ZONE	REV	DATE	DESCRIPTION	ECO

RTester SLCDX
PWA: 999-00234 Rev 1
PWB: 999-00233 Rev 1

Designator
Top.SchDoc

DESIGN CONSIDERATIONS

DESIGN NOTE:
Example text for informational design notes .

DESIGN NOTE:
Example text for debug notes.

DESIGN NOTE:
Example text for cautionary design notes.

DESIGN NOTE:
Example text for critical design notes.

LAYOUT NOTE:
Example text for critical layout guidelines.

STUFF OPTION:
Example text for stuff option.

REVISED BY:

REACH TECHNOLOGY INC.

SCHEMATIC TITLE: RTester, G2 Tester Board

CHECKED BY:

DATE DRAWN	ENGINEER	DRAWN BY

APPROVAL / RELEASE

RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

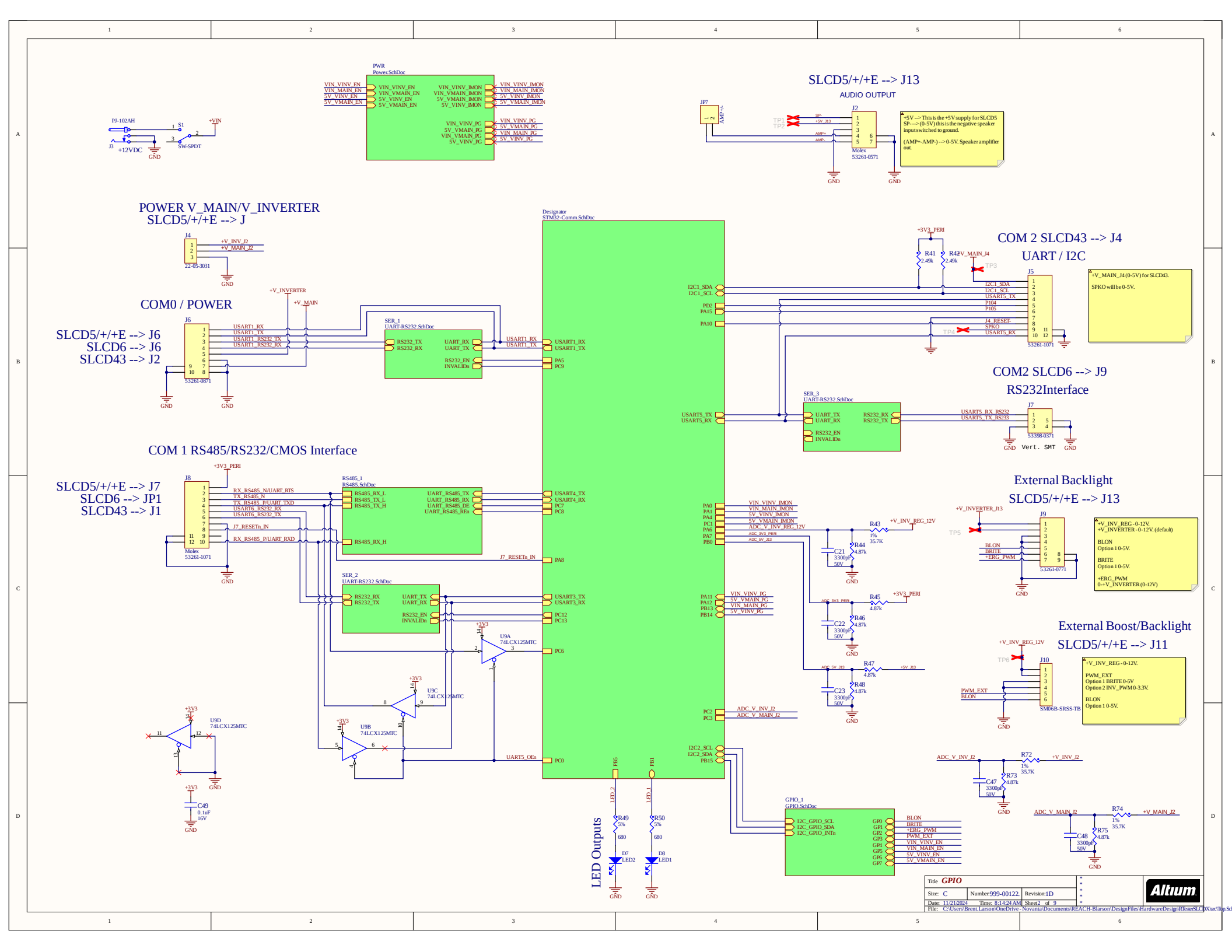
DRAWING SIZE: A

REV. 1D

SHEET: 1 OF 9

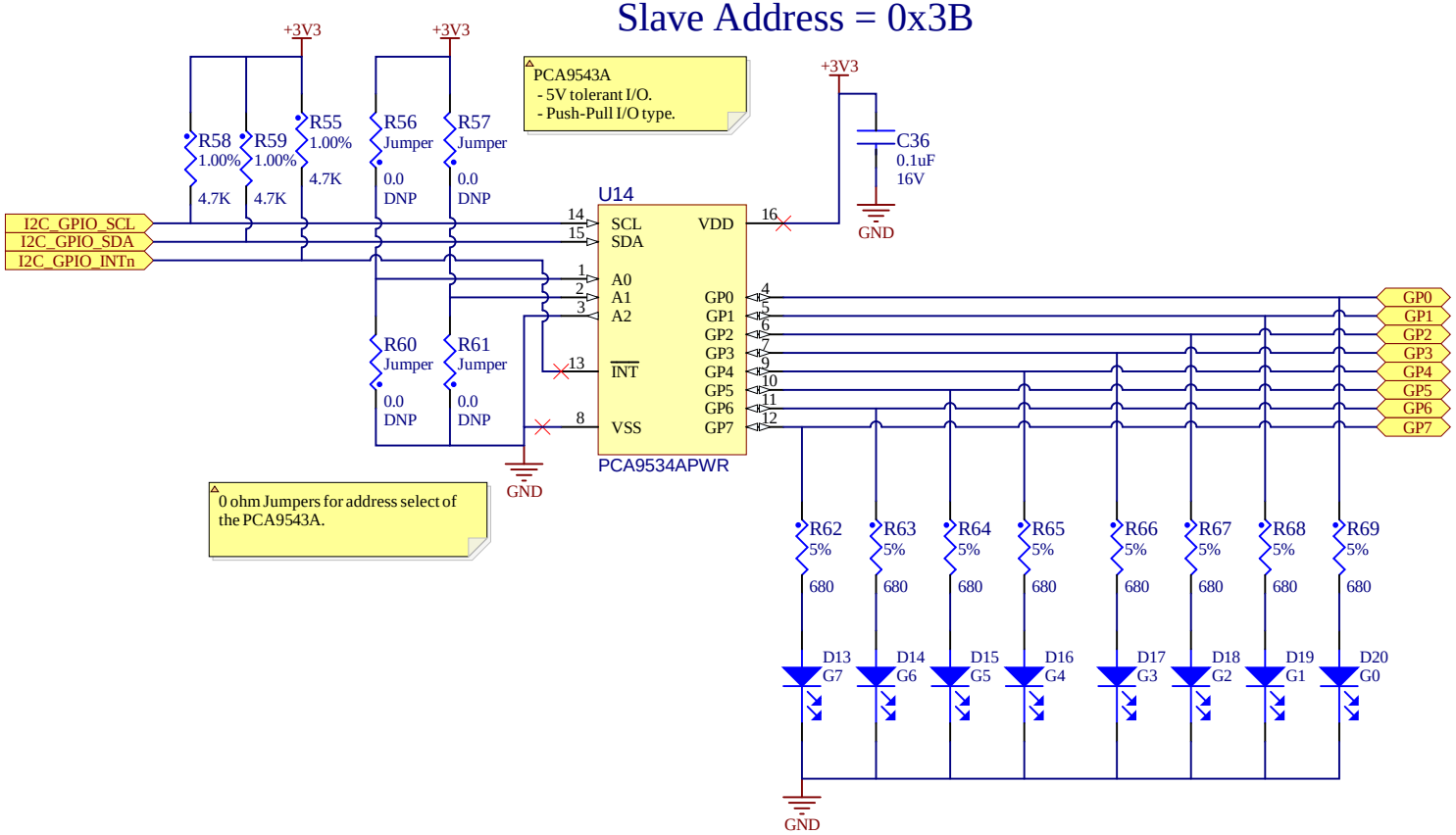
DRAWING NUMBER
999-00122.

11/21/2024 8:14:23 AM


PWR
Power.SchDoc
PJ-102AH
+VIN
+12VDC
SW-SPDT
GND
SLCD5/+/+E --> J13
AUDIO OUTPUT
JP7
J2
Molex
53261-0571
+5V --> This is the +5V supply for SLCD5
SP- --> (0-5V) this is the negative speaker input switched to ground.
(AMP+-AMP-) --> 0-5V. Speaker amplifier out.
POWER V_MAIN/V_INVERTER
SLCD5/+/+E --> J
J4
22-05-3031
+V_INV_J2
+V_MAIN_J2
COM0 / POWER
SLCD5/+/+E --> J6
SLCD6 --> J6
SLCD43 --> J2
J6
53261-0871
+V_INVERTER
+V_MAIN
SER_1
UART-RS232.SchDoc
Designator
STM32-Comm.SchDoc
COM 2 SLCD43 --> J4
UART / I2C
+3V3_PERI
R41
R42
2.49k
V_MAIN_J4
J5
53261-1071
+V_MAIN_J4 (0-5V) for SLCD43.
SPKO will be 0-5V.
COM2 SLCD6 --> J9
RS232Interface
SER_3
UART-RS232.SchDoc
J7
53398-0371
Vert. SMT
COM 1 RS485/RS232/CMOS Interface
SLCD5/+/+E --> J7
SLCD6 --> JP1
SLCD43 --> J1
J8
Molex
53261-1071
RS485_1
RS485.SchDoc
SER_2
UART-RS232.SchDoc
U9A
74LCX125MTC
U9B
74LCX125MTC
U9C
74LCX125MTC
U9D
74LCX125MTC
External Backlight
SLCD5/+/+E --> J13
J9
53261-0771
+V_INV_REG - 0-12V.
+V_INVERTER - 0-12V. (default)
BLON
Option 1 0-5V.
BRITE
Option 1 0-5V.
+ERG_PWM
0-+V_INVERTER (0-12V)
External Boost/Backlight
SLCD5/+/+E --> J11
J10
SM06B-SRSS-TB
+V_INV_REG - 0-12V.
PWM_EXT
Option 1 BRITE 0-5V
Option 2 INV_PWM 0-3.3V.
BLON
Option 1 0-5V.
LED Outputs
LED_2
LED_1
D7
LED2
D8
LED1
GPIO_1
GPIO.SchDoc
C49
0.1uF
16V
Title GPIO
Size: C
Number 999-00122.
Revision 1D
Date: 11/21/2024
Time: 8:14:24 AM
Sheet 2 of 9
File: C:\Users\Brent.Larson\OneDrive - Novanta\Documents\REACH-Blarson\DesignFiles\HardwareDesign\ReselesSLCD\src\Top.SchDoc
Altium

ZONE	REV	DATE	DESCRIPTION	ECO

8 GPIO
Slave Address = 0x3B



REVISED BY:

REACH TECHNOLOGY INC.

SCHEMATIC TITLE: GPIO

CHECKED BY:

DATE DRAWN	ENGINEER	DRAWN BY

APPROVAL / RELEASE

RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

DRAWING SIZE: A

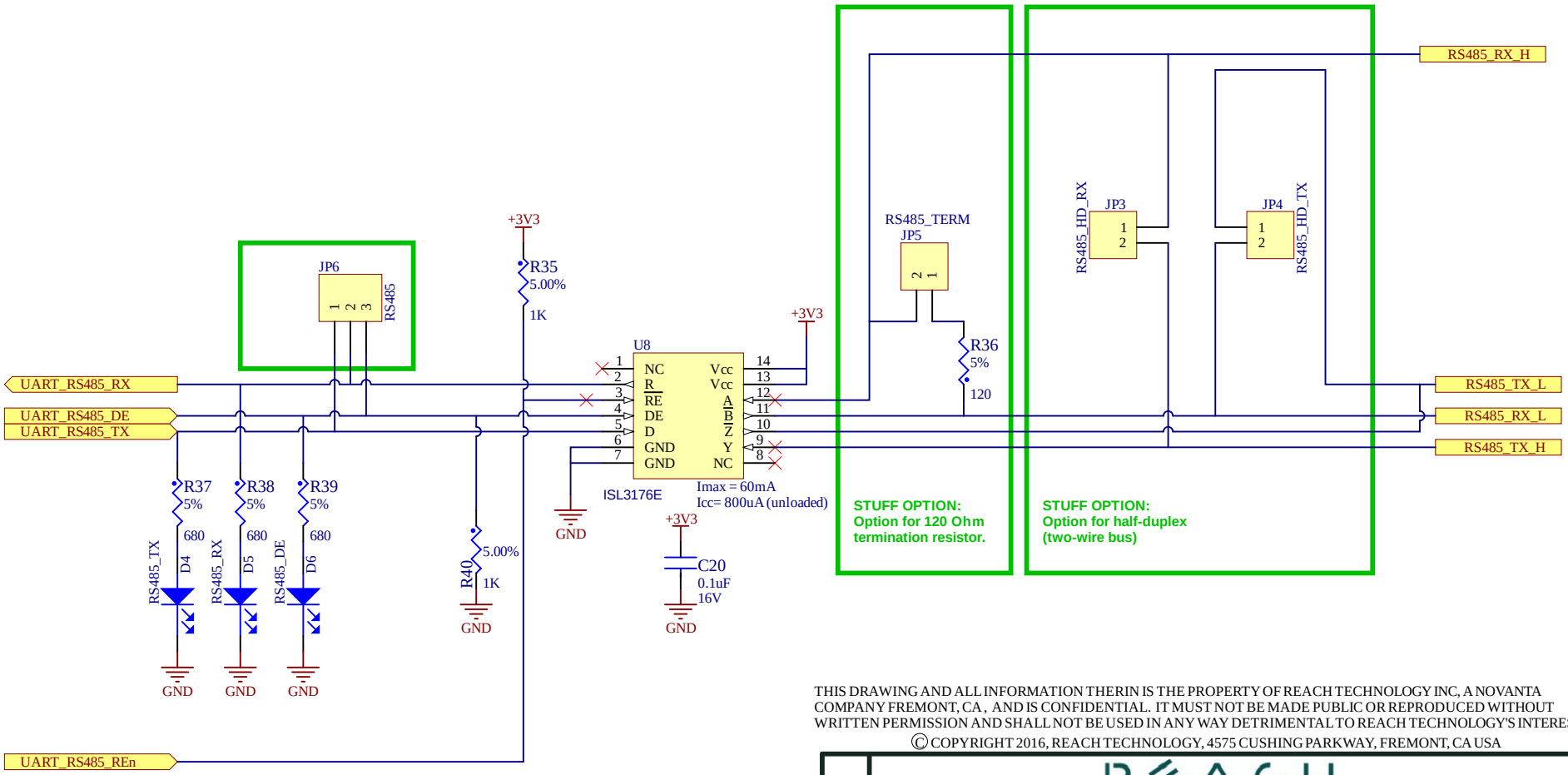
REV. 1D

SHEET: 3 OF 9

DRAWING NUMBER 999-00122.

11/21/2024 8:14:24 AM

ZONE	REV	DATE	DESCRIPTION	ECO



REVISED BY:

REACH TECHNOLOGY INC.

SCHEMATIC TITLE: GPIO

CHECKED BY:

DATE DRAWN	ENGINEER	DRAWN BY

APPROVAL / RELEASE

RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

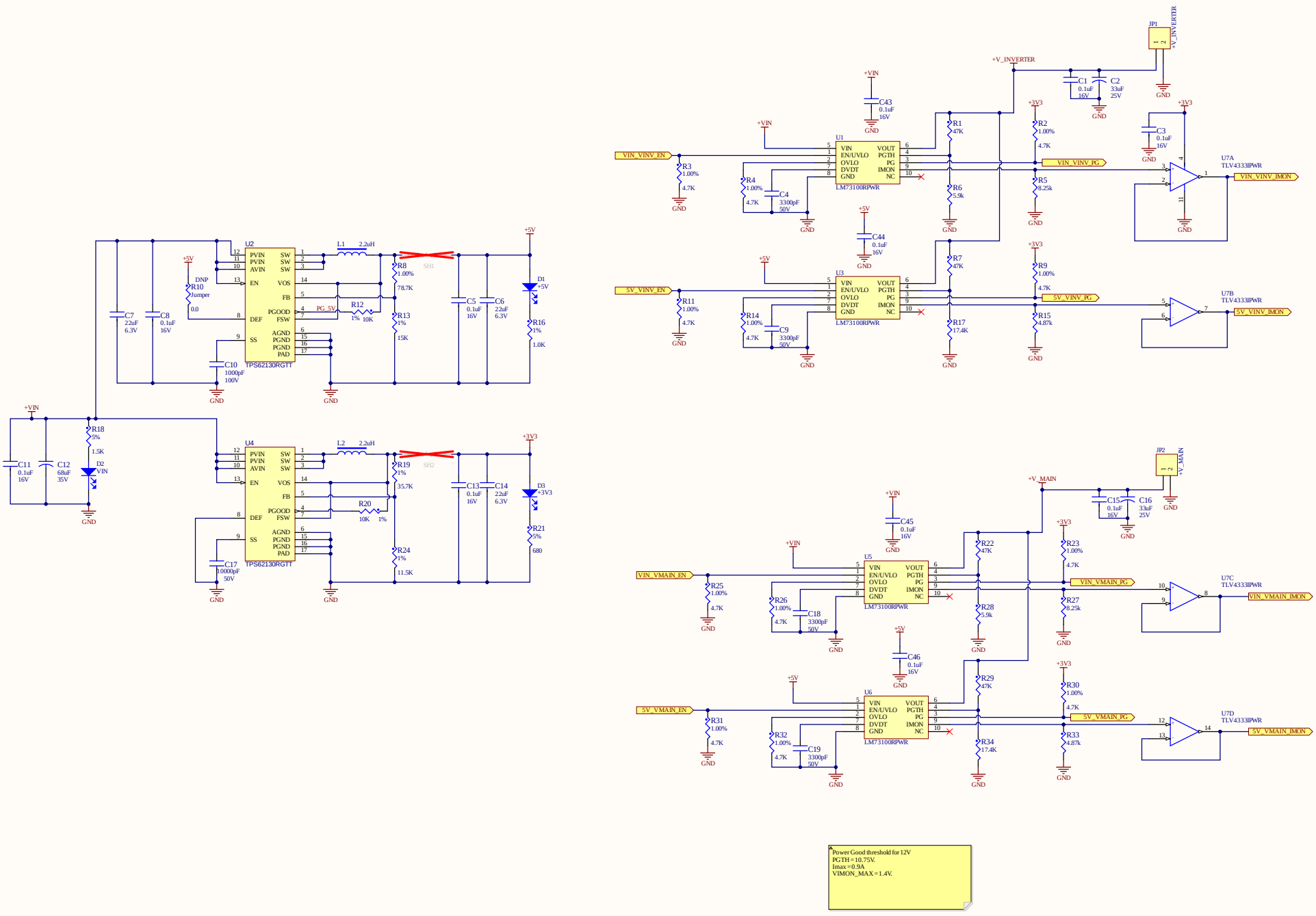
DRAWING SIZE: A

REV. 1D

SHEET: 5 OF 9

DRAWING NUMBER
999-00122.

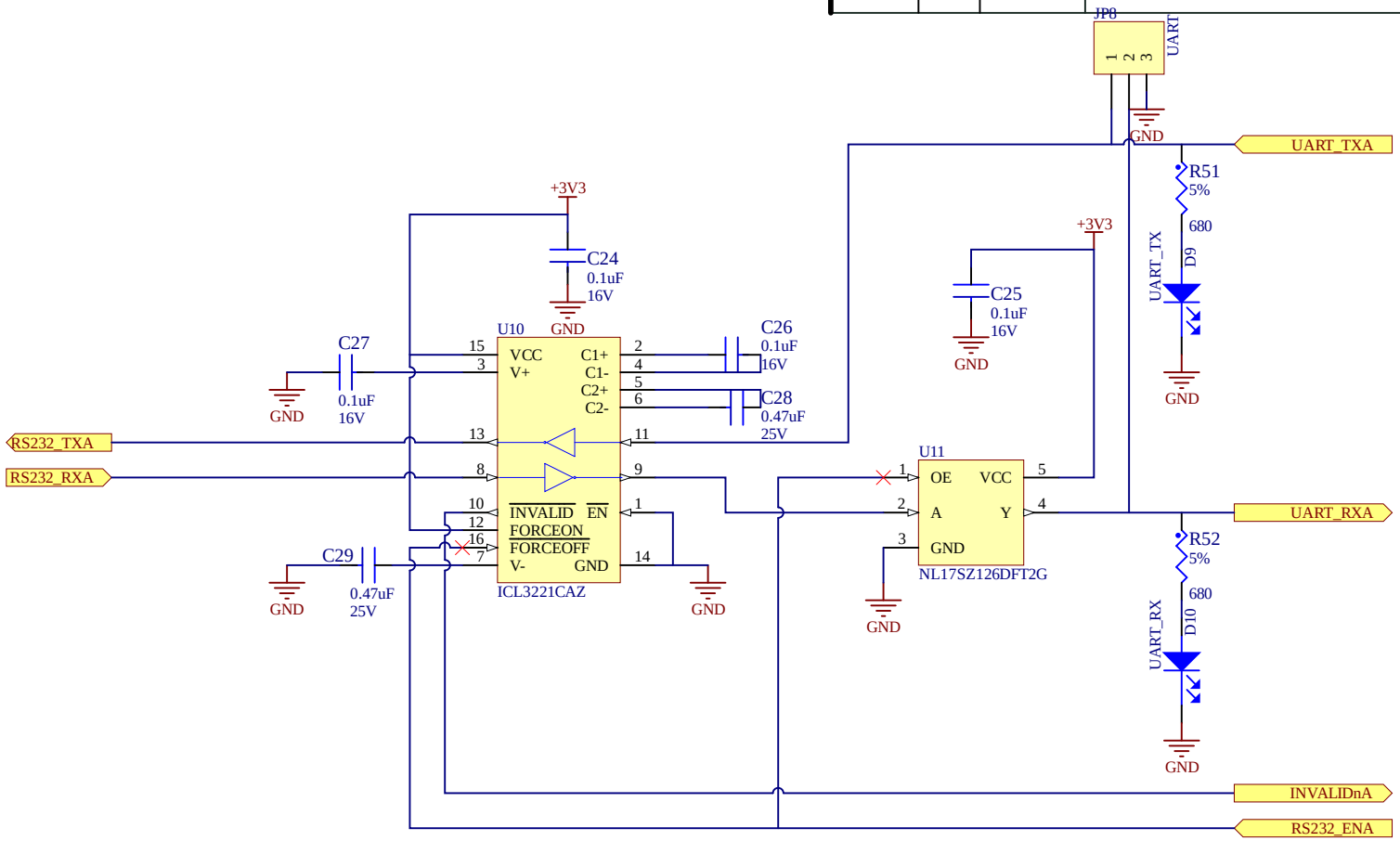
11/21/2024 8:14:24 AM



Title	Power Supply		
Size: C	Number: 999-00122.	Revision: 1D	
Date: 11/21/2024	Time: 8:14:24 AM	Sheet 6 of 9	
File: C:\Users\Brent.Larson\OneDrive - Novanta\Documents\REACH-Blarson\DesignFiles\HardwareDesign\RestarSLDX\src\Power.			

Altium

ZONE	REV	DATE	DESCRIPTION	ECO



RS-232 Signal Present at Receiver Input?	FORCEOFF or SHDN Input	FORCEON Input	EN Input	Transmitter Outputs	Receiver Outputs	ROUTB Outputs (Note 6)	INVALID Output	Mode of Operation
ICL3222, ICL3241								
N.A.	H	N.A.	H	Active	High-Z	Active	N.A.	Normal Operation w/Rcvr. Disabled
ICL3221, ICL3223								
No	H	H	L	Active	Active	N.A.	L	Normal Operation (Auto Powerdown Disabled)
No	H	H	H	Active	High-Z	N.A.	L	
Yes	H	L	L	Active	Active	N.A.	H	Normal Operation (Auto Powerdown Enabled)
Yes	H	L	H	Active	High-Z	N.A.	H	
No	H	L	L	High-Z	Active	N.A.	L	Powerdown Due to Auto Power-Down Logic
No	H	L	H	High-Z	High-Z	N.A.	L	
Yes	L	X	L	High-Z	Active	N.A.	H	Manual Powerdown
Yes	L	X	H	High-Z	High-Z	N.A.	H	Manual Powerdown w/Rcvr. Disabled
No	L	X	L	High-Z	Active	N.A.	L	Manual Powerdown
No	L	X	H	High-Z	High-Z	N.A.	L	Manual Powerdown w/Rcvr. Disabled

REVISED BY:

REACH TECHNOLOGY INC.

SCHEMATIC TITLE: UART - I2C

CHECKED BY:

DATE DRAWN	ENGINEER	DRAWN BY

APPROVAL / RELEASE

RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

DRAWING SIZE: A

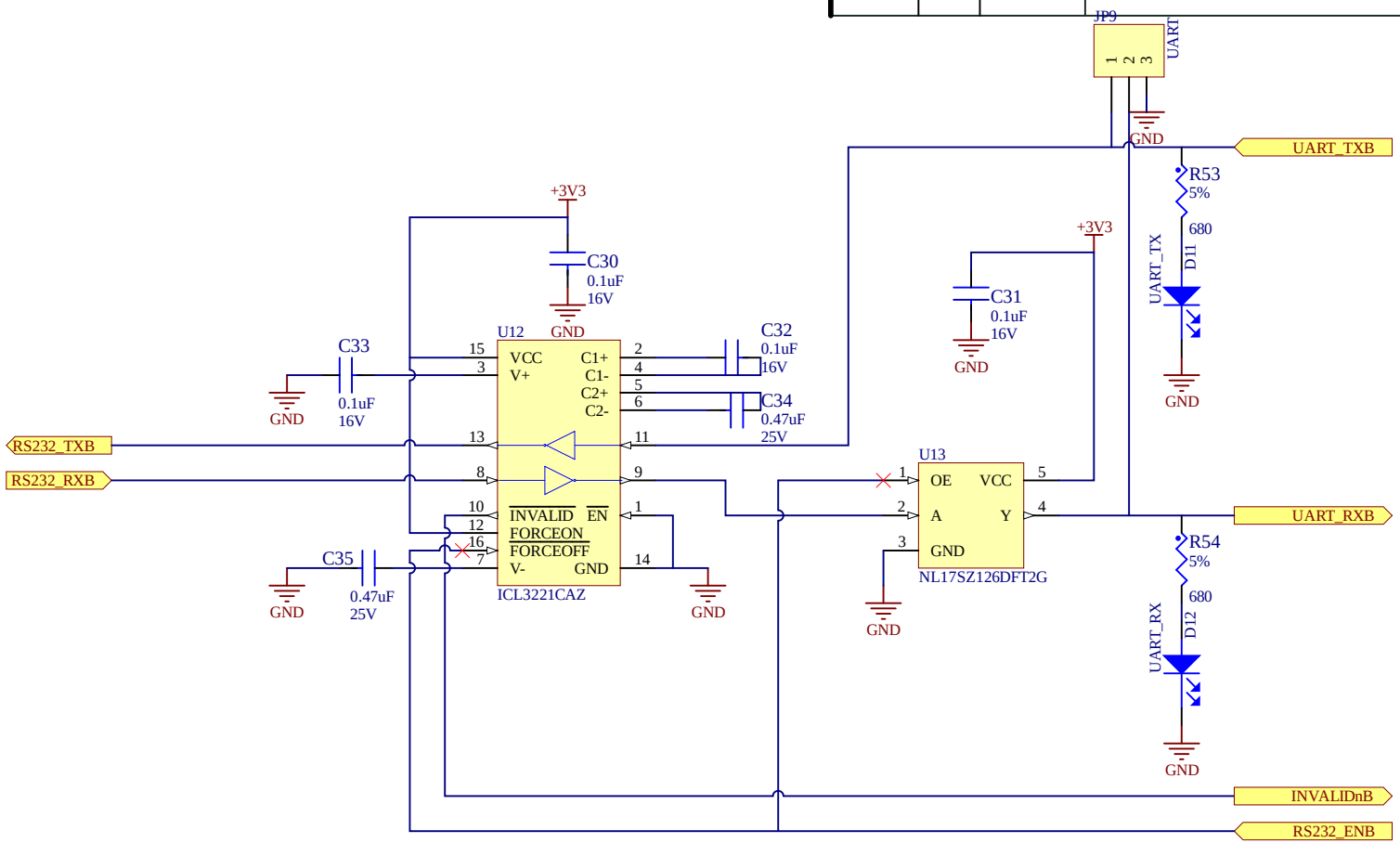
REV. 1D

SHEET: 8 OF 9

DRAWING NUMBER 999-00122.1

11/21/2024 8:14:25 AM

ZONE	REV	DATE	DESCRIPTION	ECO



RS-232 Signal Present at Receiver Input?	FORCEOFF or SHDN Input	FORCEON Input	EN Input	Transmitter Outputs	Receiver Outputs	ROUTB Outputs (Note 6)	INVALID Output	Mode of Operation
ICL3222, ICL3241								
N.A.	H	N.A.	H	Active	High-Z	Active	N.A.	Normal Operation w/Rcvr. Disabled
ICL3221, ICL3223								
No	H	H	L	Active	Active	N.A.	L	Normal Operation (Auto Powerdown Disabled)
No	H	H	H	Active	High-Z	N.A.	L	
Yes	H	L	L	Active	Active	N.A.	H	Normal Operation (Auto Powerdown Enabled)
Yes	H	L	H	Active	High-Z	N.A.	H	
No	H	L	L	High-Z	Active	N.A.	L	Powerdown Due to Auto Power-Down Logic
No	H	L	H	High-Z	High-Z	N.A.	L	
Yes	L	X	L	High-Z	Active	N.A.	H	Manual Powerdown
Yes	L	X	H	High-Z	High-Z	N.A.	H	Manual Powerdown w/Rcvr. Disabled
No	L	X	L	High-Z	Active	N.A.	L	Manual Powerdown
No	L	X	H	High-Z	High-Z	N.A.	L	Manual Powerdown w/Rcvr. Disabled

REVISED BY:

REACH TECHNOLOGY INC.

SCHEMATIC TITLE: UART - I2C

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RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

DRAWING SIZE: A

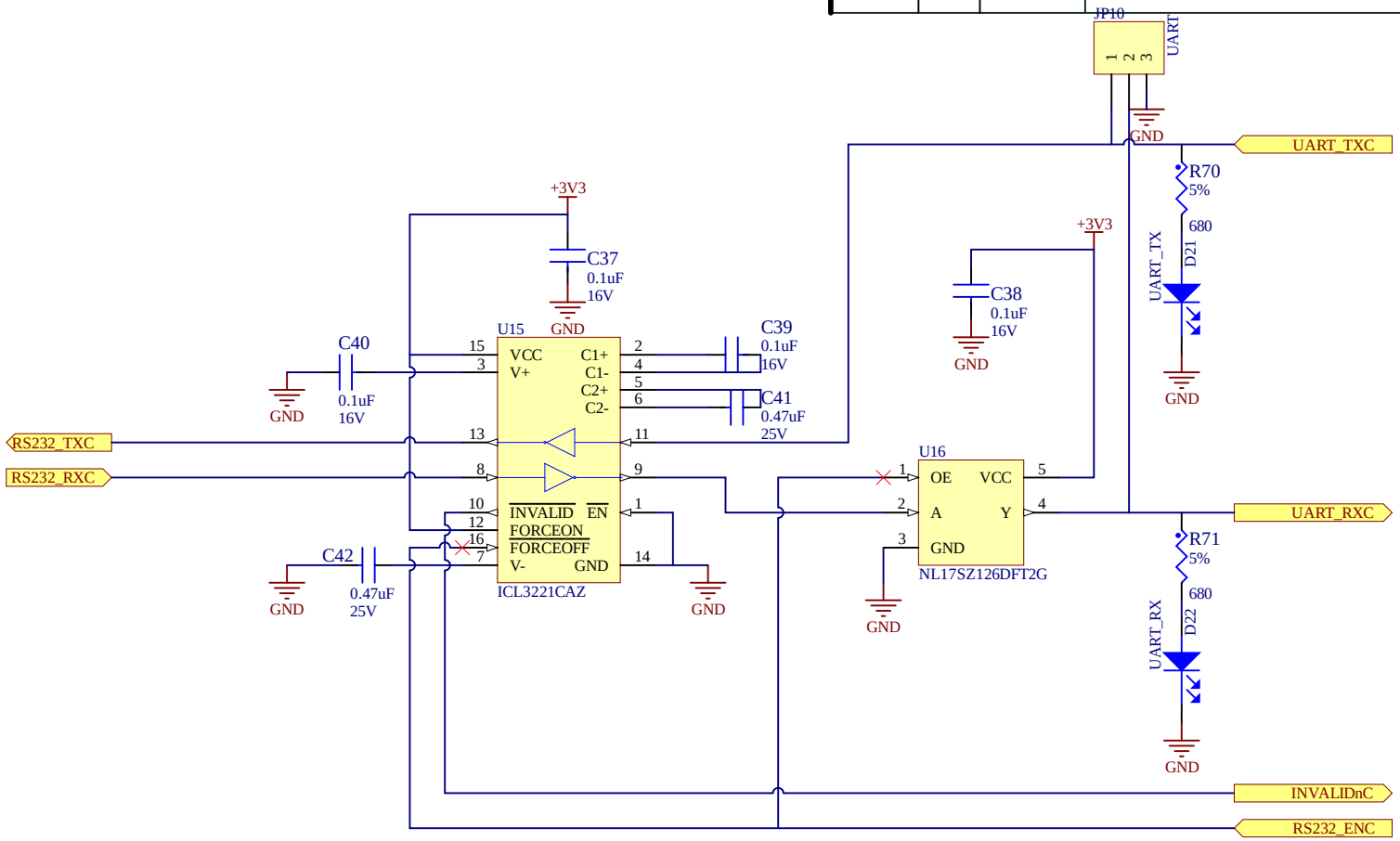
REV. 1D

SHEET: 8 OF 9

DRAWING NUMBER 999-00122.2

11/21/2024 8:14:25 AM

ZONE	REV	DATE	DESCRIPTION	ECO



RS-232 Signal Present at Receiver Input?	FORCEOFF or SHDN Input	FORCEON Input	EN Input	Transmitter Outputs	Receiver Outputs	R_{OUTB} Outputs (Note 6)	INVALID Output	Mode of Operation
ICL3222, ICL3241								
N.A.	H	N.A.	H	Active	High-Z	Active	N.A.	Normal Operation w/Rcvr. Disabled
ICL3221, ICL3223								
No	H	H	L	Active	Active	N.A.	L	Normal Operation (Auto Powerdown Disabled)
No	H	H	H	Active	High-Z	N.A.	L	
Yes	H	L	L	Active	Active	N.A.	H	Normal Operation (Auto Powerdown Enabled)
Yes	H	L	H	Active	High-Z	N.A.	H	
No	H	L	L	High-Z	Active	N.A.	L	Powerdown Due to Auto Power-Down Logic
No	H	L	H	High-Z	High-Z	N.A.	L	
Yes	L	X	L	High-Z	Active	N.A.	H	Manual Powerdown
Yes	L	X	H	High-Z	High-Z	N.A.	H	Manual Powerdown w/Rcvr. Disabled
No	L	X	L	High-Z	Active	N.A.	L	Manual Powerdown
No	L	X	H	High-Z	High-Z	N.A.	L	Manual Powerdown w/Rcvr. Disabled

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SCHEMATIC TITLE: UART - I2C

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APPROVAL / RELEASE

RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

DRAWING SIZE: A

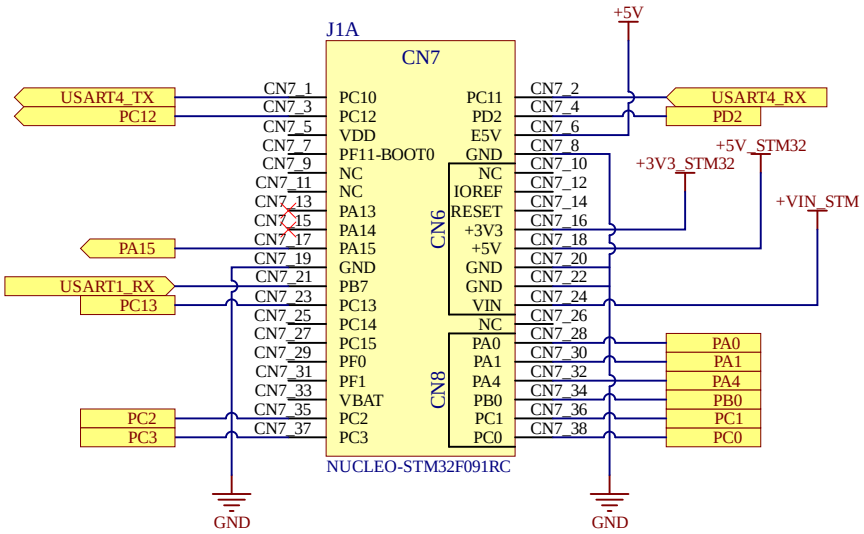
REV. 1D

SHEET: 8 OF 9

DRAWING NUMBER 999-00122.3

11/21/2024 8:14:25 AM

ZONE	REV	DATE	DESCRIPTION	ECO



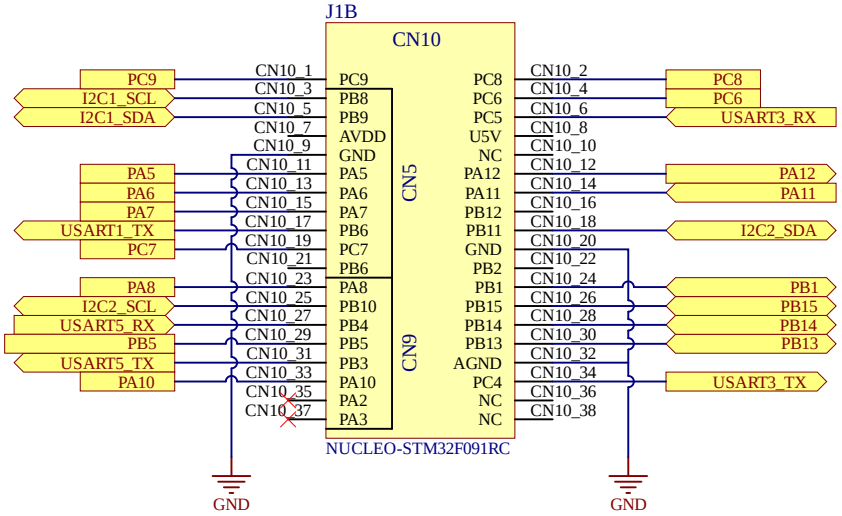
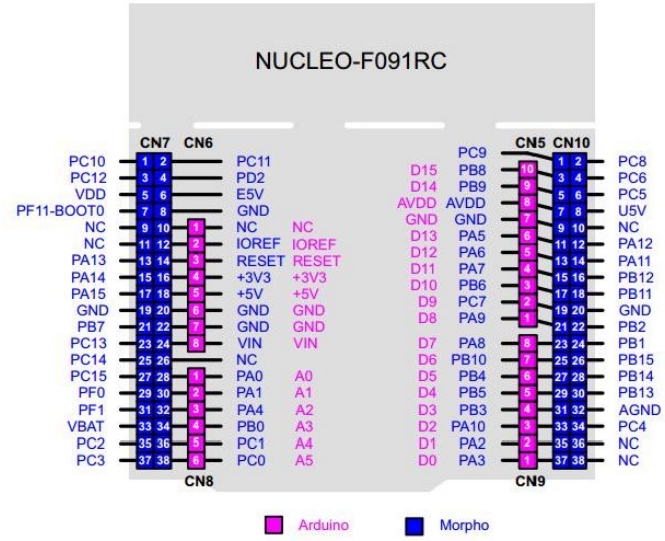


Figure 13. NUCLEO-F091RC



REVISED BY:

REACH TECHNOLOGY INC.

SCHEMATIC TITLE: STM32

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DATE DRAWN	ENGINEER	DRAWN BY

APPROVAL / RELEASE

RELEASE:	DATE:	RELEASED BY:
TOOLING		
PRODUCTION		

DRAWING SIZE: A

REV. 1D

SHEET: 9 OF 9

DRAWING NUMBER 999-00122.

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