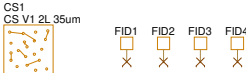
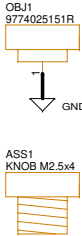


NOTECARRIER-M2-R

Revision	Date	Author	Description
1	22/12/2023	S.Vaghi	First Release

- ASS2
M20-9991045
- ASS3
M20-9991045
- ASS4
213353-0100



Test point SPEA

Blues Inc

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Friday, December 22, 2023

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Project
Board

PORTENTA NOTECARRIER
NOTECARRIER-M2-R

Project Code
Internal Code

2023-1252
-

Rev.
1

See Revision Page

Designed by
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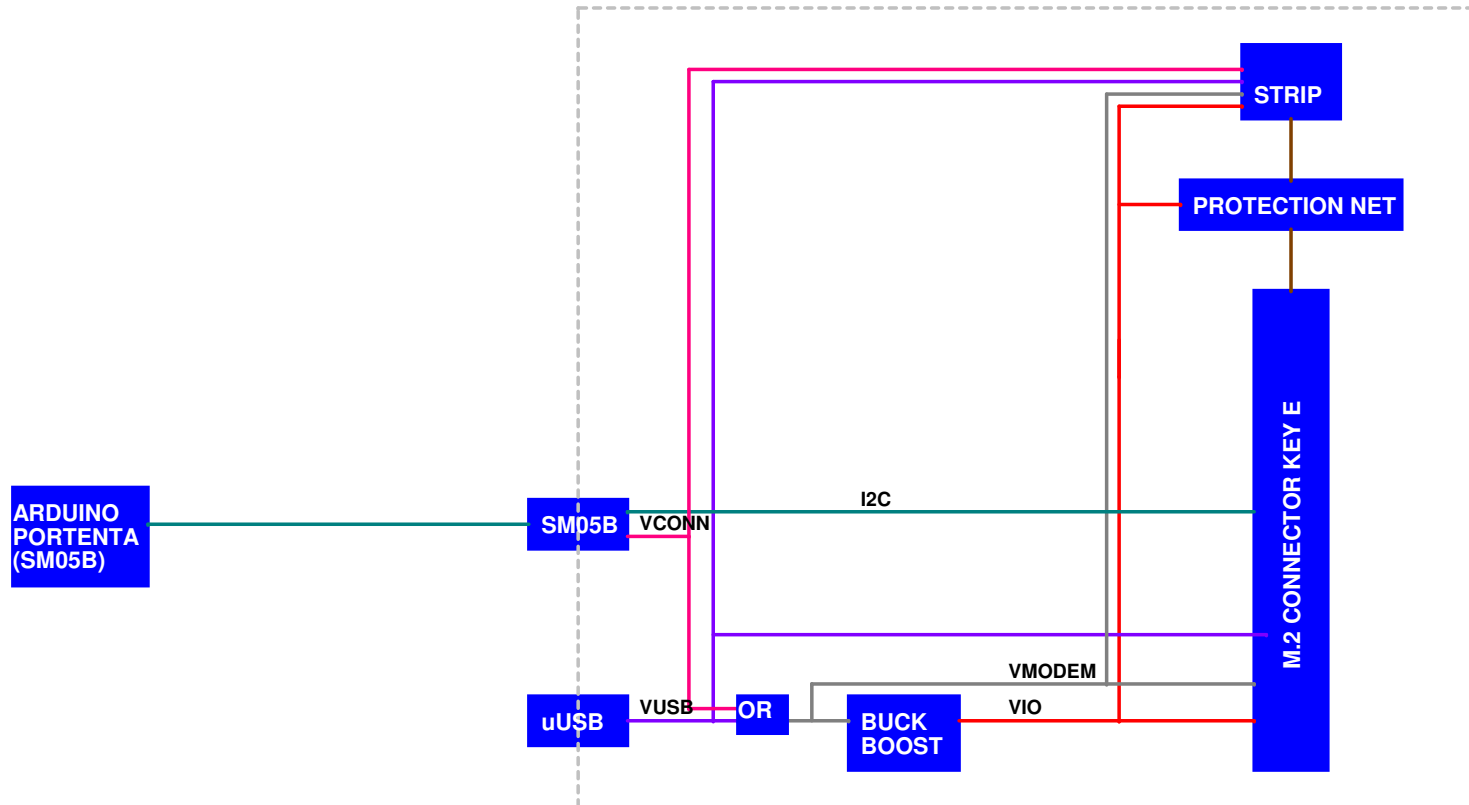
Page name
Code

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Rev. changes

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NOTECARRIER-M2-R



<div>Blues Inc</div> <div>Address: Mail: Phone:</div> <div>Date Friday, December 22, 2023</div> <div>Copyright (c) 2020 Blues Inc</div>	Project	PORTENTA NOTECARRIER	Designed by	
	Board	NOTECARRIER-M2-R	FAE TECHNOLOGY via C. Battisti, 136 24025 Gazzaniga (Bg), Italy Mail: info@fae.technology Phone: +39035738130	
	Project Code	2023-1252	Page name 01 - BLOCK DIAGRAM	
	Internal Code	-	Code -	
Rev.	1	Rev. changes		Sheet 2 / 3

EDGE CONNECTOR

The diagram illustrates the electrical connections for an edge connector. It includes two pin headers, J4 and J5, and a series of signal traces connecting them through four diode protection components (DS3, DS4, DS5, DS6).

Pin Headers:

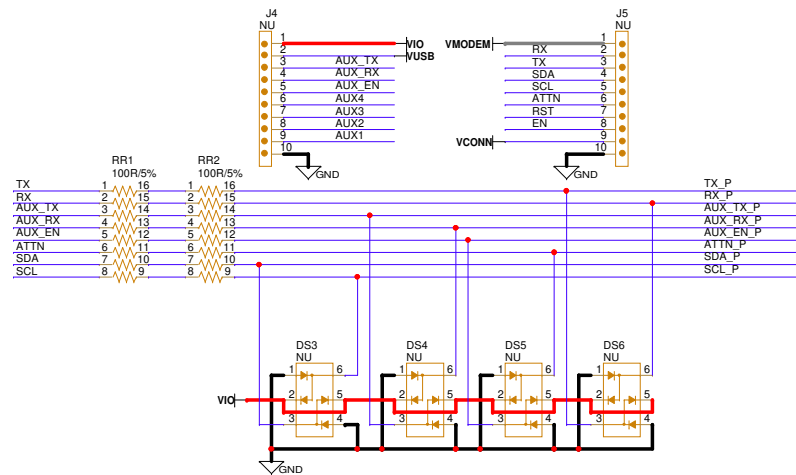
- J4 (NU):** Pins 1-10. Pin 1 is labeled **VIO**. Pins 2-9 are labeled **AUX_TX**, **AUX_RX**, **AUX_EN**, **AUX4**, **AUX3**, **AUX2**, **AUX1**. Pin 10 is **GND**.
- J5 (NU):** Pins 1-10. Pin 1 is labeled **VMODEM**. Pins 2-9 are labeled **RX**, **TX**, **SDA**, **SCL**, **ATTN**, **RST**, **EN**. Pin 10 is **GND**.

Signal Traces:

- RR1 100R/5%:** Connects J4 pins 1-10 to J5 pins 1-10.
- RR2 100R/5%:** Connects J4 pins 1-10 to J5 pins 1-10.
- TX, RX, AUX_TX, AUX_RX, AUX_EN, ATTN, SDA, SCL:** These signals are connected to the corresponding pins on J5 and are also connected to the **TX_P**, **RXC_P**, **AUX_TX_P**, **AUX_RX_P**, **AUX_EN_P**, **ATTN_P**, **SDA_P**, and **SCL_P** pins on the right.

Diode Protection:

- DS3, DS4, DS5, DS6:** These diodes are connected to the signal lines (TX, RX, AUX_TX, AUX_RX, AUX_EN, ATTN, SDA, SCL) to provide protection against electrostatic discharge (ESD).



POWER

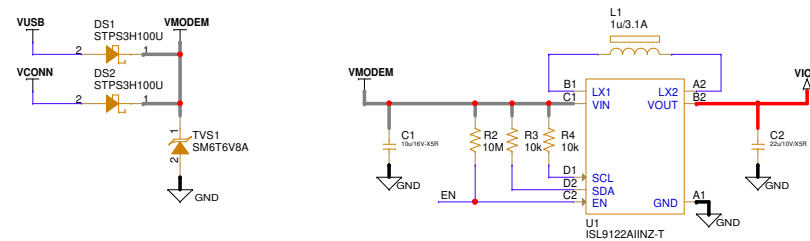
The image displays two circuit diagrams related to power supply and signal interfacing.

Left Diagram: USB to VMODEM Interface

- VUSB** and **VCONN** are input signals.
- DS1** (STPS3H100U) and **DS2** (STPS3H100U) are Schottky diodes.
- TVS1** (SM6T6V8A) is a transient voltage suppressor.
- The circuit connects **VUSB** and **VCONN** to **VMODEM** through the diodes and TVS.

Right Diagram: DC-DC Converter Circuit

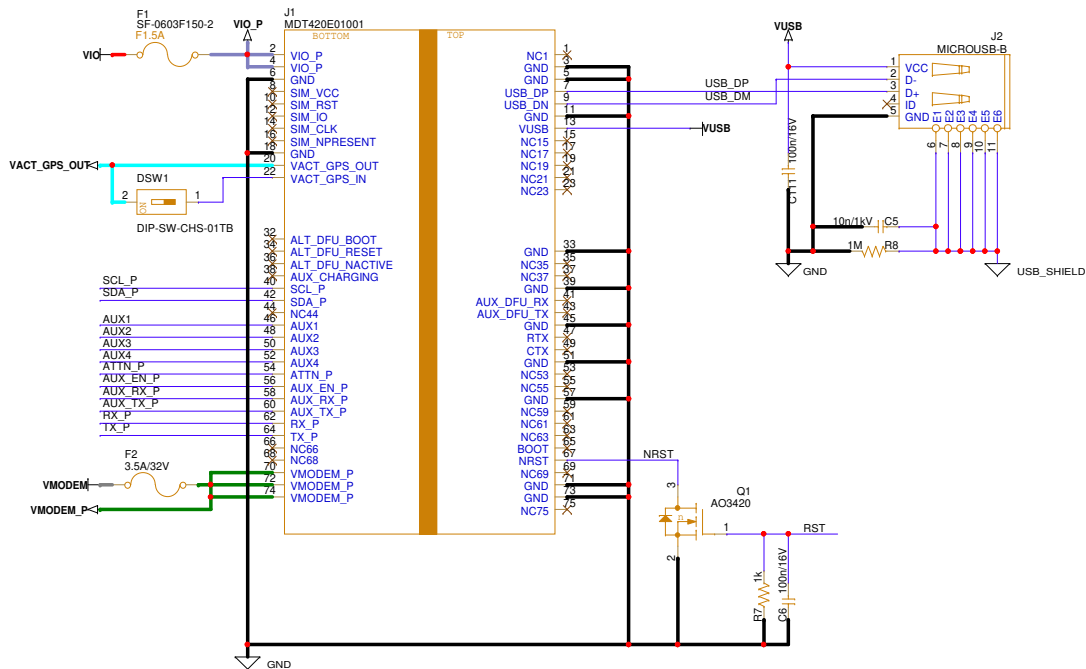
- VMODEM** is the input voltage.
- C1** (15u/15V XSR) is an input capacitor.
- R2** (10M), **R3** (10k), and **R4** (10k) are resistors in the feedback network.
- L1** (1u/3.1A) is an inductor.
- U1** (ISL9122A1INZ-T) is the DC-DC converter.
- B1** (C1), **B2** (A2), **A1** (GND), and **A2** (VIO) are pins of the converter.
- C2** (22u/10V XSR) is an output capacitor.
- The circuit converts **VMODEM** to **VIO** using the ISL9122A1INZ-T converter.



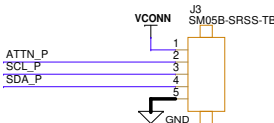
NOTECARD CONNECTOR

The diagram illustrates the Notecard Connector, featuring the MDT420E01001 module. The module's pins are connected to various components as follows:

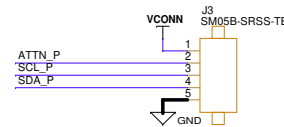
- GPS Module (F1 SF-0603F150-2 FT-5A):** Connected to VIO_P (pin 4) and VIO_N (pin 5).
- Switch (DIP-SW-CHS-01TB):** Connected to VACT_GPS_OUT (pin 20) and VACT_GPS_IN (pin 22).
- Voltage Regulator (F2 3.5A/32V):** Connected to VMODEM_P (pin 72) and VMODEM_N (pin 74).
- MicroUSB Port (J2 MICROUSB-B):** Connected to VUSB (pin 13), USB_DP (pin 9), USB_DM (pin 11), and USB_SHIELD-B (pin 15).
- Resistor Network (R7 1k, R8 1M):** Connected to VUSB (pin 13) and VUSB_SHIELD-B (pin 15).
- Capacitors (C5 10n/1kV, C6 100n/16V):** Connected to VUSB (pin 13) and VUSB_SHIELD-B (pin 15).
- Other Connections:**
 - VIO_P (pin 4) to VIO_N (pin 5)
 - VACT_GPS_OUT (pin 20) to VACT_GPS_IN (pin 22)
 - VMODEM_P (pin 72) to VMODEM_N (pin 74)
 - VUSB (pin 13) to VUSB_SHIELD-B (pin 15)
 - VUSB_SHIELD-B (pin 15) to VUSB (pin 13)





JST CONNECTOR



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	Project Code	2023-1252	Page name	02 - CONNECTOR
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	Project Code		2023-1252		Page name		02 - CONNECTOR	
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