proximity Sensor)
ELAN EPL5804 (Light Sensor Only !)
(3.3V - 1.65V) / 22ohm = 75mA



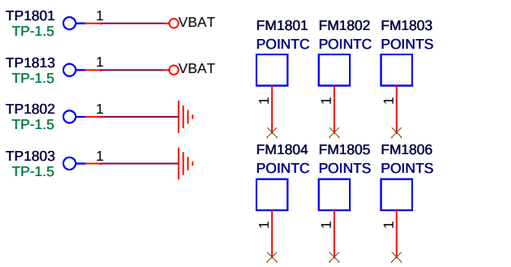
Battery Connector



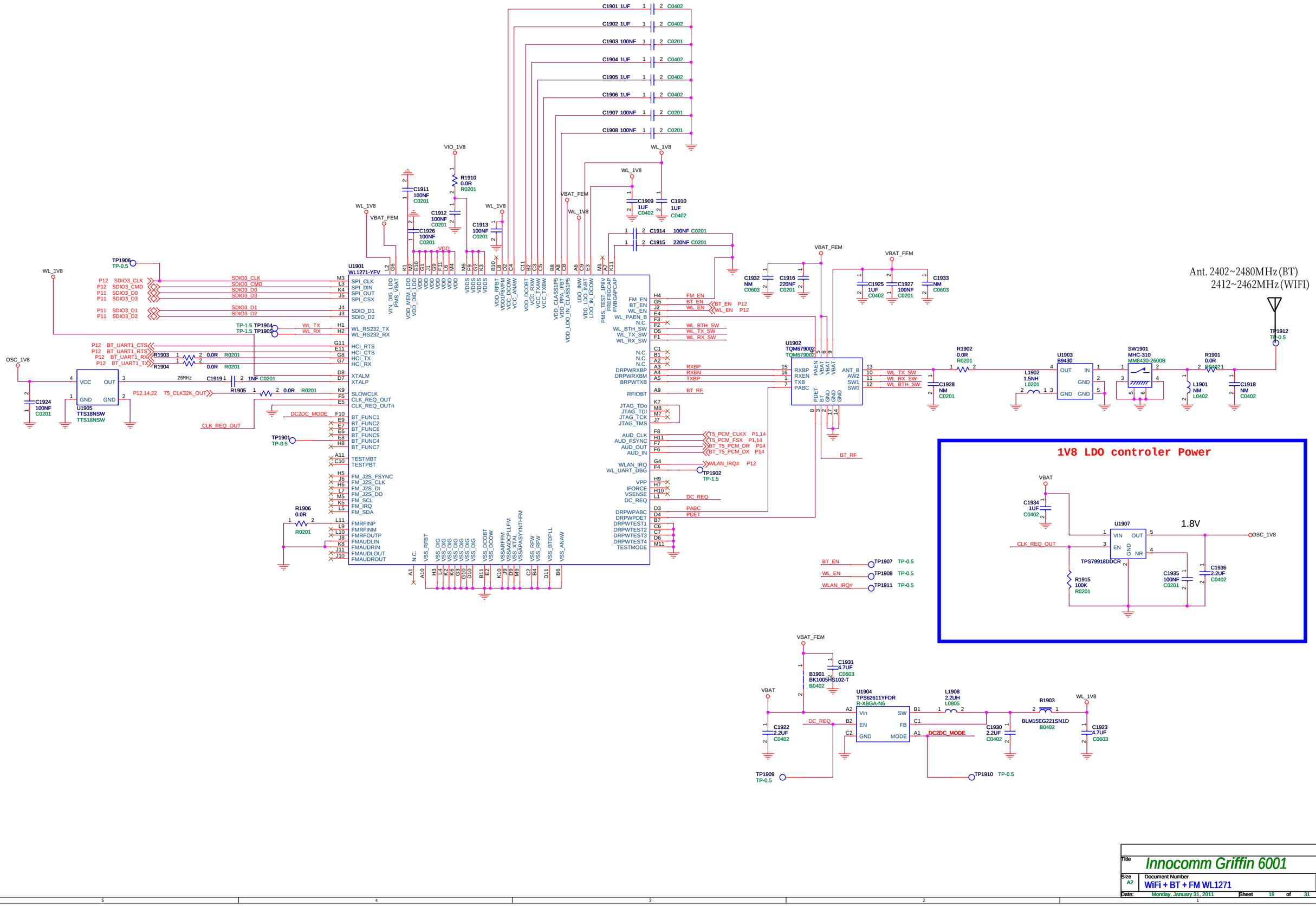
Screw Hole



Fiducial Mark



Title	Innocomm Griffin 6001	
Size A3	Document Number Peripheral	Rev EP1
Date: Monday, January 31, 2011	Sheet 18 of 31	



Title	Innocomm Griffin 6001		
Size A2	Document Number WiFi + BT + FM WL1271		Rev EP1
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Speaker

R2009 NM R0201
R2010 NM R0201
R2011 NM R0201
R2012 NM R0201
L2002 47NH L0402
L2003 47NH L0402
L2006 47NH L0402
L2007 47NH L0402
LS2002 NM SPEAKER-A
LS2003 NM SPEAKER-A
SPK_P
SPK_M
T2001 ESDALC6V1-1BM2
T2002 ESDALC6V1-1BM2
T2005 ESDALC6V1-1BM2
T2006 ESDALC6V1-1BM2

P14 T5_SPEAKLP
P14 T5_SPEAKLM
P14 T5_SPEAKRP
P14 T5_SPEAKRM

Microphone

P14 T5_MIC_BIAS
P14 T5_MIC_P
P14 T5_MIC_M
R2004 1K R0201
R2005 1.2K R0201
R2006 1.2K R0201
R2007 1K R0201
B2006 BK1005HS102-T B0402
B2007 BK1005HS102-T B0402
C2024 100NF C0201
C2025 100NF C0201
C2030 82PF C0201
C2026 47PF C0201
C2027 47PF C0201
C2028 15PF C0201
C2029 15PF C0201
C2023 4.7UF C0603
L2004 82NH L0402
L2005 82NH L0402
MIC2001 OB-4015P OB-4015P
MICP
MICM
T2003 ESDALC6V1-1BM2
T2004 ESDALC6V1-1BM2

Earphone Driver

VBAT
C2031 1UF C0402
C2032 100NF C0201
R2013 0.0R R0201
R2014 0.0R R0201
C2019 1UF C0402
C2020 1UF C0402
C2021 1UF C0402
C2022 1UF C0402
P14 PRE_RIGHT
P14 PRE_LEFT
P11 AMP_EN
U2002 LM4674TL LM4674TL
VDD PVDD GND PGND
IN_R+ IN_R- IN_L+ IN_L-
OUT_RA OUT_RB OUT_LA OUT_LB
SDR# G0 G1 SDL#

G0 = 0, G1 = 1
Audio Gain = x8

VDD_HS_DRI
P12 HEADSET_MUTE
R2001 100K R0201
C2001 2.2UF C0402
C2035 2.2UF C0402
C2018 2.2UF C0402
P14 T5_HSOL
P14 T5_HSOR
C2004 1UF C0402
C2005 1UF C0402
U2001 TPA4411YZH TPA4411YZH-16P-H0.6
n_SDR n_SDL NC NC INL INR
PVDD SVDD PGND SGND PVSS SVSS OutL OutR C1N C1P
HP_A_L HP_A_R
C2015 82PF C0201
C2009 47PF C0201
C2010 47PF C0201
C2016 15PF C0201
C2017 15PF C0201
B2001 BK1005HS102-T B0402
B2003 BK1005HS102-T B0402

Earphone Jack

VIO_1V8
R2008 10K R0201
P14 HS_DET#
HP_OUTL
HP_OUTR
J2001 PJ-337A PJ-337A
T2007 ESDALC6V1-1BM2
T2008 ESDALC6V1-1BM2
T2009 ESDALC6V1-1BM2

Title	Innocomm Griffin 6001	
Size A3	Document Number Audio	Rev EP1
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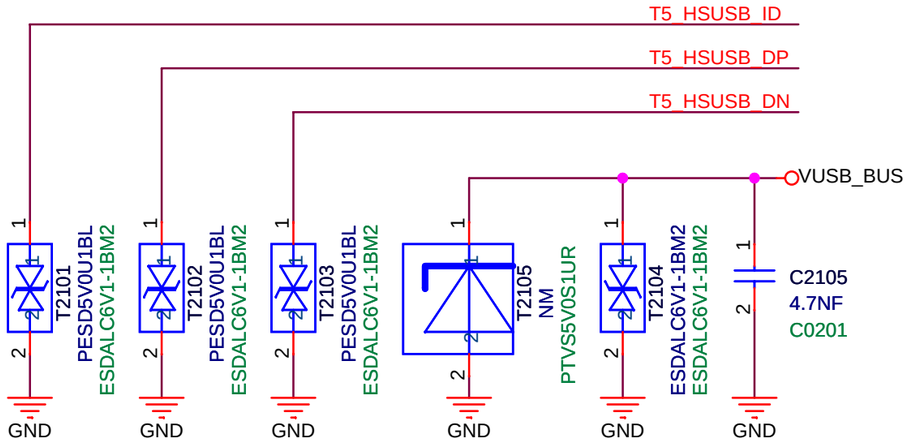

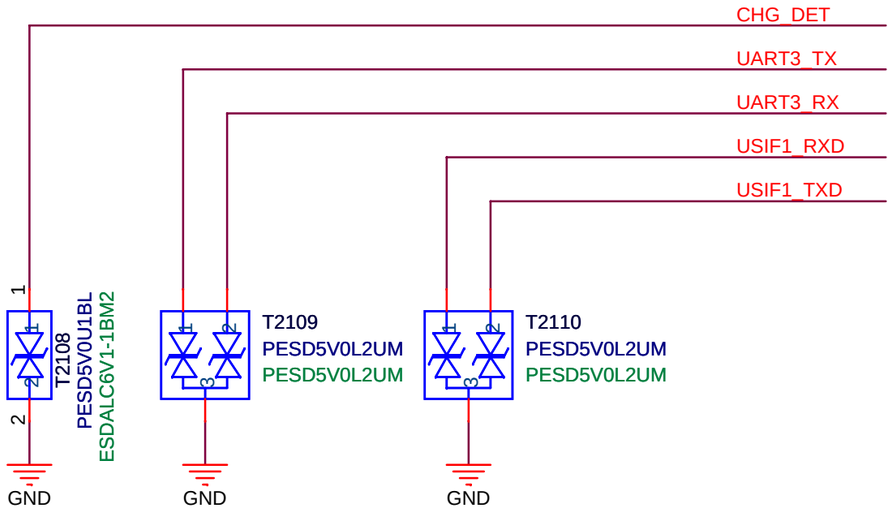

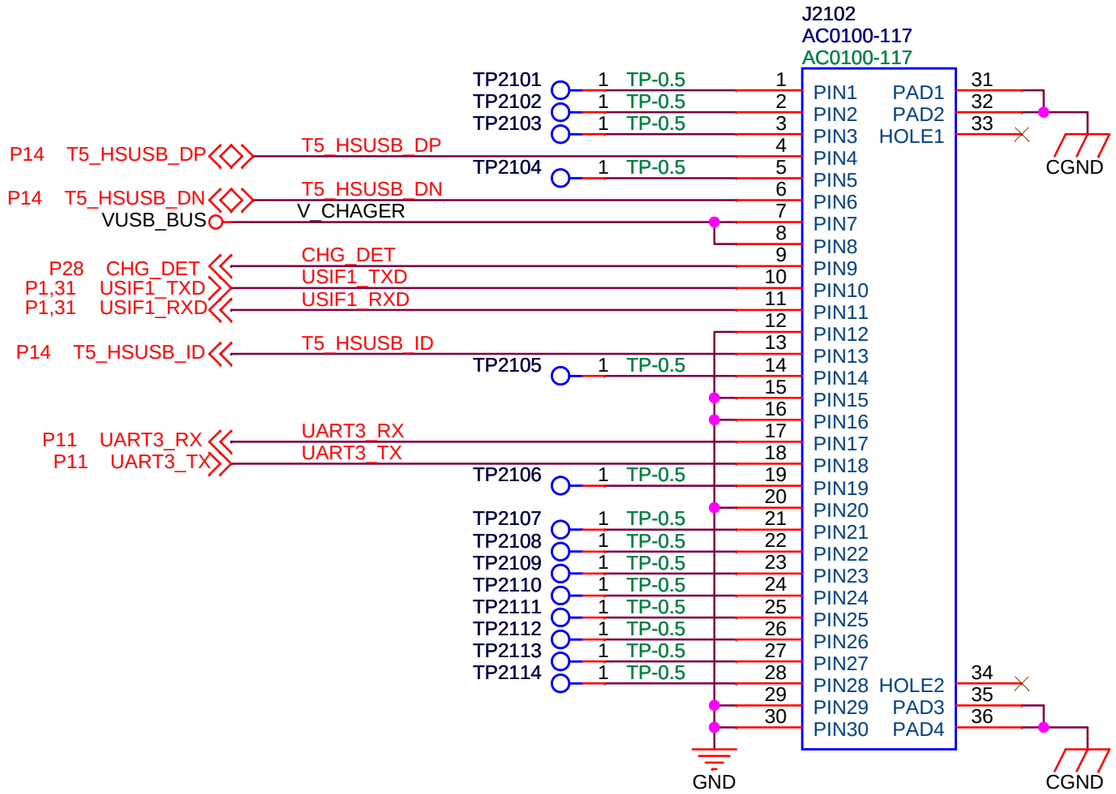

ESDALC6V1-1BM2 : Breakdown Voltage = 6.1V Mimimum Cd = 22pF Typical
PESD5V0U1BL : Breakdown Voltage = 5.5V Minimum, Cd = 2.9pF Typical
PESD5V0L2UM : Breakdown Voltage = 6.46V Mimimum, Cd = 19pF Typical

Title: Innocomm Griffin 6001		
Size: A4	Document Number: System Connector	Rev: EP1
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J2202
DCA-2450C
DCA-2450C

C2216
NM
C0402

R2203
0.0R
R0402

L2203
NM
L0402

SW2201
MHC-310
MM8430-2600B

U2203
TTS18NSH
TTS18NSH
VCC OUT
GND GND

C2205
100NF
C0201

C2204
0.0R
C0201

16.369MHz

U2202
856561
IN OUT
GND GND GND

L2202
12NH
L0201

C2203
NM
C0201

TP2207
TP-1.5

R2204
10R
R0201

L2204
100NH
L0201

L2206
470NH
L0603

C2208
2.2UF
C0402

C2214
100PF
C0201

C2206
1UF
C0402

C2209
1UF
C0402

L2205
100NH
L0201

B2202
BK1005HS102-T
B0402

C2213
10NF
C0201

C2207
2.2UF
C0402

V_GPS_1V8

J2204
0.0R
R0201_3PAD

GPS_1V8

1V8

U2201
GSD-4t

F1 VDD_TCXO_O
F2 F6 VDD_TCXO_I VDD_18_LNA_I
E5 G3 VDD_12_RX_I VDD_12_PLL_I
A1 VREG_12_O
A5 A3 VDD_12_BB1_I VDD_12_BB2_I
C1 B3 VREG_18_I VIO_18_KA_I

G1 REF_CLK
G6 LNA_IN
F4 TP_IF

NC3 NC4 NC1 GND_SPI GND_TCXO GND_KA GND_LNA GND_RX GND_PLL GND_SW GND_BB_1 GND_BB_2
E6 E5 E4 F3 E1 D1 G5 G4 G2 B1 A6 A4

RTC_XO RTC_XI
B2 A2

D5 ON_OFF
E2 TMODE
D6 nsRESET
E3 JTMS
D4 JTCK
C2 GPIO3/ECLK
B4 GPIO4/EIT
D2 GPIO2/TSYNC
C4 GPIO0/DR_I2C_DIO
C3 GPIO1/DR_I2C_CLK
B6 DIO_RX
B5 DO_TX
C6 CS_RTS
C5 CLK_CTS
D3 GPIO5/TM

TP2204
TP-0.5
GPS_ON P11

TP2206
TP-0.5
GPS_RESET# P12

TP2203
TP-1.5

TP2205
TP-1.5

R2205
10K
R02012

R2206
10K
R02012

R2202
0.0R
R02012

R2201
0.0R
R0201

GPS_UART2_TX P11
GPS_UART2_RX P11

R2207
10K
R02012

R2208
0.0R
R0201_3PAD

T5_CLK32K_OUT P12,14,19

C2239
18PF
C0201

X2201
CC7V-T1A-32.768KHZ-12.5pF
CC7V-T1A

C2240
18PF
C0201

VBAT

U2204
TPS79918DDCR
TPS79933DDC
1.8V

VIN OUT
EN GND NR

C2242
1UF
C0402

C2243
100NF
C0201

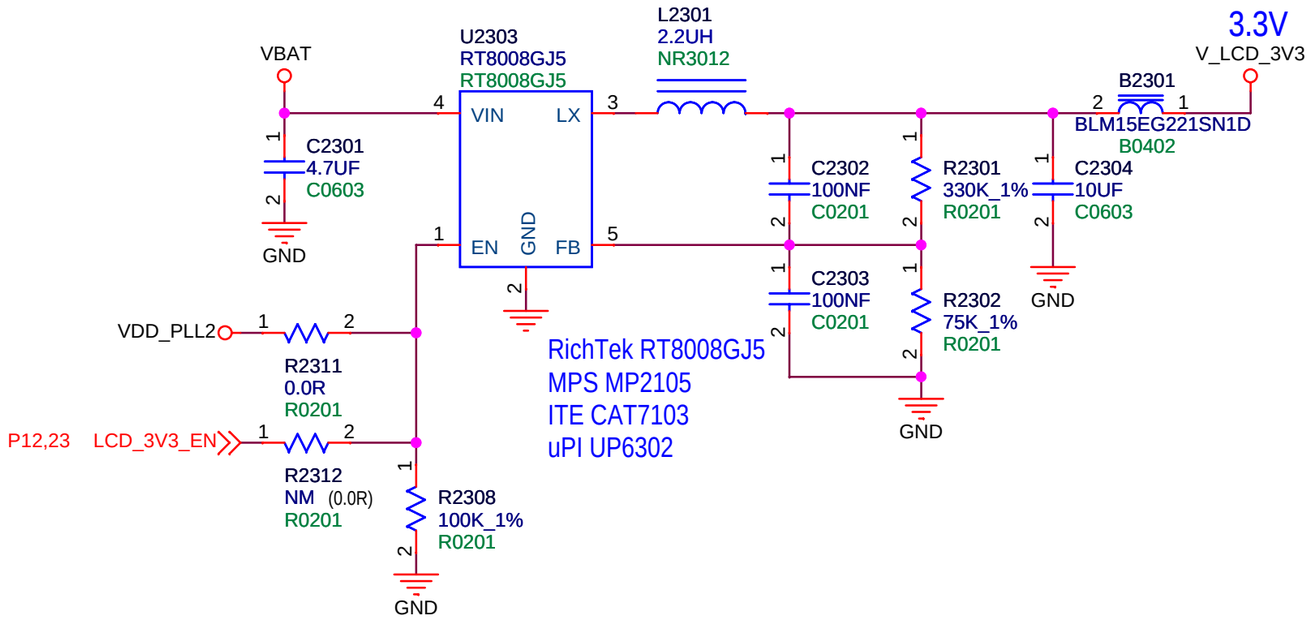
C2241
2.2UF
C0402

GPS_1V8

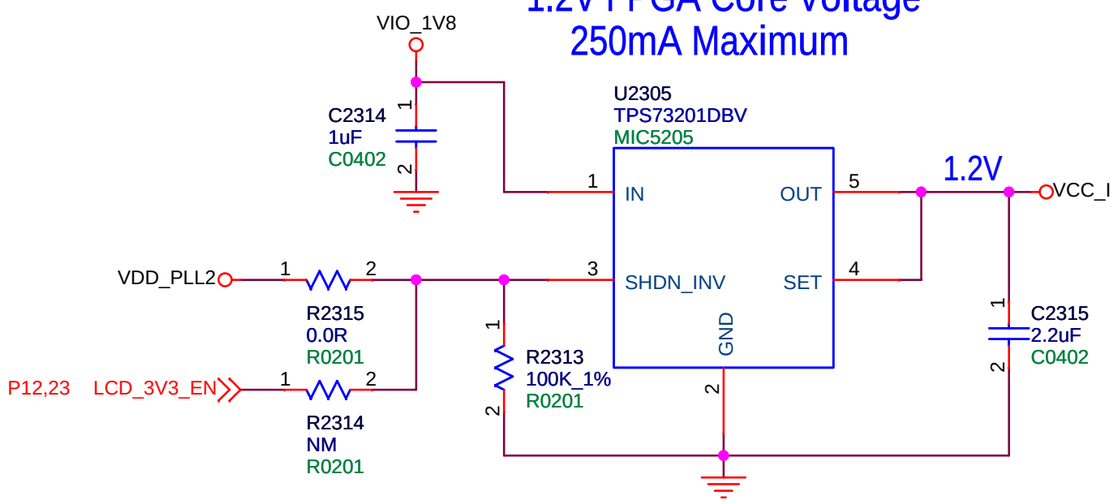
Title	Innocomm Griffin 6001		
Size A3	Document Number GPS		Rev EP1
Date: Monday, January 31, 2011		Sheet 22 of 31	

3.3V LCD Power
600mA Minimum

0.6V x (330K / 75K + 1) = 3.24V
Buck Output = 600mA Maximum
Qiescent Current = 100uA ~ 600uA
LCD = 280mA Maximum

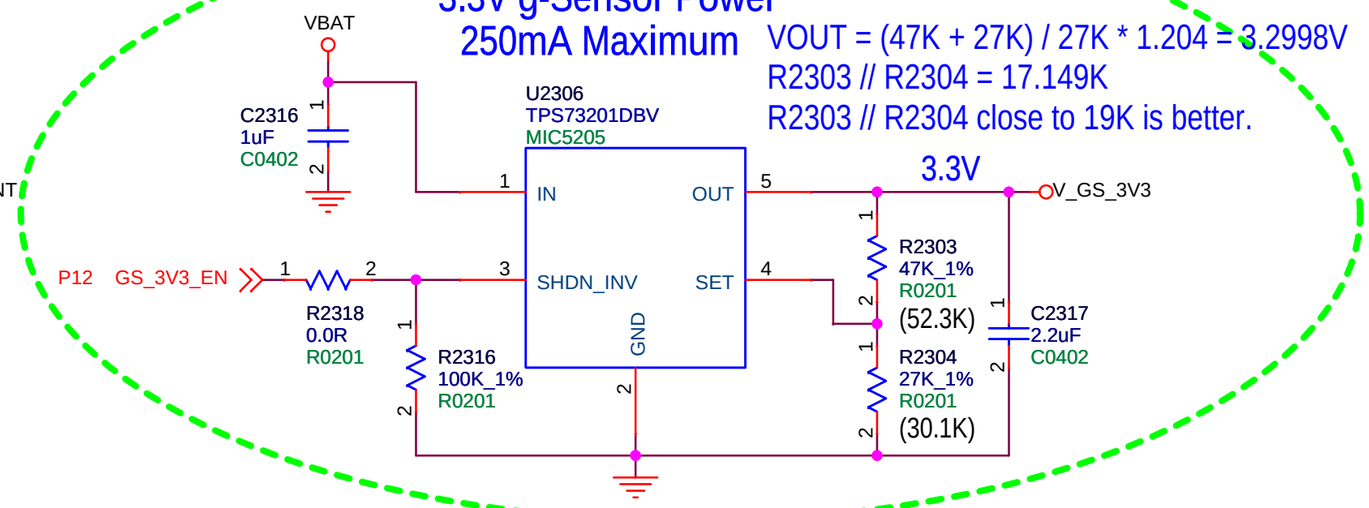


1.2V FPGA Core Voltage
250mA Maximum



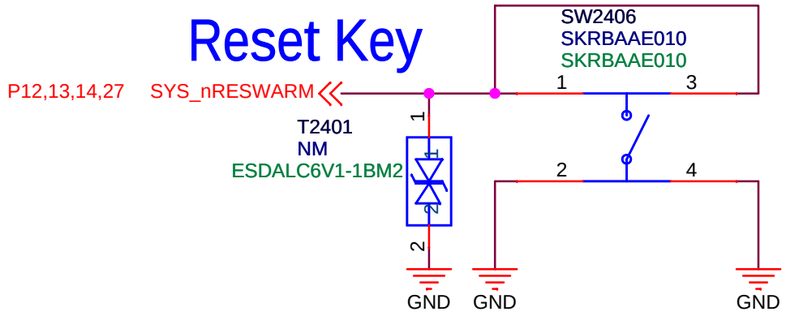
3.3V g-Sensor Power
250mA Maximum

VOUT = (47K + 27K) / 27K * 1.204 = 3.2998V
R2303 // R2304 = 17.149K
R2303 // R2304 close to 19K is better.

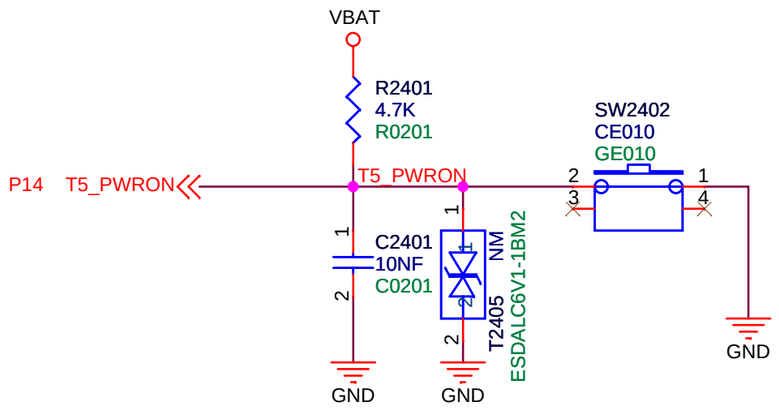


Title	Innocomm Griffin 6001	
Size: A4	Document Number: External Regulator	Rev: EP1
Date: Monday, January 31, 2011	Sheet 23 of 31	

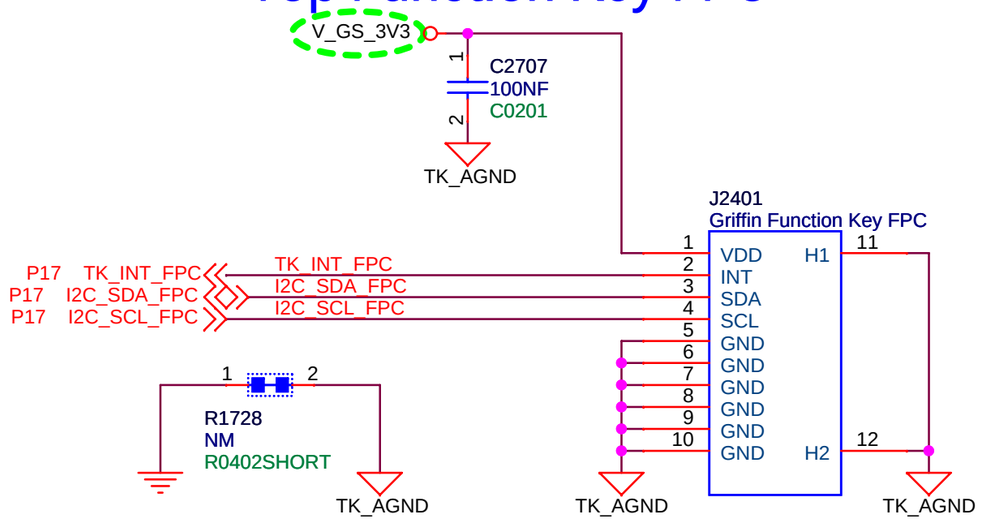
Reset Key



Power on Key

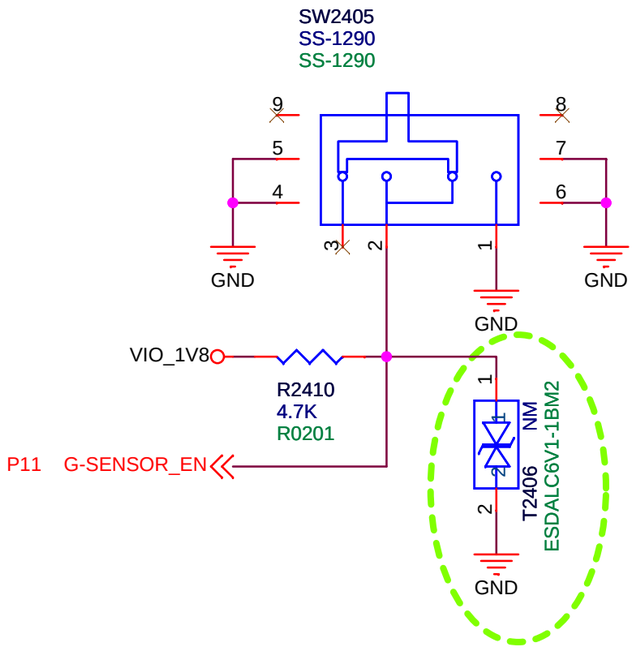


Top Function Key FPC

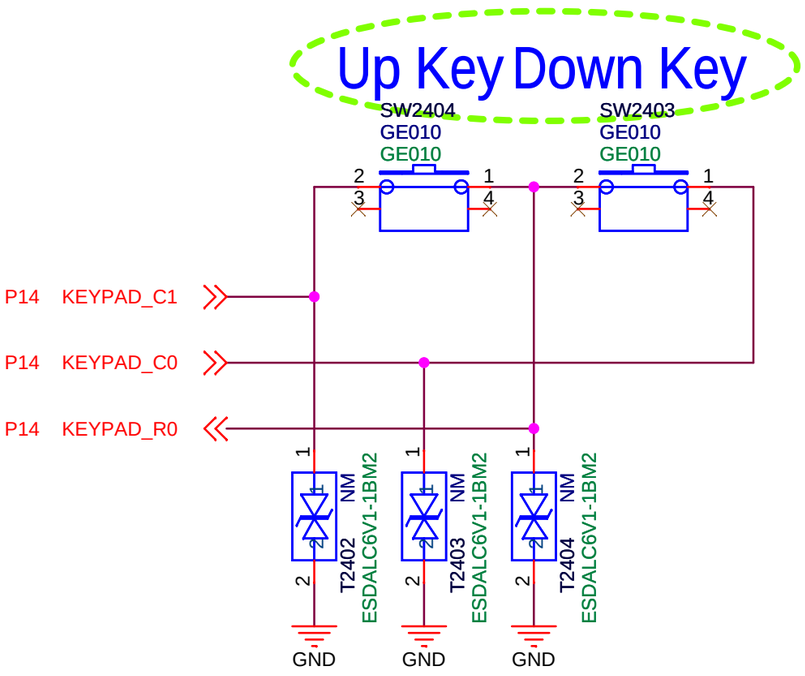


Lock = Pin 1 and Pin 2 is hort, g-sensor is off.
Un-lock = Pin 2 and Pin 3 is hort, g-sensor is on.

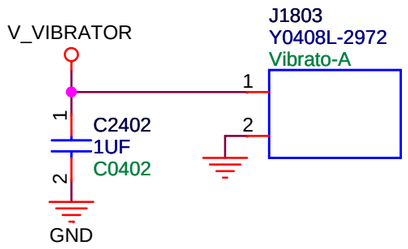
G-Sensor On/Off



Up Key Down Key



Vibrator



Title	Innocomm Griffin 6001		
Size A4	Document Number Key		Rev EP1
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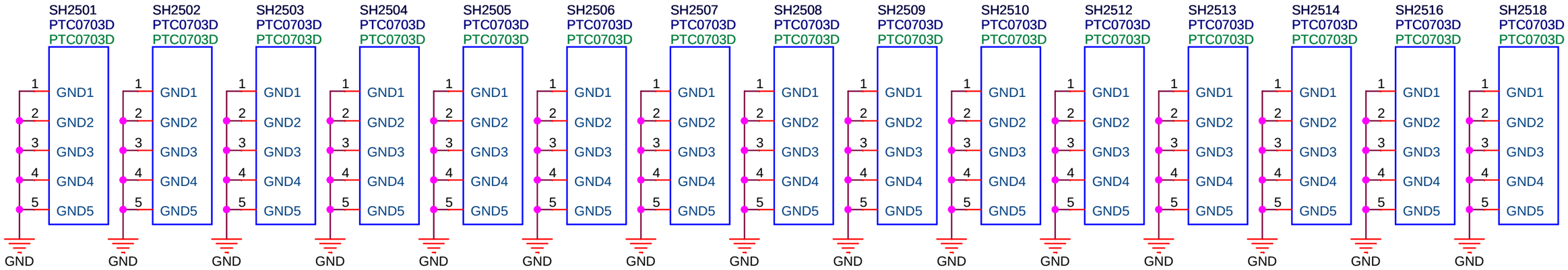
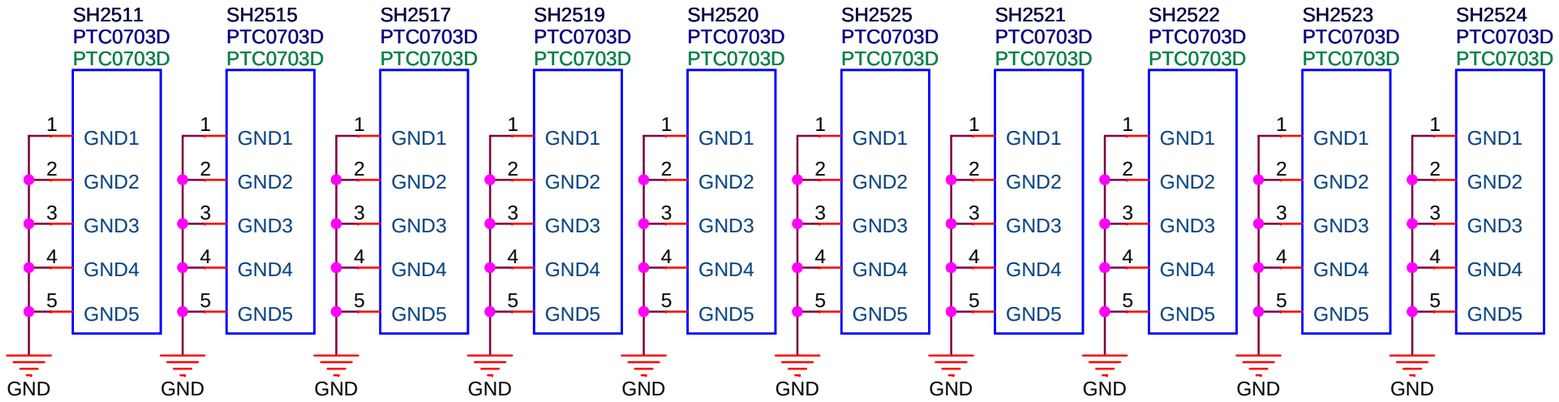
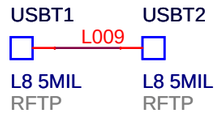
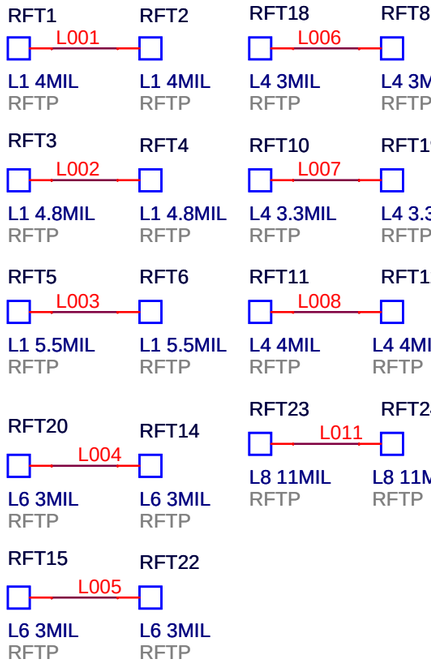
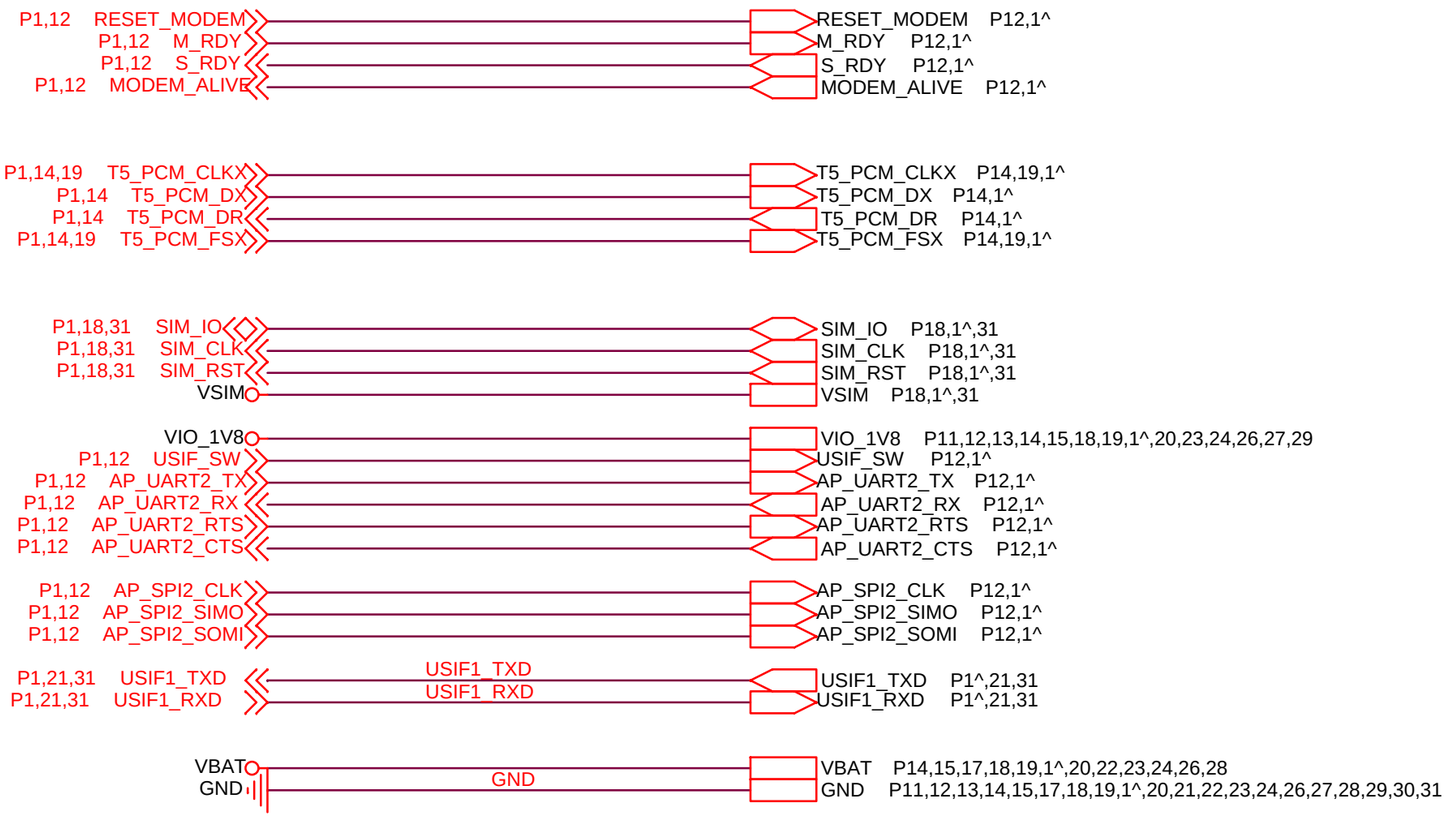




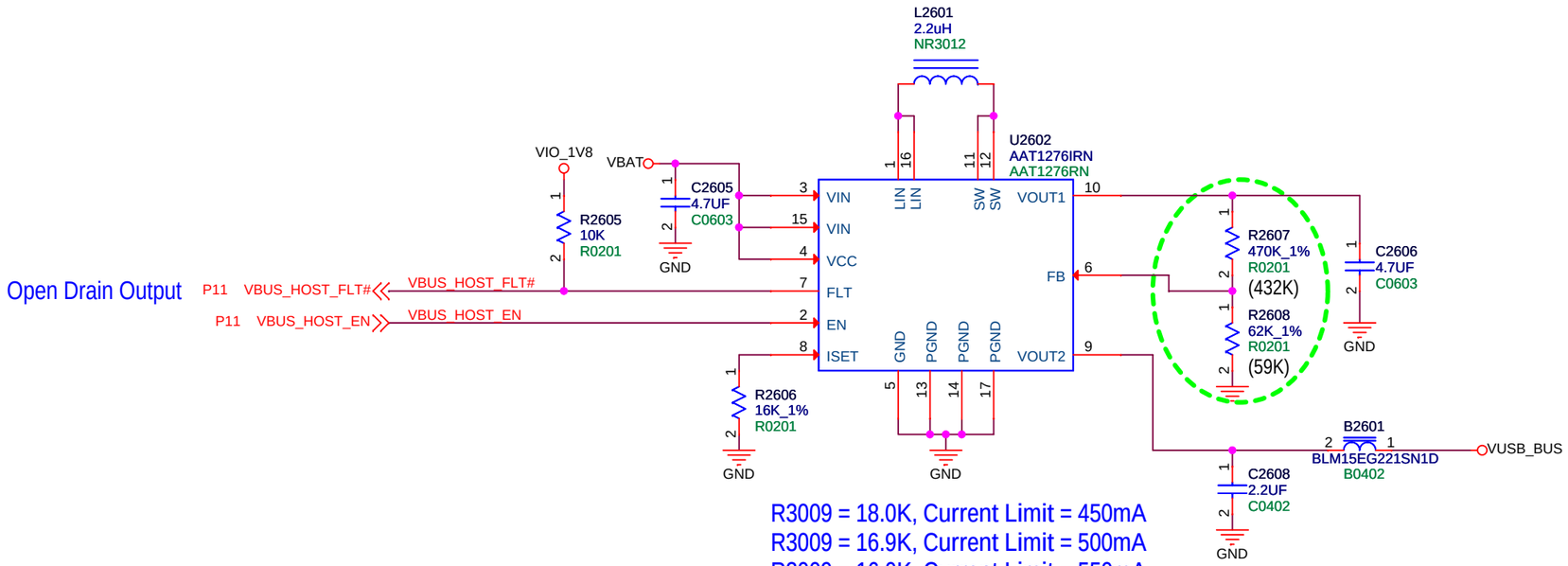






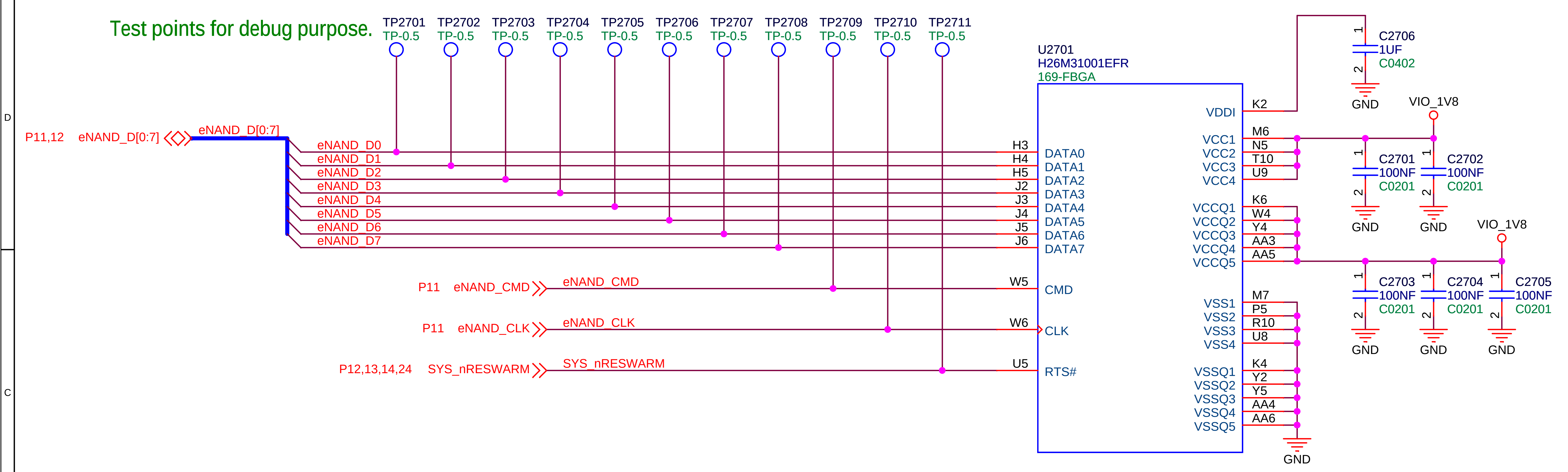
Title	Innocomm Griffin 6001	
Size A4	Document Number Modem Interface	Rev EP1
Date: Monday, January 31, 2011	Sheet 25 of 31	

Input Current = 500mA x (5V / 4.2V / 90%) = 661mA @ Output = 5V / 500mA
Input Current = 500mA x (5V / 3.6V / 90%) = 771mA @ Output = 5V / 500mA

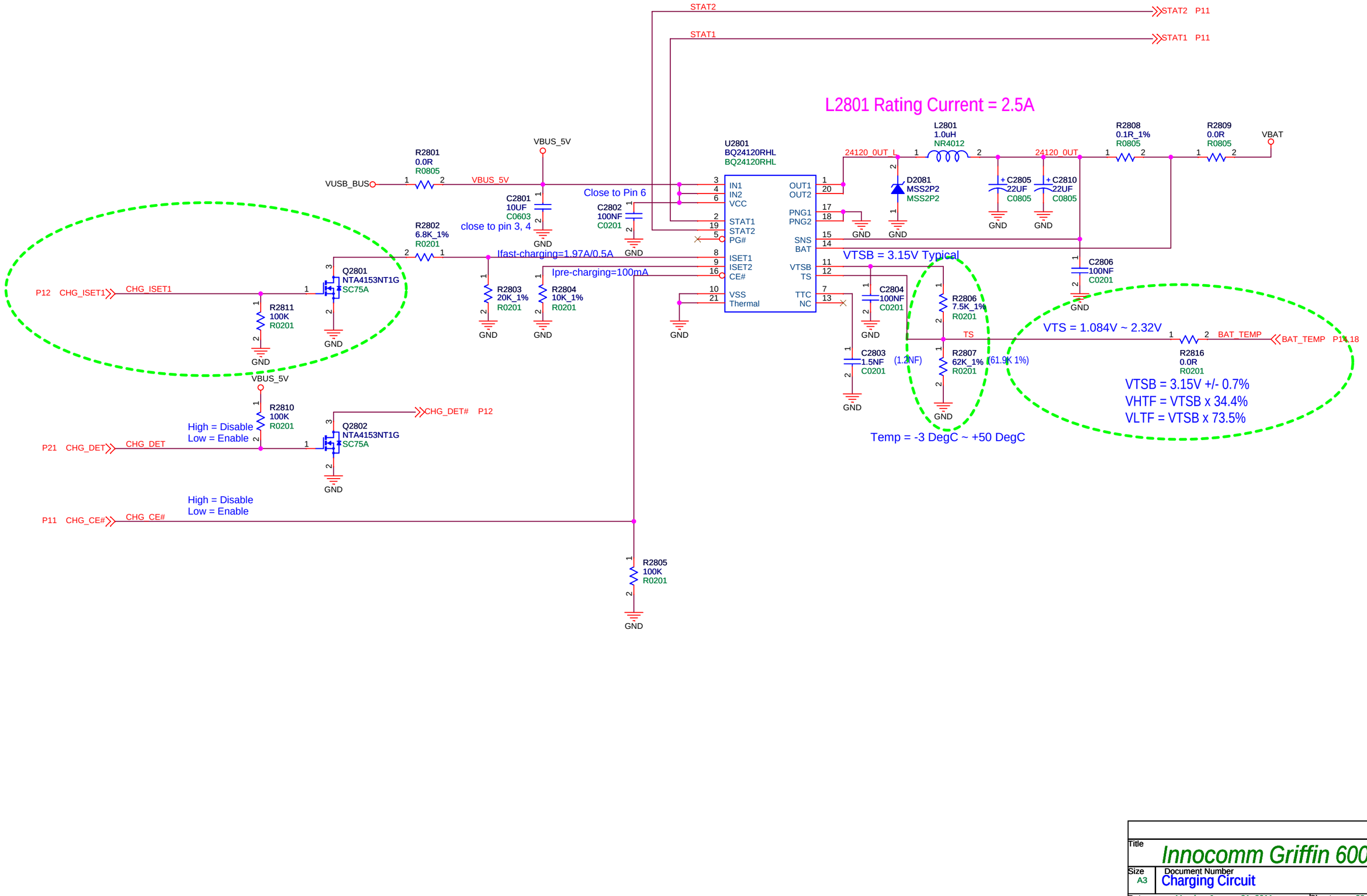


R3009 = 18.0K, Current Limit = 450mA
R3009 = 16.9K, Current Limit = 500mA
R3009 = 16.0K, Current Limit = 550mA

Title	Innocomm Griffin 6001	
Size: B	Document Number: VBUS Power	Rev: EP1
Date: Monday, January 31, 2011	Sheet 26 of 31	



Title	Innocomm Griffin 6001	
Size A4	Document Number eNAND	Rev EP1
Date: Monday, January 31, 2011	Sheet 27 of 31	



Title	Innocomm Griffin 6001		
Size A3	Document Number Charging Circuit		Rev EP1
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U2901A
XC3S50A/AN TQ144
XC3S50A

BANK0

IO_L01P_0 110 DSS_B5
IO_L01N_0 111 DSS_B4
IO_L02P_0/VREF_0 112 DSS_B3
IO_L02N_0 113
IO_L03P_0 115 DSS_B2
IO_L03N_0 117 DSS_B1
IO_L04P_0 114 DSS_B0
IO_L04N_0 116
IO_L05P_0 120 DSS_VSYNC → DSS_VSYNC P11
IO_L05N_0 121 DSS_HSYNC → DSS_HSYNC P11
IO_L06P_0/GCLK4 124 DSS_PCLK → DSS_PCLK P11
IO_L06N_0/GCLK5 126 DSS_DE → DSS_DE P11
IP_0/VREF_0 123
IO_L07P_0/GCLK6 125 DSS_G5
IO_L07N_0/GCLK7 127 DSS_G4
IO_L08P_0/GCLK8 129 DSS_G3
IO_L08N_0/GCLK9 131
IO_L09P_0/GCLK10 130 DSS_G2
IO_L09N_0/GCLK11 132 DSS_G1
IO_L10P_0 134 DSS_G0
IO_L10N_0 135
IO_L11P_0 138
IO_L11N_0 139
IO_0 142
IP_0 140
IO_L12P_0/VREF_0 141
IO_L12N_0/PUDC_B 143

DSS_B[0:5] P11
DSS_G[0:5] P11

VCCO_0 119 GND
VCCO_0 136

C2901 100NF C0201
C2902 100NF C0201
VDD_PLL2
GND

U2901B
XC3S50A/AN TQ144
XC3S50A

BANK1

IO_L01P_1/HDC 76
IO_L01N_1/LDC2 78
IO_L02P_1/LDC1 75
IO_L02N_1/LDC0 77
IO_1 79
IO_L03P_1 80
IO_L03N_1 82
IO_L04P_1/RHCLK0 83
IO_L04N_1/RHCLK1 85
IO_L05P_1/RHCLK2 87
IO_L05N_1/TRDY1/RHCLK3 88
IO_L06P_1/RHCLK4 90
IO_L06N_1/RHCLK5 92
IO_L07P_1/IRDY1/RHCLK6 91
IO_L07N_1/RHCLK7 93
IO_L08P_1 96
IO_L08N_1 98
IP_1/VREF_1 97
IO_L09P_1 99
IO_L09N_1 101
IO_L10P_1 102
IO_L10N_1 104
IO_L11P_1 103
IO_L11N_1 105

TP2901 TP-0.5
TP2902 TP-0.5
TP2903 TP-0.5
TP2904 TP-0.5

LCD_VDIR → LCD_VDIR P11
LCD_HDIR → LCD_HDIR P11

DSS_R[0:5] P11
DSS_R5
DSS_R4
DSS_R3
DSS_R2
DSS_R1
DSS_R0

VCCO_1 86 GND
VCCO_1 95

C2903 100NF C0201
C2904 100NF C0201
VDD_PLL2
GND

U2901C
XC3S50A/AN TQ144
XC3S50A

BANK2

IO_L01P_2/M1 37 M1
IO_L01N_2/M0 38 M0
IO_L02P_2/M2 39 M2
IO_L02N_2/CSO_B 41
IO_L03P_2/RDWR_B 42
IO_L04P_2/VS2 43 VS2
IO_L03N_2/VS1 44 VS1
IO_L04N_2/VS0 45 VS0
IO_L05P_2 46
IO_L06P_2 47
IO_L05N_2/D7 48
IO_L06N_2/D6 49 LVDS_VSYNC → LVDS_VSYNC P17
IO_L07P_2/D5 50 LVDS_HSYNC → LVDS_HSYNC P17
IO_L07N_2/D4 51 LVDS_DE → LVDS_DE P17
IP_2/VREF_2 53
IO_L08P_2/GCLK14 54 FPGA_HDIR
IO_L08N_2/GCLK15 55 FPGA_VDIR → FPGA_VDIR P17
IO_L09P_2/GCLK0 57
IO_L09N_2/GCLK1 59
IO_L10P_2/GCLK2 58
IO_L10N_2/GCLK3 60
IO_2/MOSI/CSI_B 62
IO_L11P_2/AWAKE 63
IO_L11N_2/DOUT 64
IO_L12P_2/INIT_B 67
IO_L12N_2/D3 68
IO_L13P_2/D2 69
IO_L14P_2/D1 70
IO_L13N_2/D0/DIN/MISO 71
IO_L14N_2/CCLK 72

TP2910 TP-0.5
TP2905 TP-0.5
TP2906 TP-0.5
TP2907 TP-0.5
TP2908 TP-0.5
TP2909 TP-0.5

VCCO_2 40
VCCO_2 61

C2905 100NF C0201
C2906 100NF C0201
V_LCD_3V3
GND

U2901D
XC3S50A/AN TQ144
XC3S50A

BANK3

IO_L01P_3 4 LVDS_R5 → LVDS_R5 P17
IO_L01N_3 6 LVDS_R4 → LVDS_R4 P17
IO_L02P_3 3 LVDS_R3 → LVDS_R3 P17
IO_L02N_3 5 LVDS_PCLK → LVDS_PCLK P17
IO_L03P_3 7 LVDS_R2 → LVDS_R2 P17
IO_L03N_3 8 LVDS_R1 → LVDS_R1 P17
IO_L04P_3 10 LVDS_R0 → LVDS_R0 P17
IO_L04N_3/VREF_3 11
IO_L05P_3/LHCLK0 12 LVDS_G5 → LVDS_G5 P17
IO_L05N_3/LHCLK1 13 LVDS_G4 → LVDS_G4 P17
IO_L06P_3/LHCLK2 15 LVDS_G3 → LVDS_G3 P17
IO_L06N_3/IRDY2/LHCLK3 16
IO_L07P_3/LHCLK4 18 LVDS_G2 → LVDS_G2 P17
IO_L07N_3/LHCLK5 20 LVDS_G1 → LVDS_G1 P17
IO_L08P_3/TRDY2/LHCLK6 19 LVDS_G0 → LVDS_G0 P17
IO_L08N_3/LHCLK7 21
IO_L09P_3 24 LVDS_B5 → LVDS_B5 P17
IO_L09N_3 25 LVDS_B4 → LVDS_B4 P17
IO_L10P_3 27 LVDS_B3 → LVDS_B3 P17
IO_L10N_3 29
IO_L11P_3 28 LVDS_B2 → LVDS_B2 P17
IO_L11N_3 30 LVDS_B1 → LVDS_B1 P17
IO_L12P_3 31 LVDS_B0 → LVDS_B0 P17
IO_L12N_3 32
IP_L13P_3 33
IP_L13N_3/VREF_3 35

GND

VCCO_3 14
VCCO_3 23

C2907 100NF C0201
C2908 100NF C0201
V_LCD_3V3
GND

DONE LED
D2902 19-213SYGC1S313/TR8 SML-310MTT86
R2910 680R R0201
Q2902 NTA4153NT1G SC75A
V_LCD_3V3
GND

VIO_1V8
R2913 10K R0201
D2903 RB520S30T1G
P11 FPGA_DONE ← FPGA_DONE
DONE

TP2919 TP-0.5
TP2917 TP-0.5
R2902 4.7K R0201
R2903 4.7K R0201
V_LCD_3V3
Open Drain Output

U2901E
XC3S50A/AN TQ144
XC3S50A

PROG_B 144
DONE 73
SUSPEND 74

VCCINT 22
VCCINT 52
VCCINT 94
VCCINT 122
VCCAUX 36
VCCAUX 66
VCCAUX 108
VCCAUX 133

GND 9
GND 17
GND 26
GND 34
GND 56
GND 65
GND 81
GND 89
GND 100
GND 106
GND 118
GND 128
GND 137

TCK 109
TDO 107
TDI 2
TMS 1

TP-1.5 TP2911 1 VREF → V_LCD_3V3
TP-1.5 TP2912 1 TCK
TP-1.5 TP2913 1 TDO
TP-1.5 TP2914 1 TDI
TP-1.5 TP2915 1 TMS
TP-1.5 TP2916 1
GND

VCC_INT
C2909 100NF C0201
C2910 100NF C0201
C2911 100NF C0201
C2912 100NF C0201
V_LCD_3V3
C2913 100NF C0201
C2914 100NF C0201
C2915 100NF C0201
C2916 100NF C0201
GND

Change to test point 1.5mm.

Q2901 NM (NTA4153NT1G) SC75A
R2915 NM (10K) R0201
P11 FPGA_SUSPEND# ← FPGA_SUSPEND#
R2916 NM (100K) R0201
R2917 100K R0201
V_LCD_3V3
GND

R2901 NM (680R) R0201
R2911 NM R0201 (15K)
FPGA_AWAKE → FPGA_AWAKE P11
R2912 (18K) NM
D2901 NM (19-213SYGC1S313/TR8) SML-310MTT86
AWAKE LED
GND
R0201

Boot Strap

R2908	1	2	2.2K	R0201	M1	M1
R2904	1	2	2.2K	R0201	M0	M0
R2905	1	2	2.2K	R0201	VS0	VS0
R2906	1	2	2.2K	R0201	VS1	VS1
R2907	1	2	2.2K	R0201	VS2	VS2
R2909	1	2	2.2K	R0201	M2	M2

V_LCD_3V3
GND

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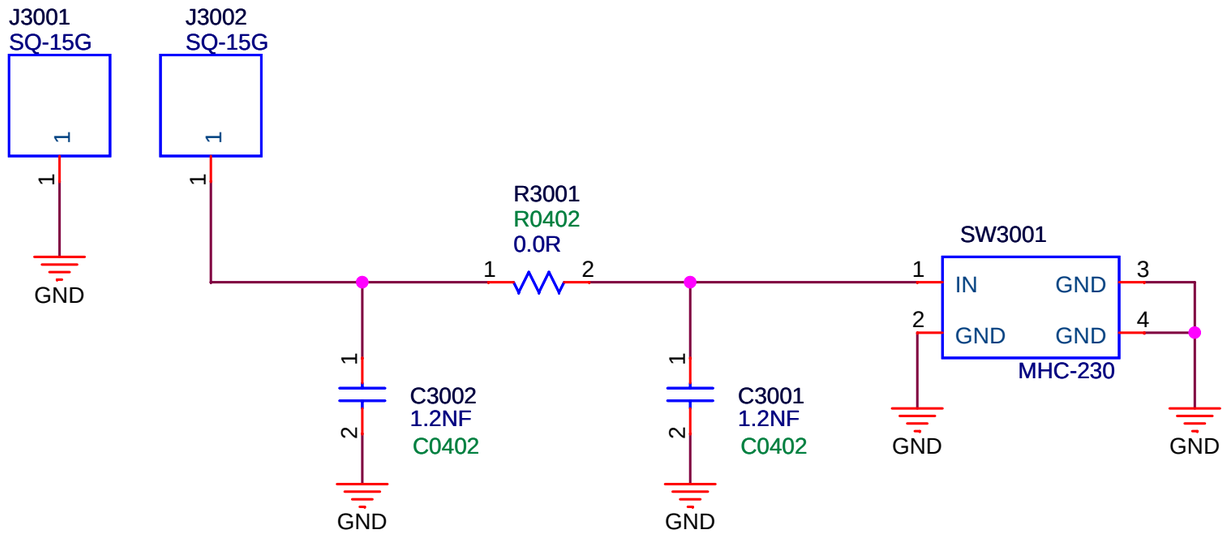

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