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REVISION HISTORY:

V1.0 - 13/10/2016

NOTES:

These reduced schematics omit core SMPS and LPDDR2 circuitry only

Raspberry Pi

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Title		Drawn By	
Raspberry Pi Compute Module 3 (Reduced)		James Adams	
Size	Ref		Rev
A3	RPI-CM3		1.0
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V_CORE powers core SMPS which generates VDD_CORE

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Route ringed signals as matched
length 100R differential pairs

U1F
BCM2837

CAM1_CP — Y16 — CAM1_CP — CAM1_CP
CAM1_CN — AA16 — CAM1_CN — CAM1_CN

CAM1_DP0 — Y18 — CAM1_DP0 — CAM1_DP0
CAM1_DN0 — AA18 — CAM1_DN0 — CAM1_DN0

CAM1_DP1 — Y17 — CAM1_DP1 — CAM1_DP1
CAM1_DN1 — AA17 — CAM1_DN1 — CAM1_DN1

CAM1_DP2 — Y15 — CAM1_DP2 — CAM1_DP2
CAM1_DN2 — AA15 — CAM1_DN2 — CAM1_DN2

CAM1_DP3 — Y14 — CAM1_DP3 — CAM1_DP3
CAM1_DN3 — AA14 — CAM1_DN3 — CAM1_DN3

AGND_3
AGND_4

P5
R5

1V8
C103
220n
1005

W4

U1H
BCM2837

DSI1_1V8

DSI1_CP — V1 — DSI1_CP — DSI1_CP
DSI1_CN — V2 — DSI1_CN — DSI1_CN

DSI1_DP0 — T1 — DSI1_DP0 — DSI1_DP0
DSI1_DN0 — T2 — DSI1_DN0 — DSI1_DN0

DSI1_DP1 — U1 — DSI1_DP1 — DSI1_DP1
DSI1_DN1 — U2 — DSI1_DN1 — DSI1_DN1

DSI1_DP2 — W1 — DSI1_DP2 — DSI1_DP2
DSI1_DN2 — W2 — DSI1_DN2 — DSI1_DN2

DSI1_DP3 — Y1 — DSI1_DP3 — DSI1_DP3
DSI1_DN3 — Y2 — DSI1_DN3 — DSI1_DN3

AGND_7
AGND_8
AGND_9

U9
V10
V4

3V3
C52
220n
1005

D8
E6

U1A
BCM2837

VDDIO0_1
VDDIO0_2

D10 TEST20

TEST0 — C12
TEST1 — F13
TEST2 — D12
TEST3 — F14
TEST4 — E8
TEST5 — E12
TEST6 — E13
TEST7 — C13
TEST8 — C11
TEST9 — D13
TEST10 — D6
TEST11 — C15
TEST12 — E14
TEST13 — C14
TEST14 — C9
TEST15 — C10
TEST16 — D14
TEST17 — F10
TEST18 — F11
TEST19 — E10

1V8
C99
220n
1005

V12

U1E
BCM2837

CAM_1V8

CAM0_CP — AA12 — CAM0_CP — CAM0_CP
CAM0_CN — Y12 — CAM0_CN — CAM0_CN

CAM0_DP0 — AA11 — CAM0_DP0 — CAM0_DP0
CAM0_DN0 — Y11 — CAM0_DN0 — CAM0_DN0

CAM0_DP1 — AA13 — CAM0_DP1 — CAM0_DP1
CAM0_DN1 — Y13 — CAM0_DN1 — CAM0_DN1

AGND_1
AGND_2

AA1
AA21

1V8
C104
220n
1005

AA2

U1G
BCM2837

DSI0_1V8

DSI0_CP — AA4 — DSI0_CP — DSI0_CP
DSI0_CN — Y4 — DSI0_CN — DSI0_CN

DSI0_DP0 — AA5 — DSI0_DP0 — DSI0_DP0
DSI0_DN0 — Y5 — DSI0_DN0 — DSI0_DN0

DSI0_DP1 — AA3 — DSI0_DP1 — DSI0_DP1
DSI0_DN1 — Y3 — DSI0_DN1 — DSI0_DN1

AGND_5
AGND_6

U4
U6

3V3

U1M
BCM2837
F6

VDDIO5

TCK — U13 — VC_TCK — VC_TCK
TDI — U14 — VC_TDI — VC_TDI
TDO — V14 — VC_TDO — VC_TDO
TMS — U12 — VC_TMS — VC_TMS
TRST_L — U11 — VC_TRST_N — VC_TRST_N

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Title
Raspberry Pi Compute Module 3 (Reduced)

Drawn By
James Adams

Size
A3

Ref
RPI-CM3

Rev
1.0

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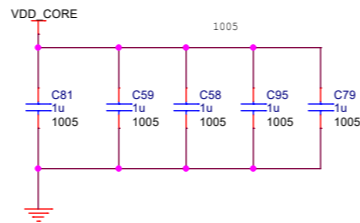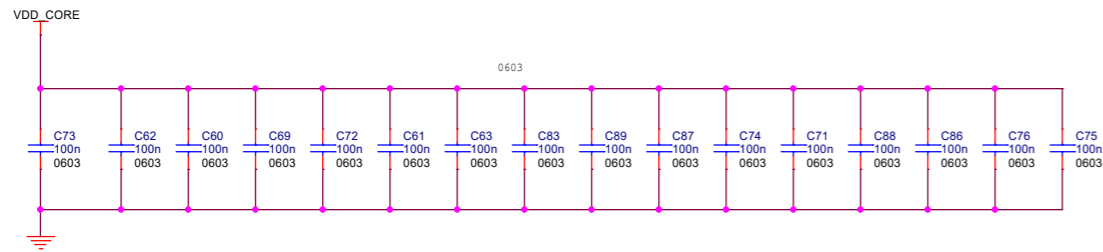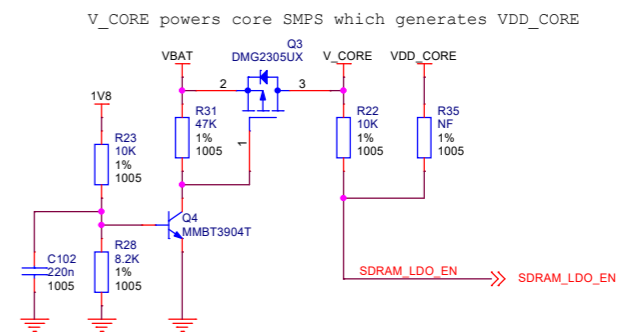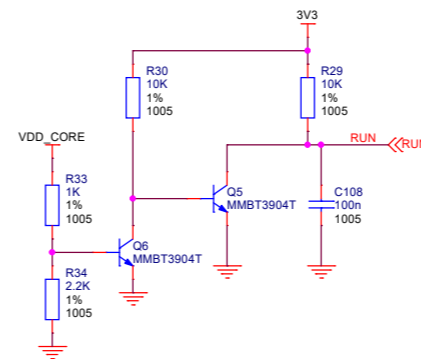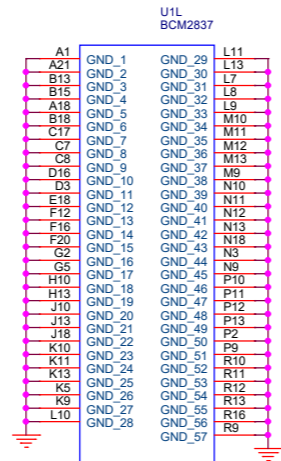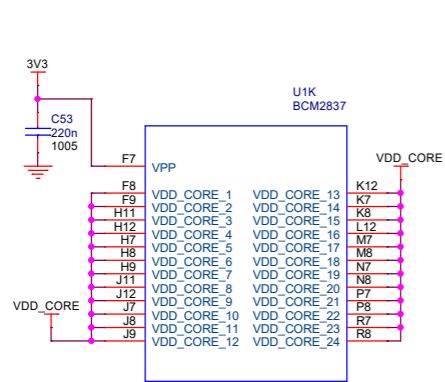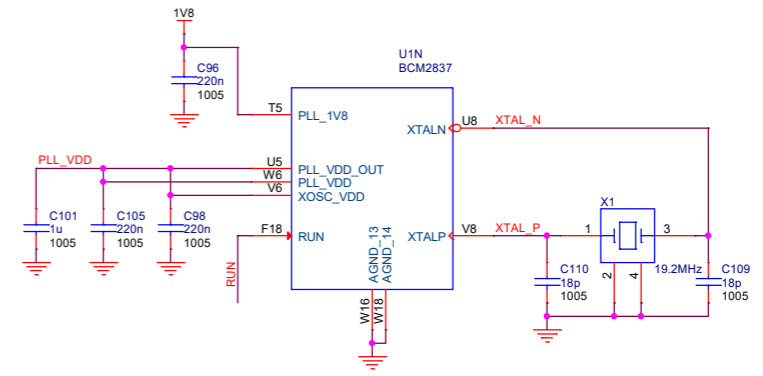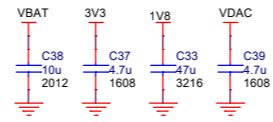
Route ringed signals as matched
length 100R differential pairs

R25 fitted, R24 not fitted on CM3L
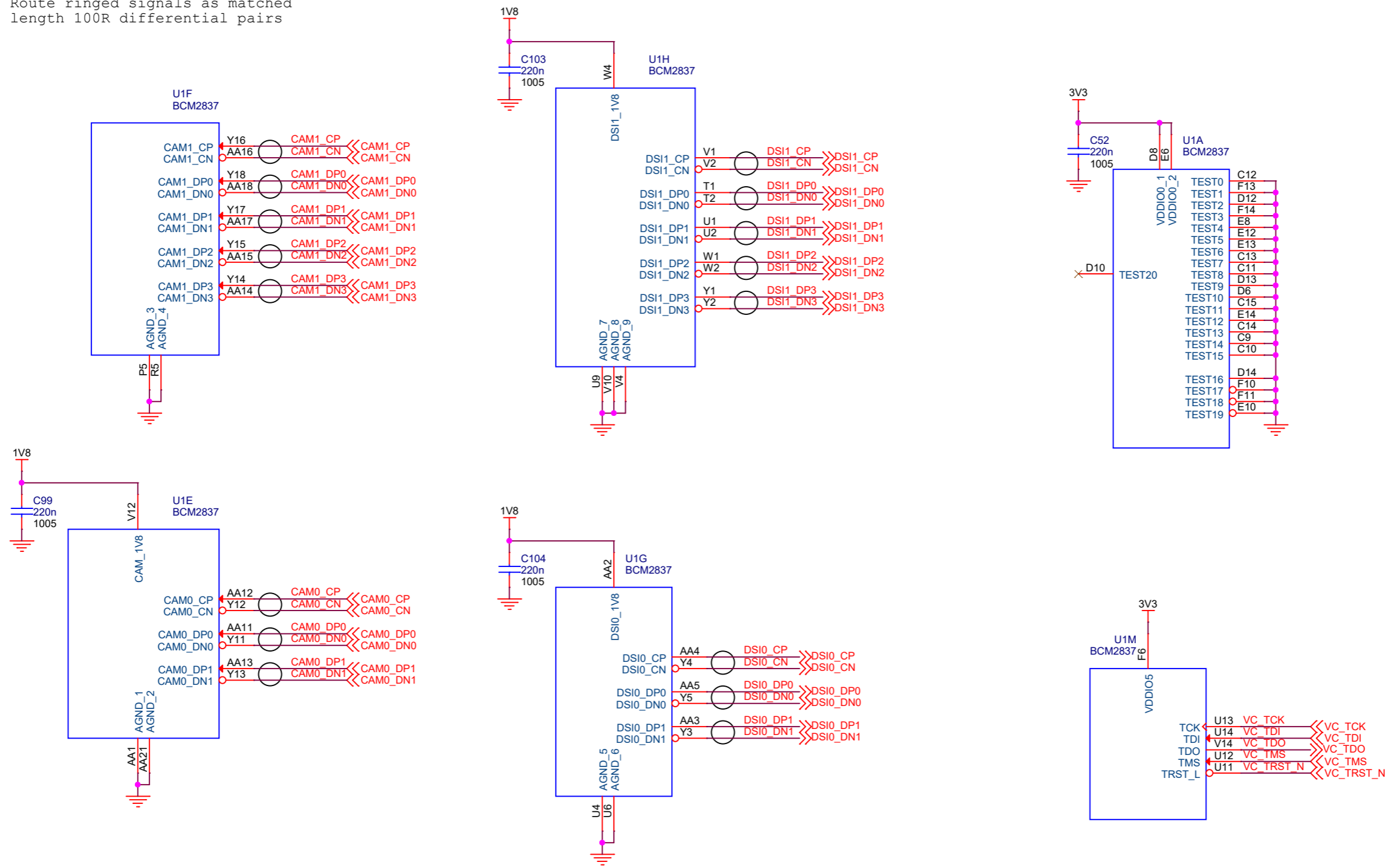
U7 Not Fitted on CM3L

R12,17,18,19,16 Fitted on CM3L
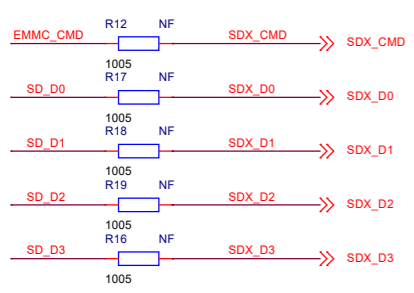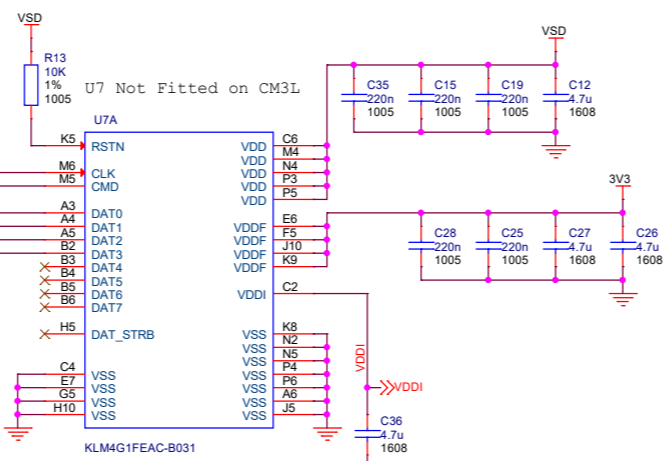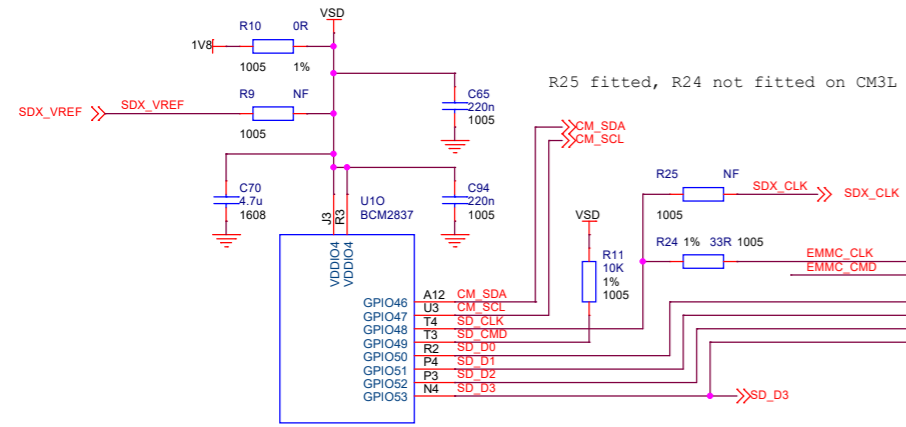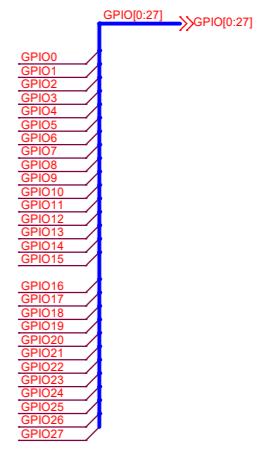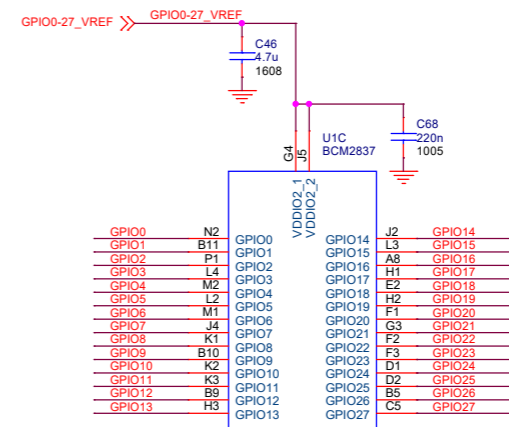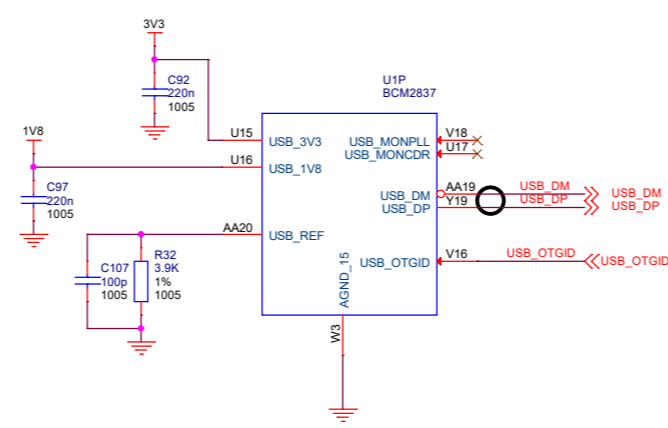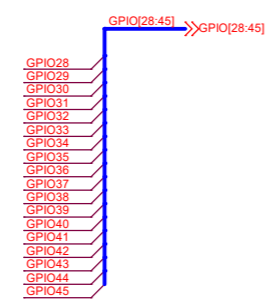
BCM2837 will fail to boot from eMMC/SD if EMMC_DISABLE_N is LOW
and will therefore fall back to booting from USB.

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Size A2	Ref RPI-CM3		Rev 1.0
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J1

Signal		
GPIO0		EMMC_DISABLE_N → EMMC_DISABLE_N
GPIO1		SDX_VREF → SDX_VREF
GPIO2		SDX_CLK → SDX_CLK
GPIO3		SDX_CMD → SDX_CMD
GPIO4		SDX_D0 → SDX_D0
GPIO5		SDX_D1 → SDX_D1
GPIO6		SDX_D2 → SDX_D2
GPIO7		SDX_D3 → SDX_D3
GPIO8		GPIO28
GPIO9		GPIO29
GPIO10		GPIO30
GPIO11		GPIO31
GPIO0-27_VREF		GPIO0-27_VREF
GPIO28-45_VREF		GPIO28-45_VREF
GPIO12		GPIO32
GPIO13		GPIO33
GPIO14		GPIO34
GPIO15		GPIO35
GPIO16		GPIO36
GPIO17		GPIO37
GPIO18		GPIO38
GPIO19		GPIO39
GPIO20		GPIO40
GPIO21		GPIO41
GPIO22		GPIO42
GPIO23		GPIO43
GPIO24		GPIO44
GPIO25		GPIO45
GPIO26		HDMI_HPD_N_1V8 → HDMI_HPD_N_1V8
GPIO27		EMMC_EN_N_1V8 → EMMC_EN_N_1V8
DSI0_DN1		DSI1_DP0
DSI0_DP1		DSI1_DN0
DSI0_DN0		DSI1_CP
DSI0_DP0		DSI1_CN
DSI0_CN		DSI1_DP3
DSI0_CP		DSI1_DN3
HDMI_CK_N		DSI1_DP2
HDMI_CK_P		DSI1_DN2
HDMI_D0_N		DSI1_DP1
HDMI_D0_P		DSI1_DN1
HDMI_D1_N		
HDMI_D1_P		
HDMI_D2_N		
HDMI_D2_P		
CAM1_DP3		CAM0_DP0
CAM1_DN3		CAM0_DN0
CAM1_DP2		CAM0_CP
CAM1_DN2		CAM0_CN
CAM1_CP		CAM0_DP1
CAM1_CN		CAM0_DN1
CAM1_DP1		
CAM1_DN1		
CAM1_DP0		
CAM1_DN0		
USB_DP		TVDAC
USB_DM		USB_OTGID → USB_OTGID
HDMI_CEC		VC_TRST_N → VC_TRST_N
HDMI_SDA		VC_TDI → VC_TDI
HDMI_SCL		VC_TMS → VC_TMS
RUN		VC_TDO → VC_TDO
VDD_CORE		VC_TCK → VC_TCK
1V8		1V8
VDAC		VDAC
3V3		3V3
VBAT		VBAT

DDR2 SODIMM

GPIO[0:27]
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
GPIO11
GPIO12
GPIO13
GPIO14
GPIO15
GPIO16
GPIO17
GPIO18
GPIO19
GPIO20
GPIO21
GPIO22
GPIO23
GPIO24
GPIO25
GPIO26
GPIO27

GPIO[28:45]
GPIO28
GPIO29
GPIO30
GPIO31
GPIO32
GPIO33
GPIO34
GPIO35
GPIO36
GPIO37
GPIO38
GPIO39
GPIO40
GPIO41
GPIO42
GPIO43
GPIO44
GPIO45

Route ringed signals as matched
length 100R differential pairs

Route bold-ringed signals as matched
length 90R differential pair

VDD_CORE used for module test only
(do not use in normal operation)
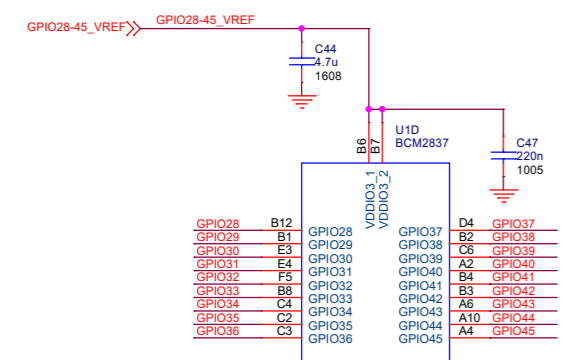
U7 Not Fitted on CM3L
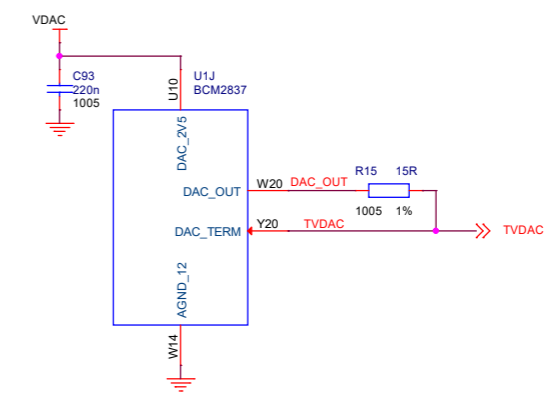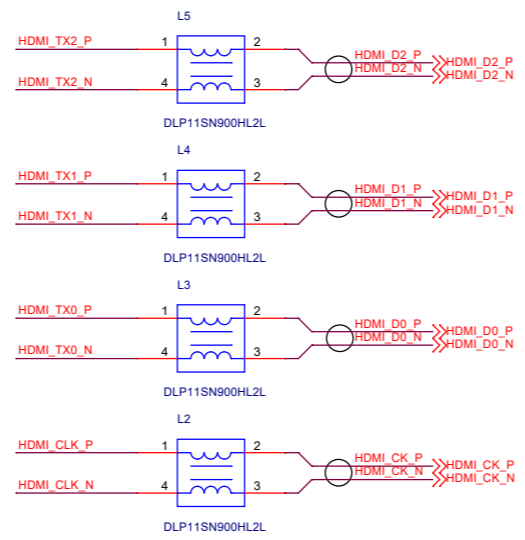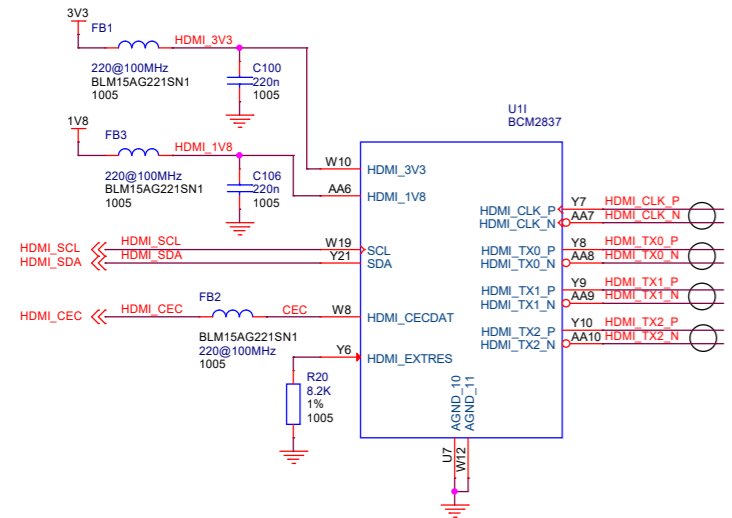
U7B
KLM4G1FEAC-B031

SD_D3
VDDI

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Title: Raspberry Pi Compute Module 3 (Reduced)
Drawn By: James Adams
Size: A2
Ref: RPI-CM3
Rev: 1.0
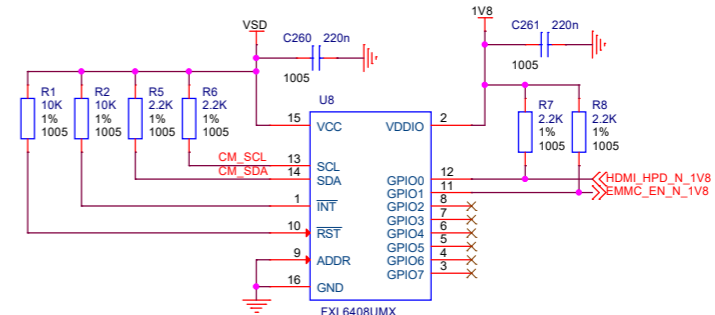Date: Thursday, October 13, 2016
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