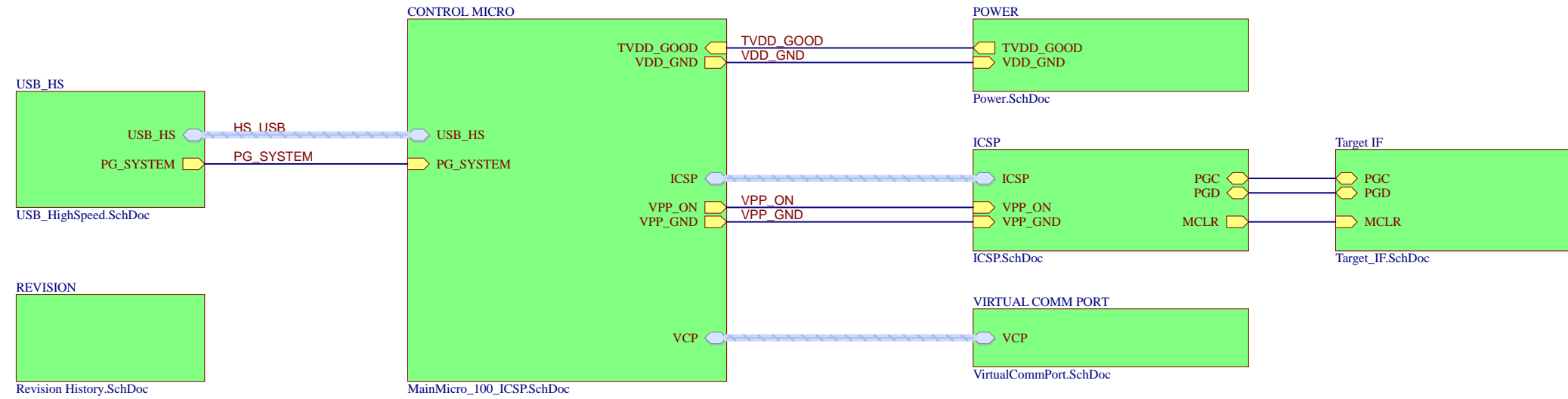


Main System Interconnect

Curiosity LPC

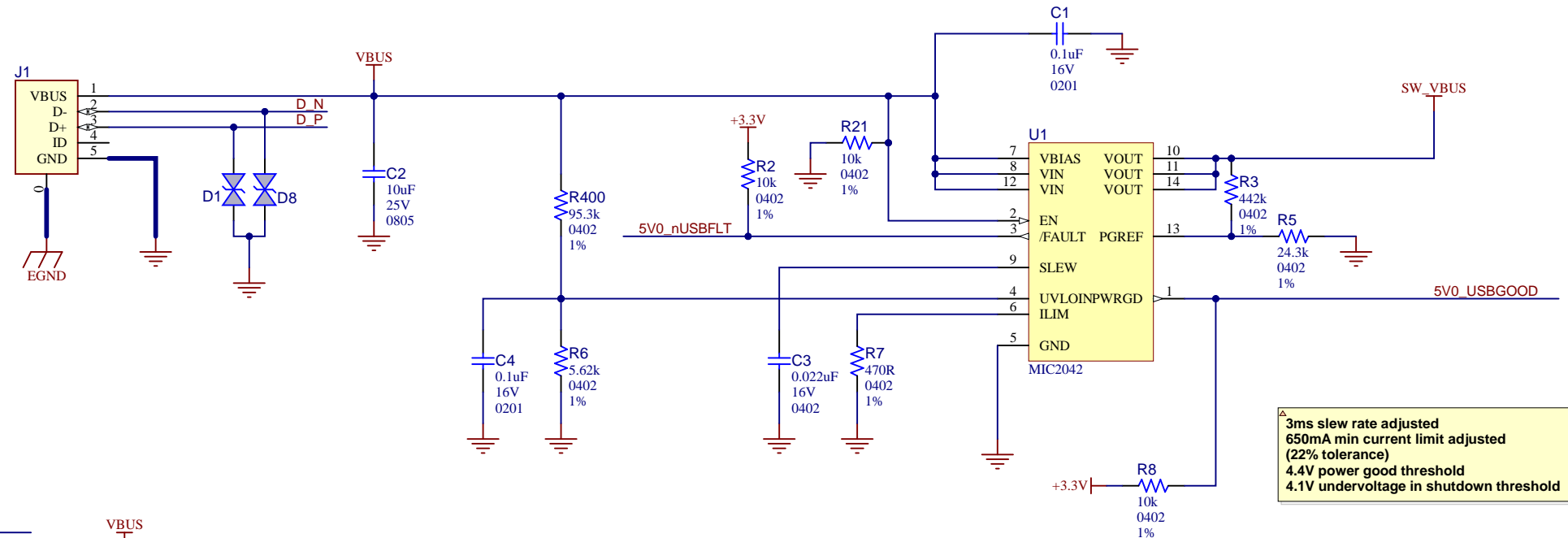


Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title PKoB4 Main Block		
Size B	Sch #:03-10327	Date: 10/29/2020 7:16:18 PM
Revision:4		Sheet 1 of 8
File: 03-10327.SchDoc		

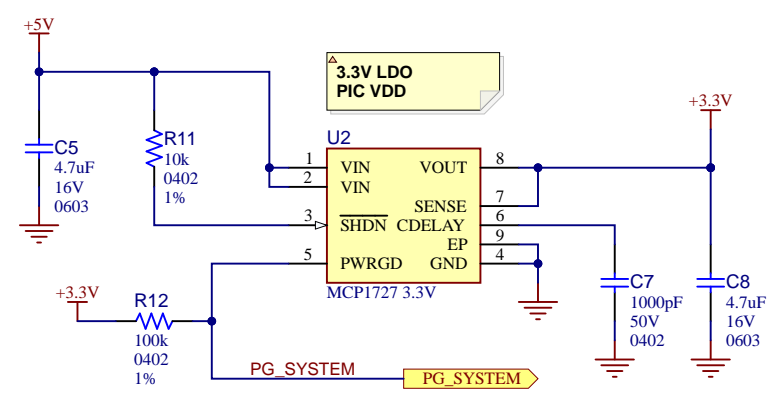
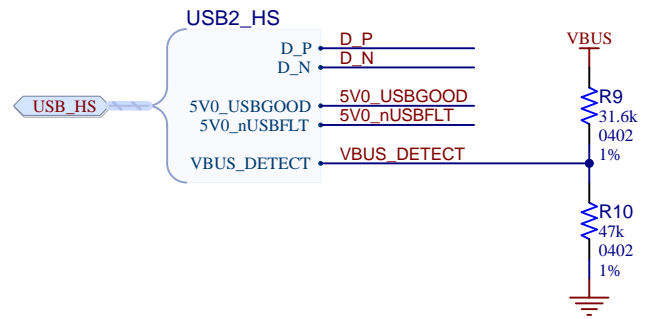


USB High Speed

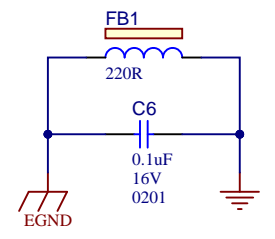
Micro B USB connector.
5V@0.5A max (2.5W)



3ms slew rate adjusted
650mA min current limit adjusted
(22% tolerance)
4.4V power good threshold
4.1V undervoltage in shutdown threshold



CDELAY
C = (140na/.42v) * t or
t = (C*0.42)/140na = 3ms

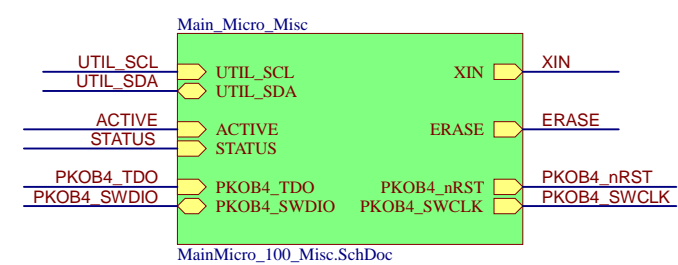
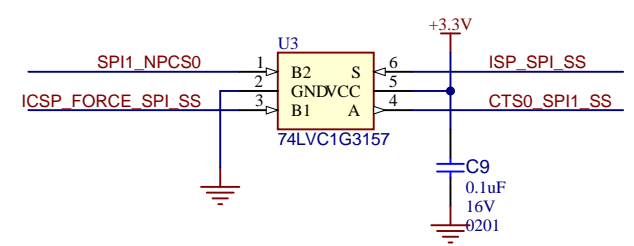
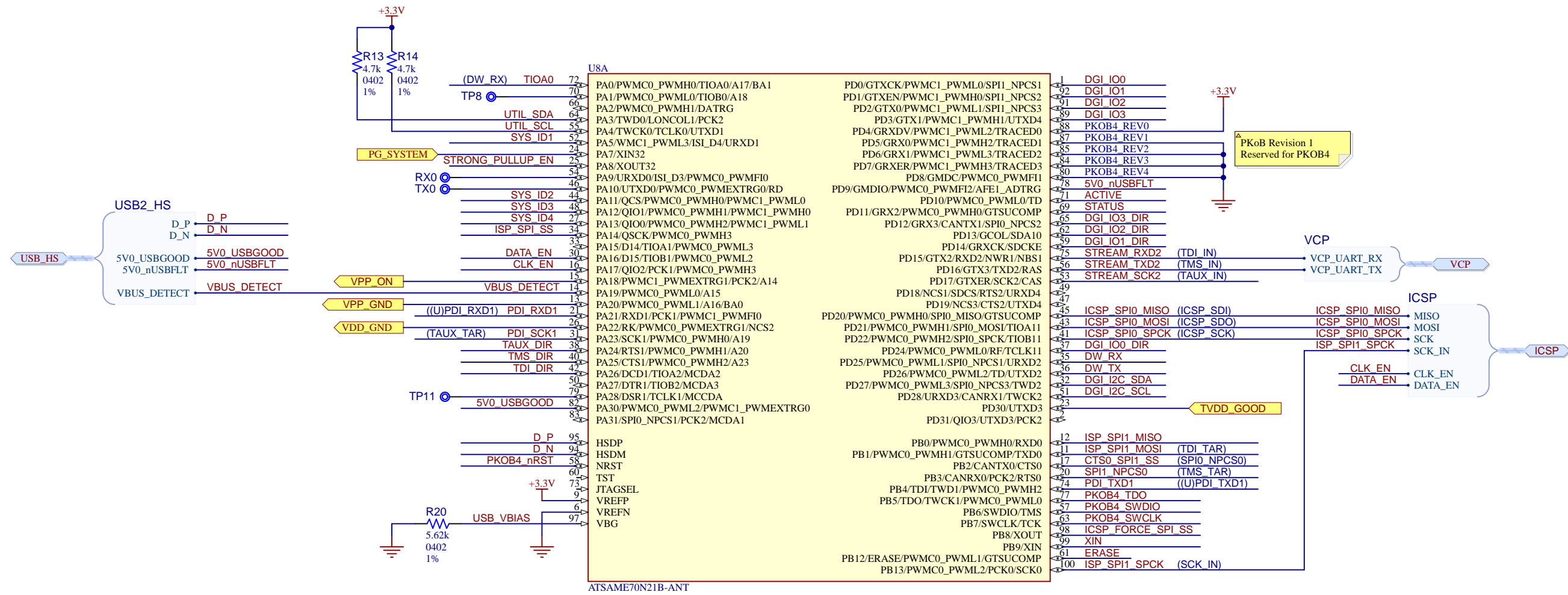


Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title PKoB4 USB High Speed		
Size B	Sch #:03-10327	Date: 10/29/2020 7:16:18 PM
Revision:4		Sheet 2 of 9
File: USB_HighSpeed.SchDoc		

Designed with

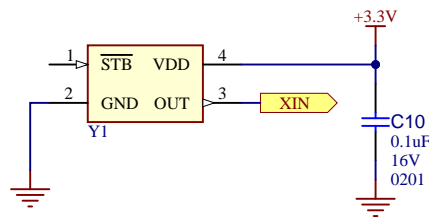
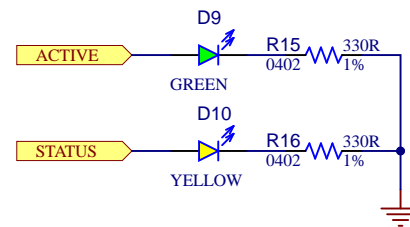
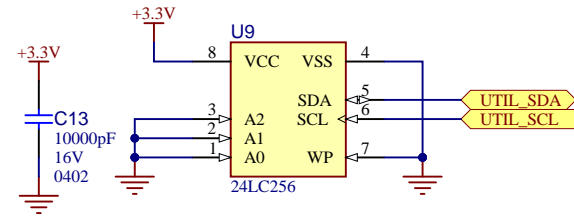
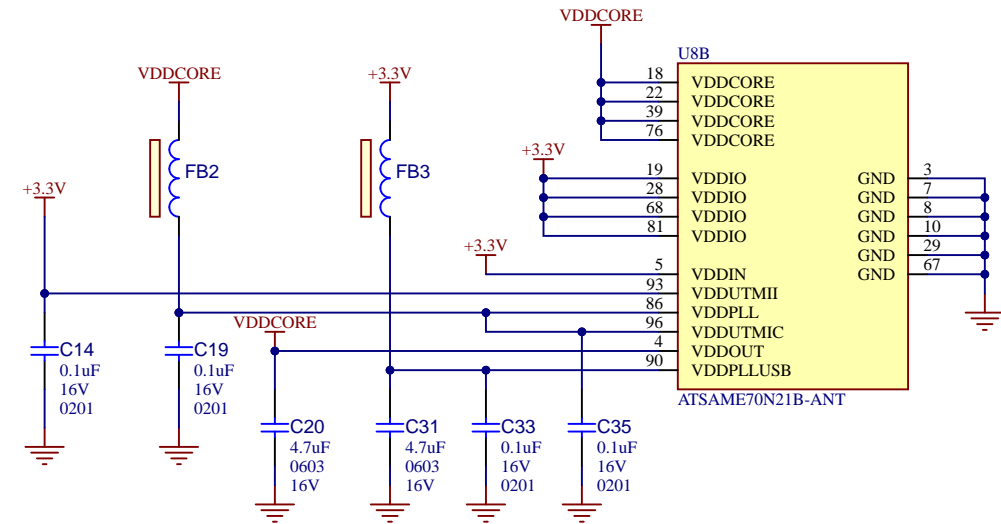
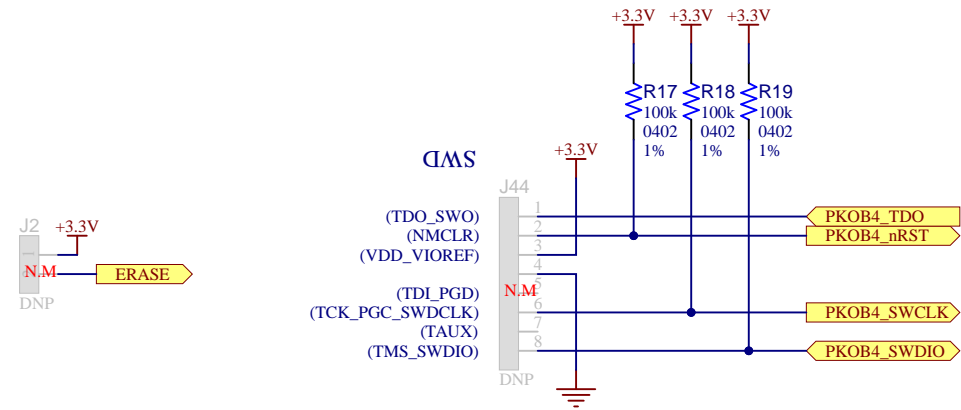
Altium.com

Main Micro

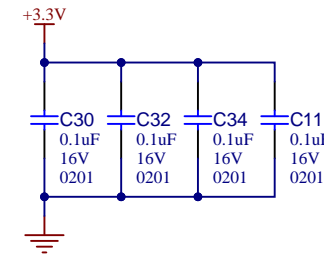


Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title PKoB4 Main Micro		
Size B	Sch #03-10327	Date: 10/29/2020 7:16:18 PM
	Revision:4	Sheet 3 of 9
File: MainMicro_100_ICSP.SchDoc		Altium.com

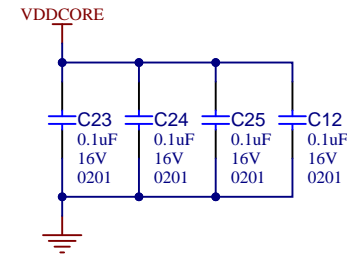
Main Micro Misc.



VDDIO Bypass Caps

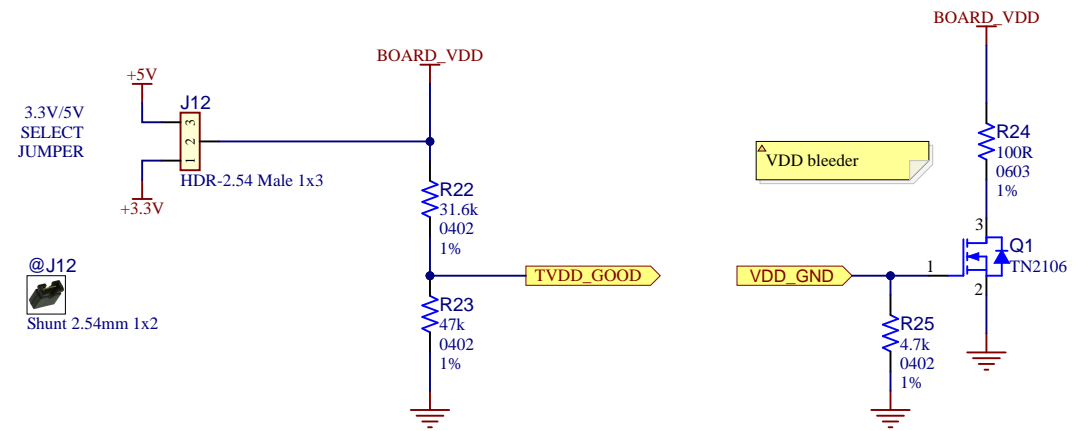




VDDCORE Bypass Caps



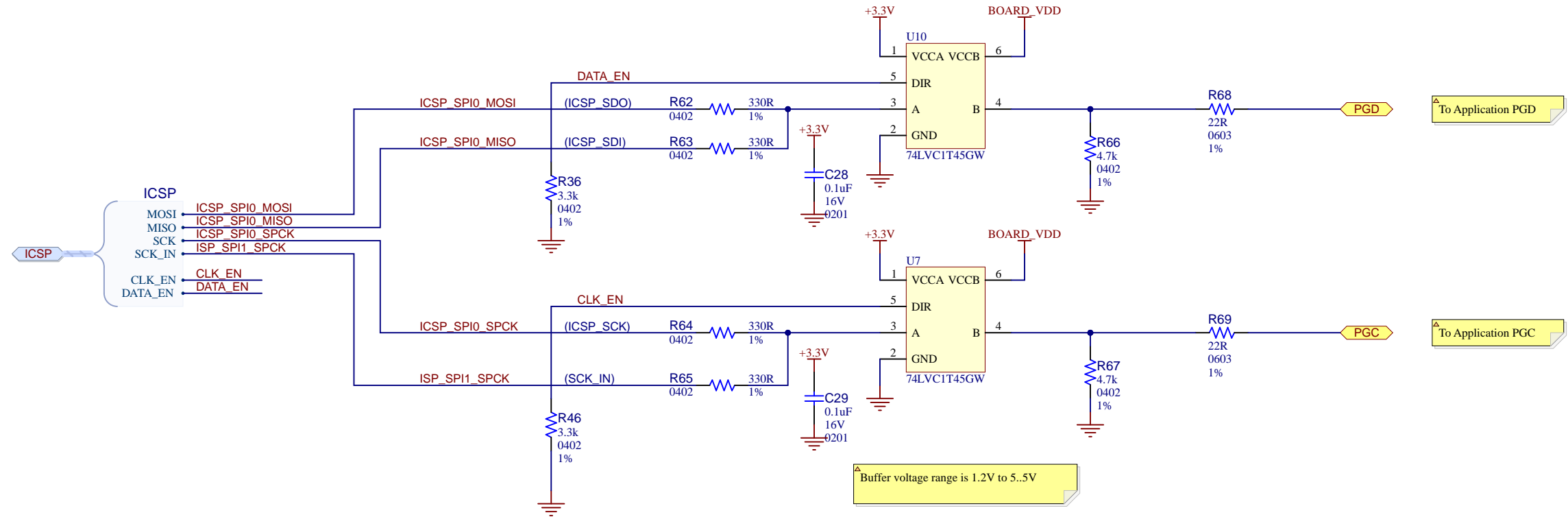
Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title PKoB4 Main Micro Misc.		 Altium.com
Size B	Sch #:03-10327	
Revision:4		Sheet 4 of 9
File: MainMicro_100_Misc.SchDoc		

Power

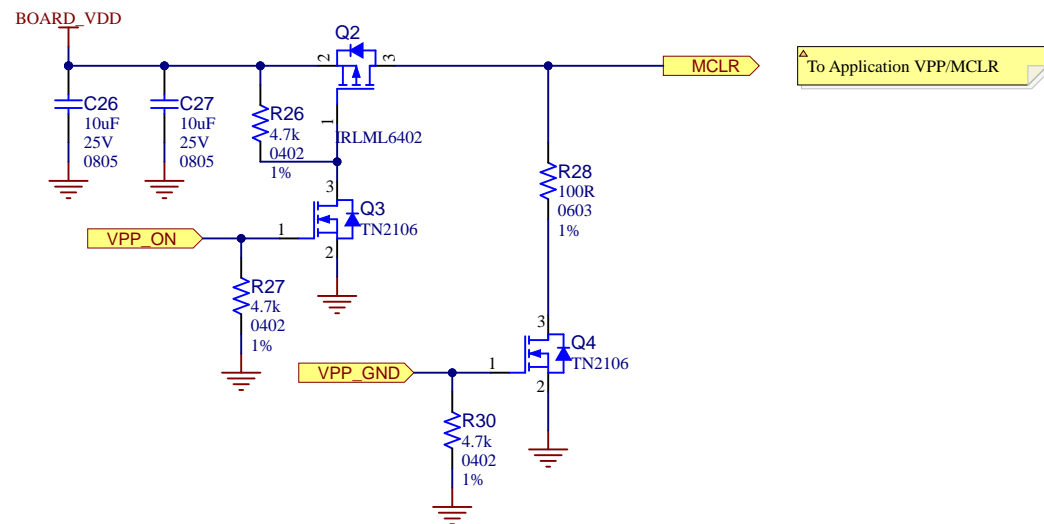


Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title Power		Designed with 
Size B	Sch #:03-10327	Date: 10/29/2020 7:16:19 PM
Revision:4		Sheet 5 of 9
File: Power.SchDoc		

ICSP



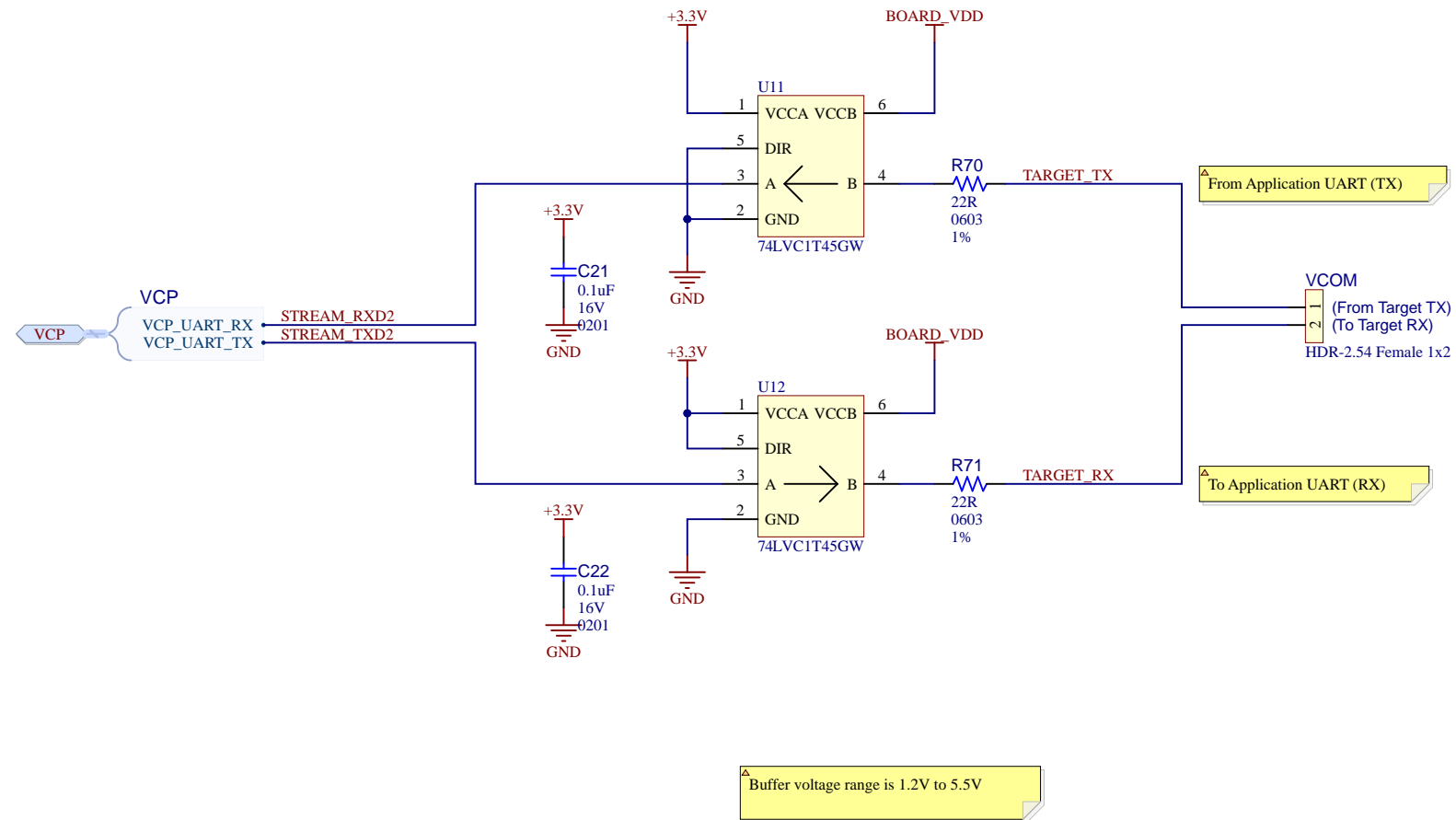
VPP Switch



LABEL1
02- -R1
JIT
LABEL Need Help Small

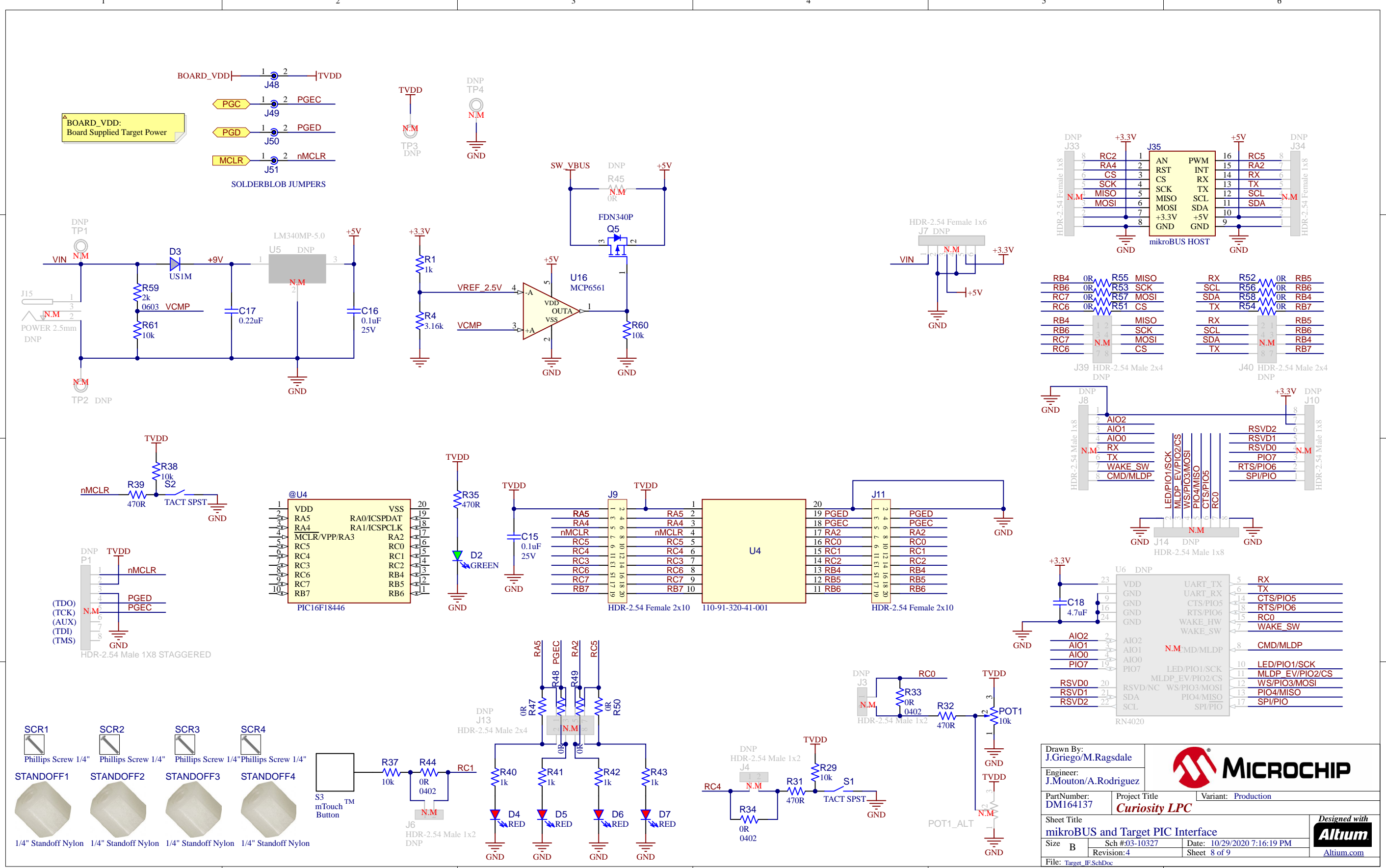
Drawn By: J.Griego/M.Ragsdale			
Engineer: J.Mouton/A.Rodriguez			
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production	
Sheet Title ICSP			
Size B	Sch #:03-10327	Date: 10/29/2020 7:16:19 PM	Designed with Altium.com
Revision:4		Sheet 6 of 8	
File: ICSP.SchDoc			

Virtual Comm Port



Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title Virtual Comm Port		
Size B	Sch #:03-10327	Date: 10/29/2020 7:16:19 PM
Revision:4		Sheet 7 of 9
File: VirtualCommPort.SchDoc		





Drawn By: J.Griego/M.Ragsdale

Engineer: J.Mouton/A.Rodriguez

PartNumber: DM164137

Project Title: Curiosity LPC

Variant: Production

Sheet Title: mikroBUS and Target PIC Interface

Size: B

Sch #: 03-10327

Date: 10/29/2020 7:16:19 PM

Revision: 4

Sheet: 8 of 9

Designed with Altium Altium.com

File: Target_IF.SchDoc

Revision History

Rev. 2: **2015-03-31**

^ Move Silkscreen of R14 so it can be read. Swap RB4 and RC7 connections. Change @U4 to PIC16F1619-I/P.

Rev. 2.2: **2018-08-02**



^ Change @U4 to PIC16F18346-I/P.

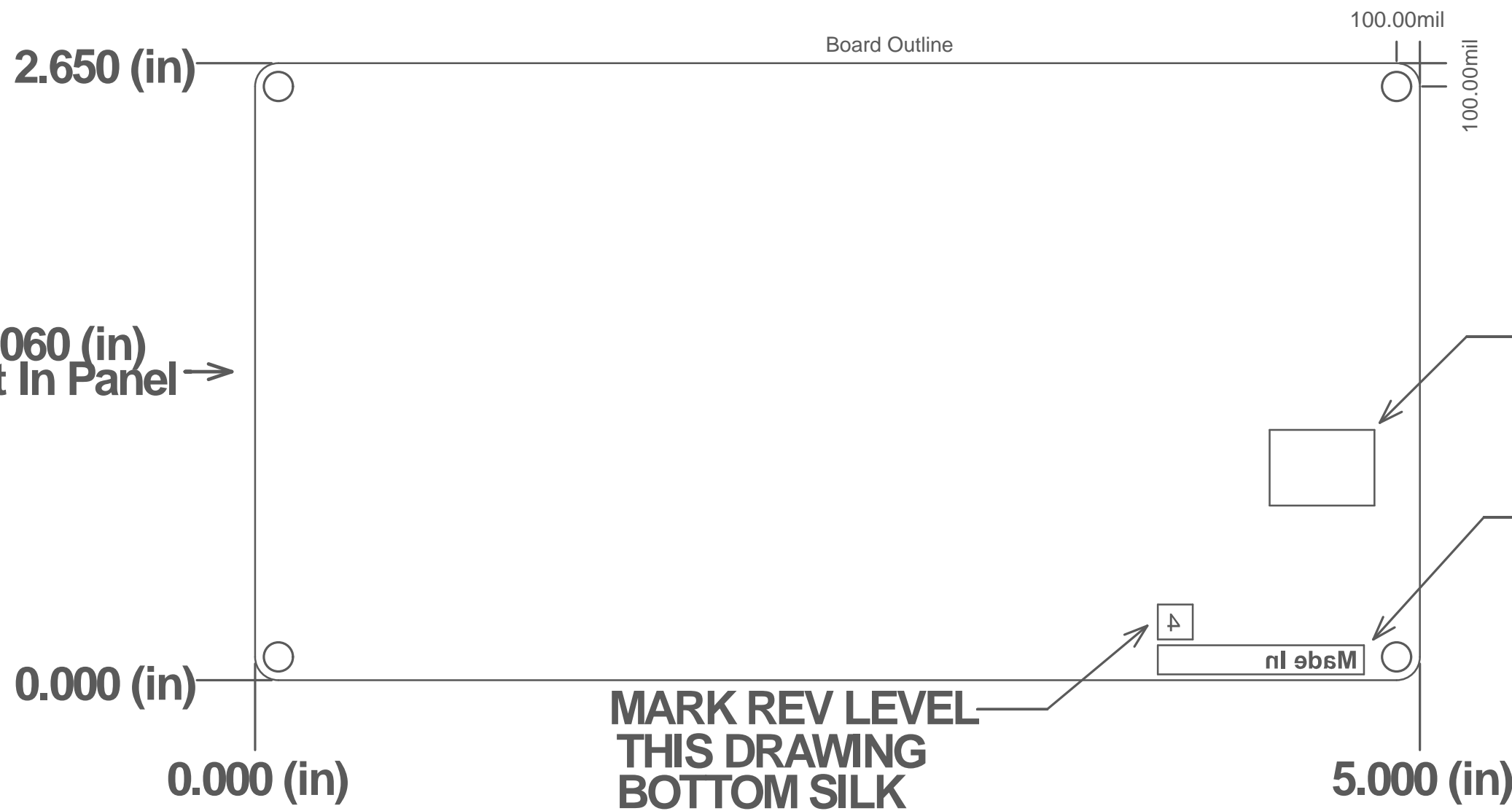
Rev. 3: **2019-10-29**

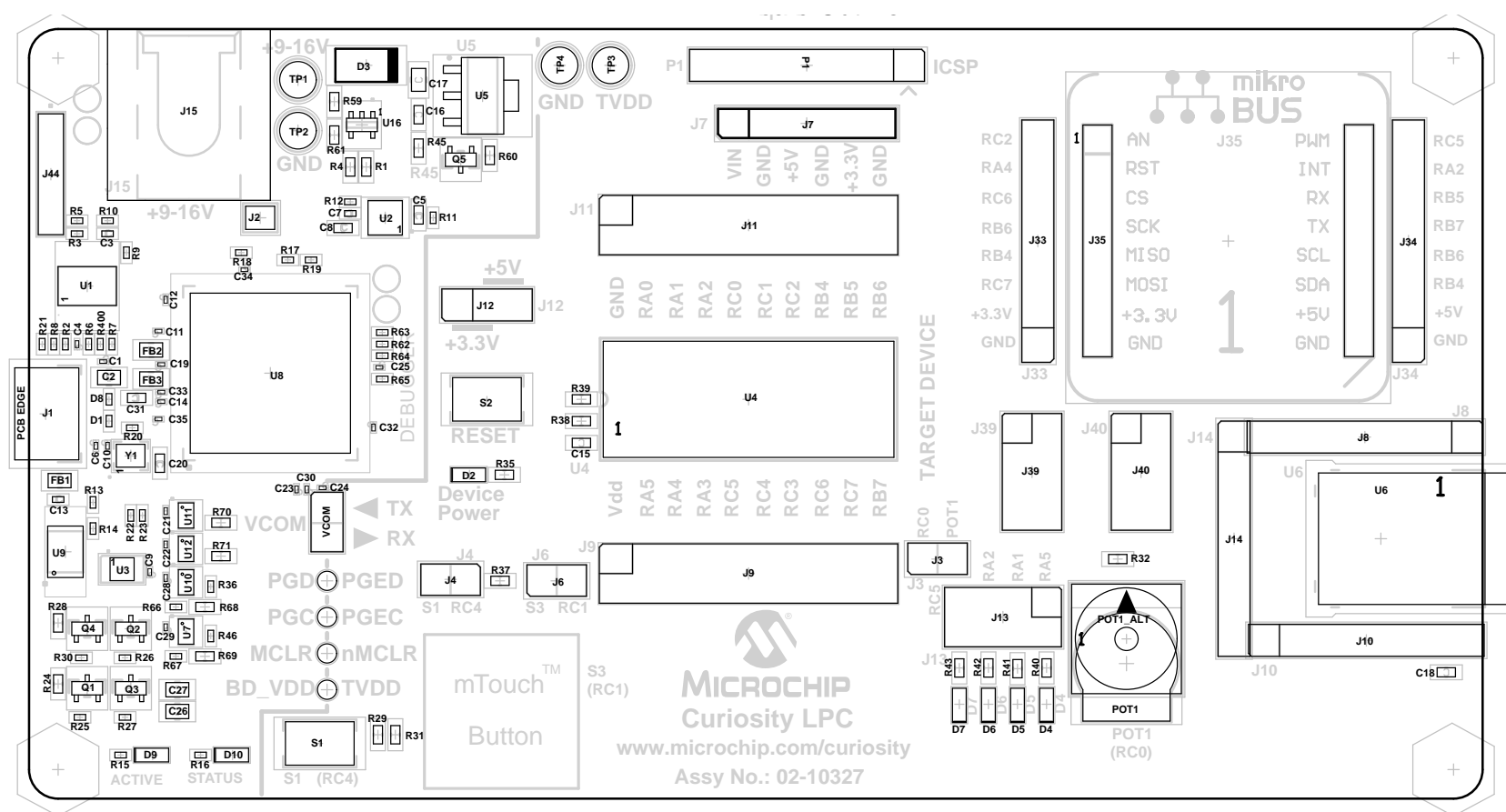
^ Updated to use PkoB 4 debugger design. All components updated to MCL standards.

Rev. 4: **2019-12-11**

^ Added missing silkscreen text.

Drawn By: J.Griego/M.Ragsdale		
Engineer: J.Mouton/A.Rodriguez		
PartNumber: DM164137	Project Title Curiosity LPC	Variant: Production
Sheet Title Revision History		<i>Designed with</i>  <small>Altium.com</small>
Size B	Sch #:03-10327	Date: 10/29/2020 7:16:19 PM
File: Revision History.SchDoc		Revision:4 Sheet 9 of 9





STANDOFF4

STANDOFF



PWM	AN
INT	RST
RX	CS
TX	SCK
SCL	MISO
SDA	MOSI
+5V	+3.3V
GND	GND

LABEL1

R52		R55	
R56		R53	
R58		R57	
R54		R51	

R47		R48		R49		R50	
R47	R48	R49	R50				

R33

R44

R34

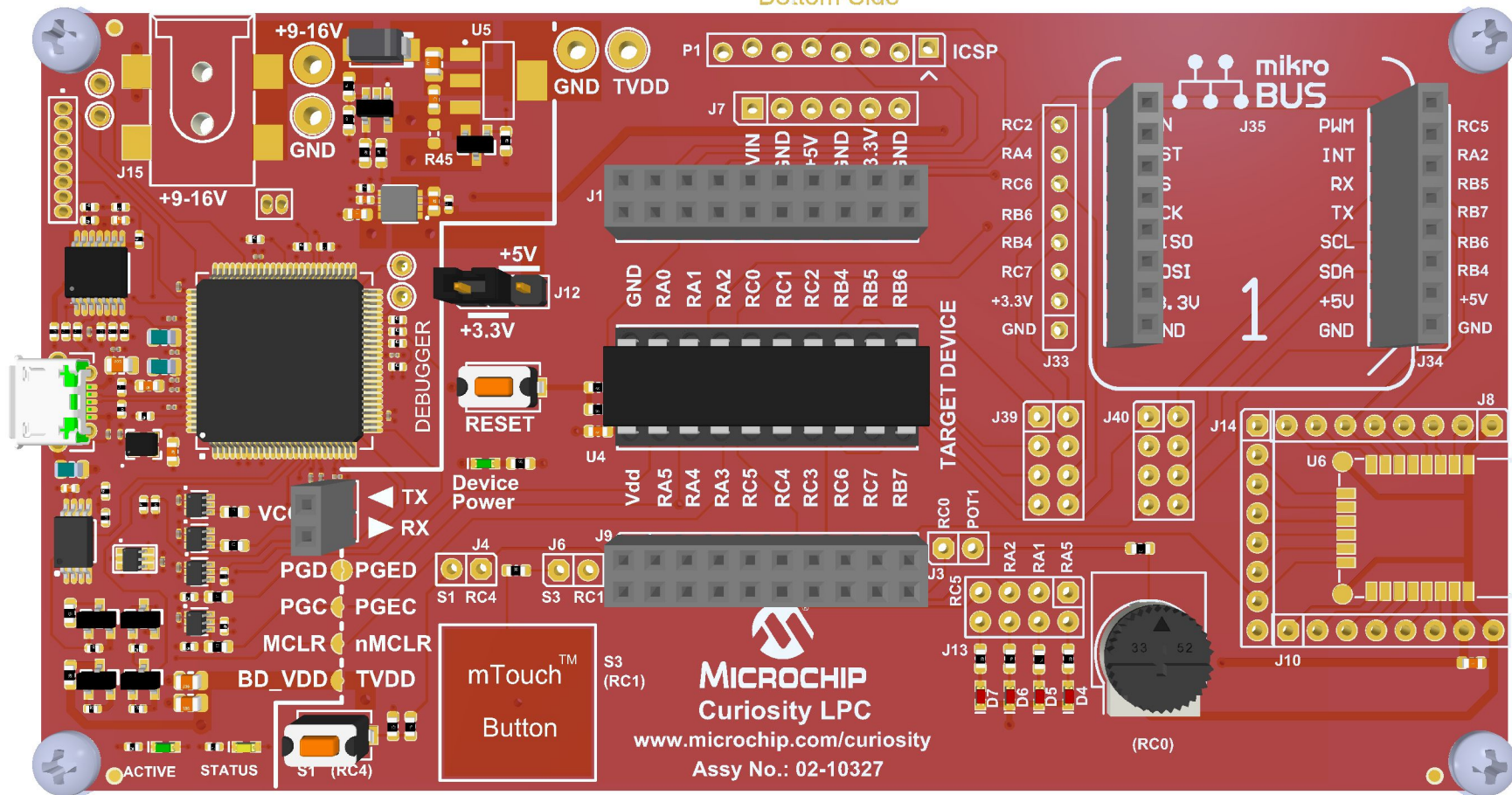
04-10327 Rev



STANDOFF3

STANDOFF

Bottom Side



Feb 2018

mikro
BUS

- PWM
- INT
- RX
- TX
- SCL
- SDA
- +5V
- GND
- AN
- RST
- CS
- SCK
- MISO
- MOSI
- +3.3V
- GND

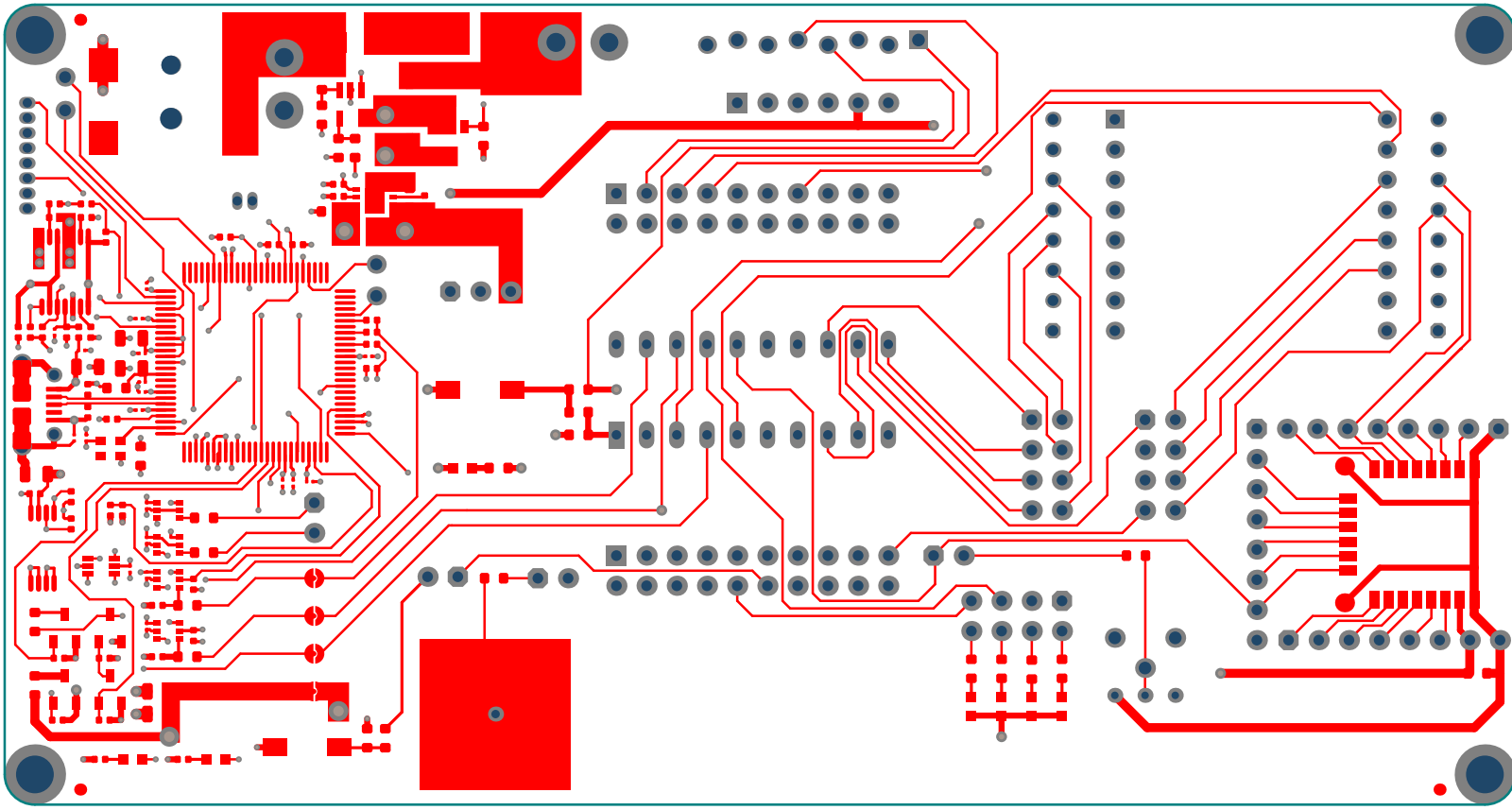
LABEL1

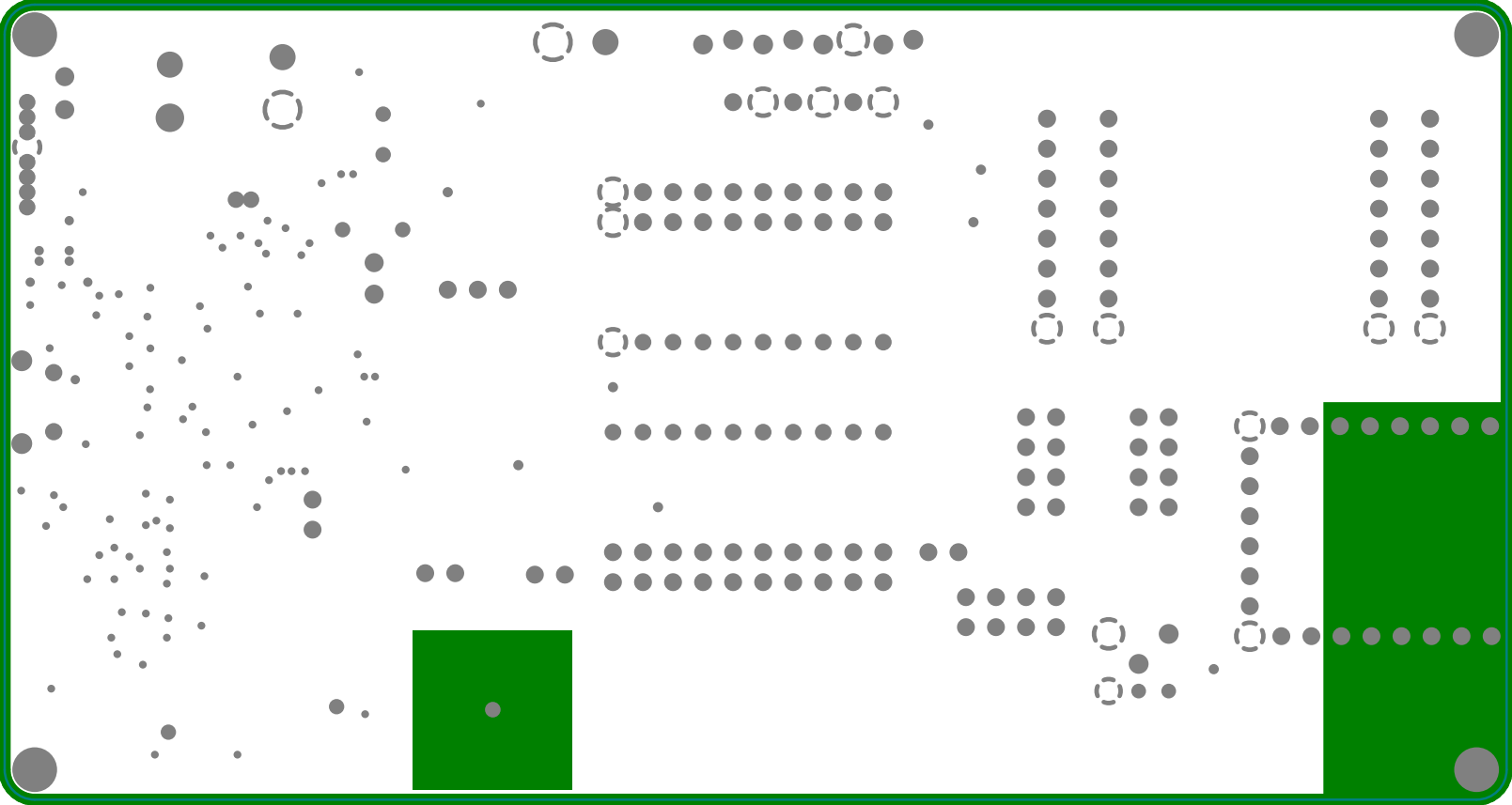
- R52
- R56
- R58
- R54
- R55
- R53
- R57
- R51

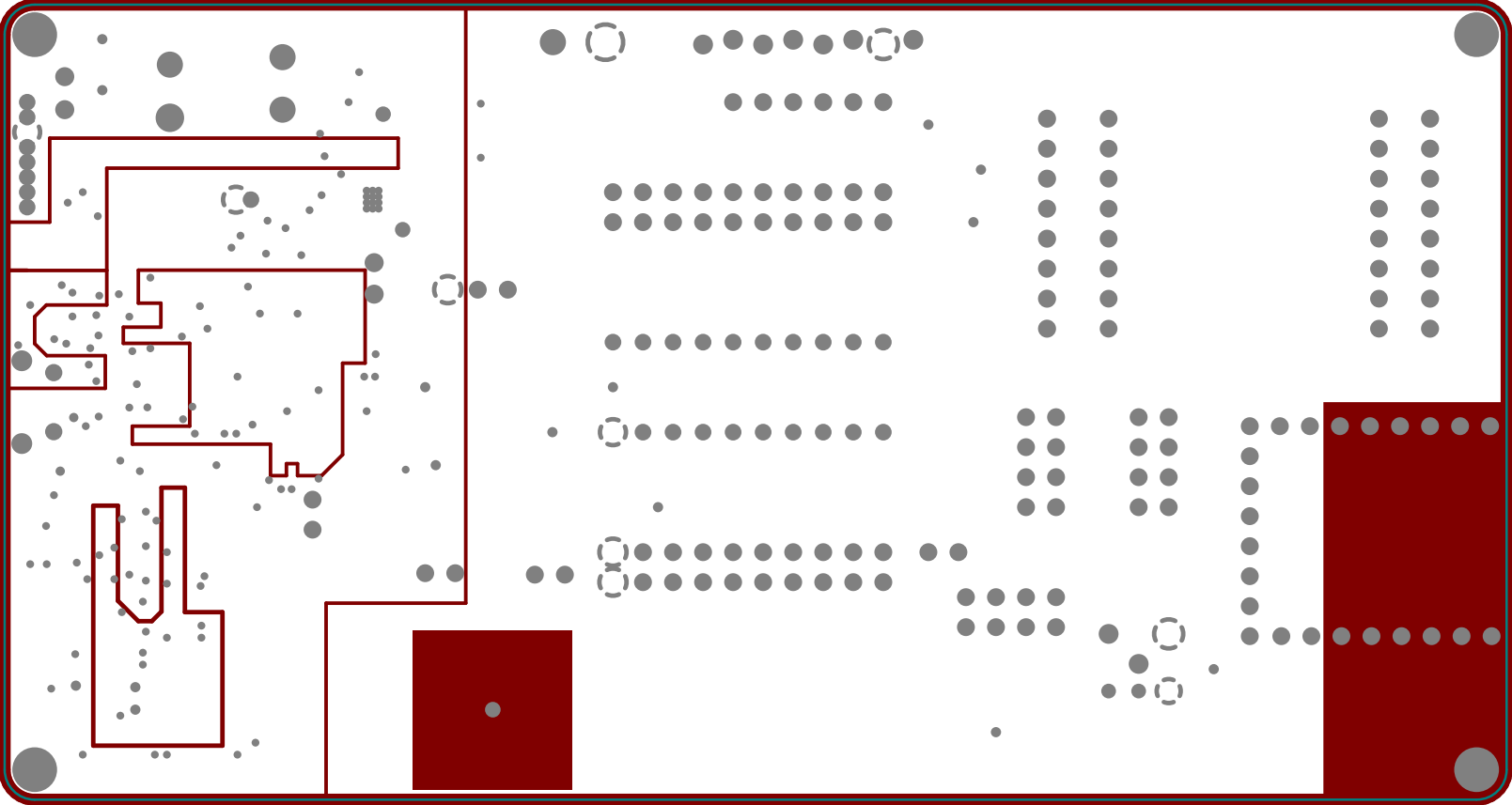
- R47
- R48
- R49
- R50
- R33
- R44

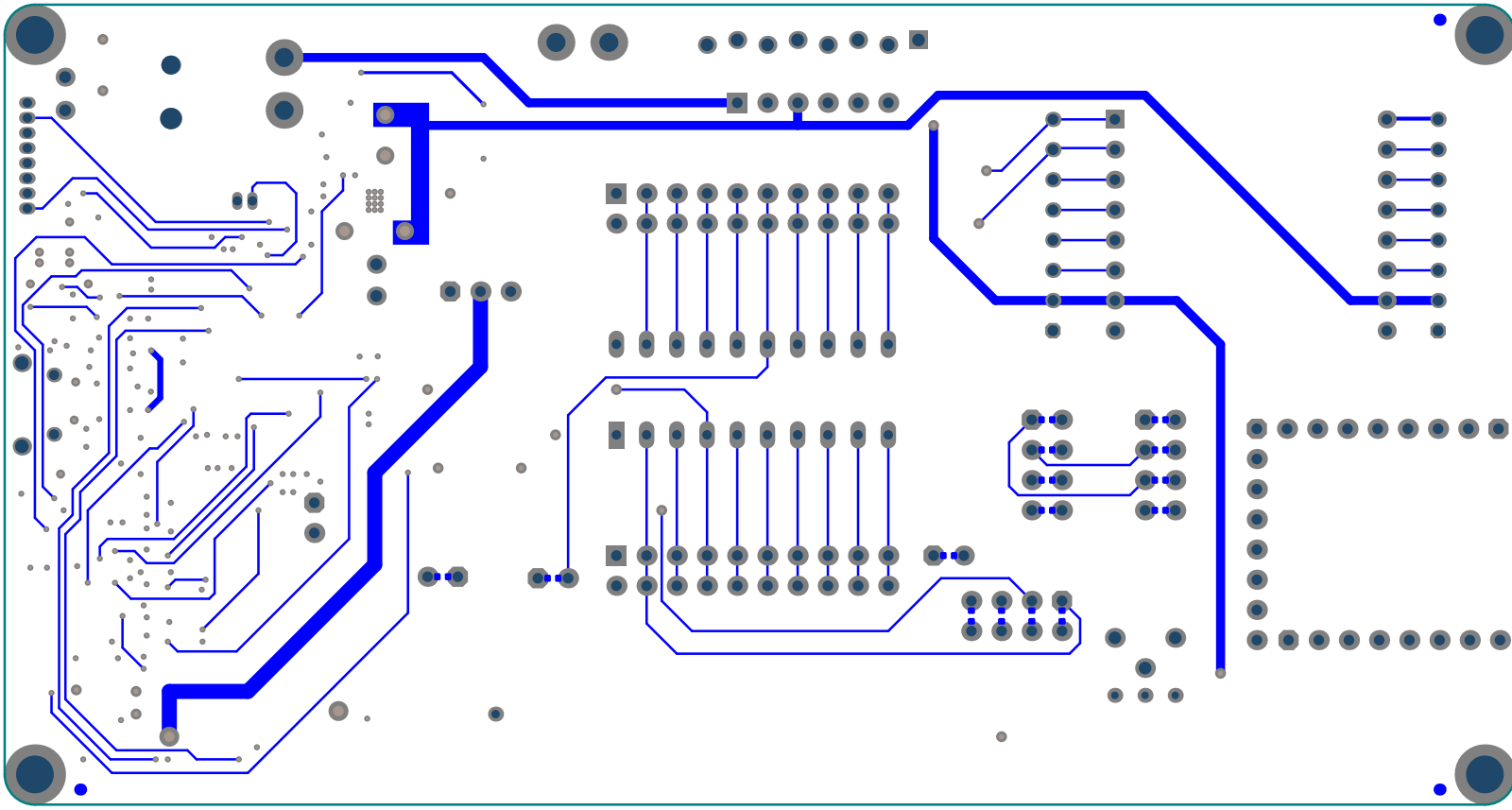
04-10327 Rev











Fitted	R0, R20	2	3.02k	Yageo	RC0402FR-07470RL	Resistor
Fitted	R7	1	470R	Yageo	RC0402FR-07470RL	Resistor
Fitted	R9, R22	2	31.6k	Panasonic	ERJ-2RKF3162X	Resistor
Fitted	R10, R23	2	47k	Panasonic - ECG	ERJ-2RKF4702X	Resistor
Fitted	R12, R17, R18, R19	4	100k	Panasonic	ERJ-2RKF1003X	Resistor
Fitted	R13, R14, R25, R26, R27, R30, R66, R67	8	4.7k	Yageo	RC0402FR-074K7L	Resistor
Fitted	R15, R16, R62, R63, R64, R65	6	330R	Yageo	RC0402FR-07330RL	Resistor
Fitted	R24, R28	2	100R	ROHM	MCR03EZPFX1000	Resistor
Fitted	R29, R37, R38, R60, R61	5	10k	Panasonic	ERJ-3EKF1002V	Resistor
Fitted	R31, R32, R35, R39	4	470R	Panasonic	ERJ-3EKF4700V	Resistor
Fitted	R33, R34, R44, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58	15	0R	Panasonic	ERJ-2GE0R00X	Resistor
Fitted	R36, R46	2	3.3k	Panasonic - ECG	ERJ-2RKF3301X	Resistor
Fitted	R59	1	2k	Panasonic	ERJ-3EKF2001V	Resistor
Fitted	R68, R69, R70, R71	4	22R	Yageo	RC0603FR-0722RRL	Resistor
Fitted	R400	1	95.3k	Rohm Semiconductor	MCR01MRTF9532	Resistor
Fitted	S1, S2	2	TACT SPST	C&K Components	KSR231GLFS	Switch
Fitted	SCR1, SCR2, SCR3, SCR4	4	Phillips Screw 1/4"	Keystone Electronics	9900	
Fitted	STANDOFF1, STANDOFF2, STANDOFF3, STANDOFF4	4	1/4" Standoff Nylon	Keystone Electronics	1902A	
Fitted	U1	1	MIC2042	Microchip Technology	MIC2042-1YTS	IC SMT, MIC2042, DISTRIBUTION SW SGL 14-TSSOP
Fitted	U2	1	MCP1727 3.3V	Microchip Technology	MCP1727-3302EMF	LDO
Fitted	U3	1	74LVC1G3157	Texas Instruments	SN74LVC1G3157DCKR	
Fitted	U4	1	110-91-320-41-001	Mill-Max	110-99-320-41-001	Connector
Fitted	U7, U10, U11, U12	4	74LVC1T45GW	NXP USA Inc.	74LVC1T45GW,125	
Fitted	U8	1	ATSAME70N21B-ANT	Microchip Technology	ATSAME70N21B-ANT	
Fitted	U9	1	24LC256	Microchip Technology	24LC256T-E/ST	EEPROM I2C
Fitted	U16	1	MCP6561	Microchip	MCP6561T-E/OT	OPAMP
Fitted	VCOM	1	HDR-2.54 Female 1x2	Samtec Inc	SSW-102-01-T-S	
Fitted	Y1	1	12.00 MHz	Microchip Technology Inc	DSC6011J11A-012.0000	
Not Fitted	J2	0	HDR-1.27 Male 1x2	Digkey	952-3598-ND	
Not Fitted	J3, J4, J6	0	HDR-2.54 Male 1x2	Molex Inc	22284020	
Not Fitted	J7	0	HDR-2.54 Female 1x6	FCI	75915-306LF	
Not Fitted	J8, J10, J14	0	HDR-2.54 Male 1x8	FCI	68001-108HLF	CON HDR-2.54 Female 1x8 Gold TH
Not Fitted	J13, J39, J40	0	HDR-2.54 Male 2x4	Samtec	TSW-104-08-L-D	
Not Fitted	J15	0	POWER 2.5mm	CUI Inc	PJ-002BH-SMT-TR	
Not Fitted	J33, J34	0	HDR-2.54 Female 1x8	Sullins	PPTC081LFBN-RC	CON HDR-2.54 Female 1x8 Gold TH
Not Fitted	J44	0	HDR-1.27 Female 1x8	Greenconn	FSEA120-0802A002B1AB	CON HDR-2.54 Female 1x8 Gold TH
Not Fitted	P1	0	HDR-2.54 Male 1x8 STAGGERED			CON HDR-2.54 Female 1x8 Gold TH
Not Fitted	POT1_ALT	0	10k	Bourns Inc.	3386P-1-103TLF	Resistor Var
Not Fitted	R45	0	0R	Panasonic	ERJ-3GSY0R00V	Resistor
Not Fitted	TP1, TP3	0	TP LOOP Red	Keystone	5010	Test Point
Not Fitted	TP2, TP4	0	Duplicate, Use MISC0025	Keystone	5011	Test Point
Not Fitted	U5	0	LM340MP-5.0	National Semiconductor	LM340MP-5.0	LDO
Not Fitted	U6	0	RN4020	Microchip Technology	RN4020-V/RMBEC133	
		156				

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[DM164140](#) [DM180021](#) [DM182026](#) [DM183021](#) [DM240001](#) [DM240001-2](#) [DM240001-3](#) [DM240004](#) [DM240011](#)