

DSG-RICH R&D Meeting

Date: May 3, 2021

Time: 11:00AM – 12:00PM

Attendees: Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Tyler Lemon, and Amrit Yegneswaran

1. SHT35 sensor PCB design submitted for fabrication

Peter Bonneau, Brian Eng, Tyler Lemon, and Marc McMullen

- Waiting on information on where to ship SHT35 sensors for assembly

2. PRs submitted for interlock components

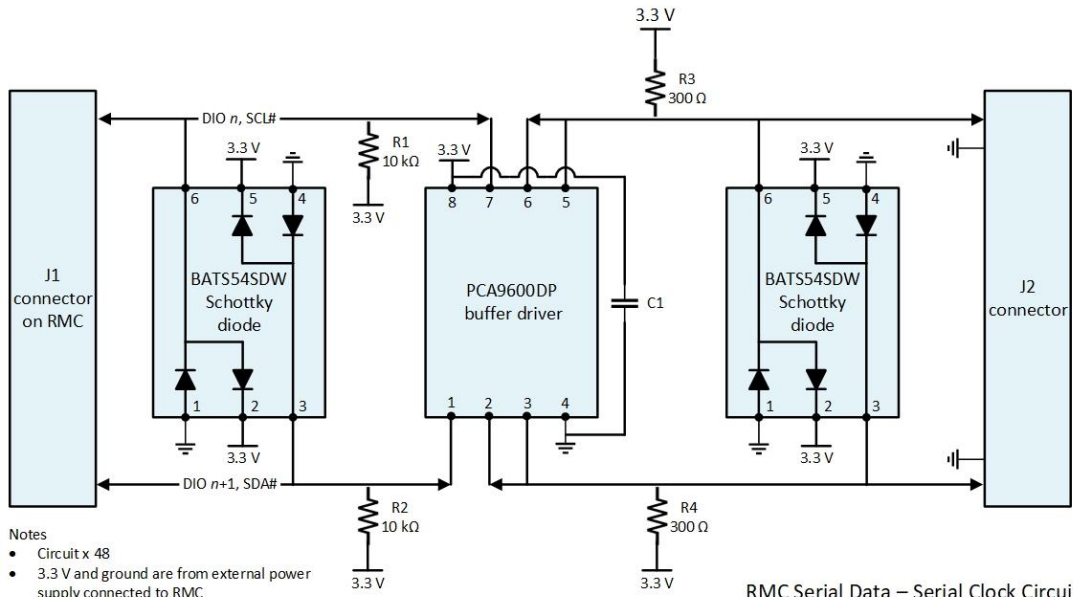
Tyler Lemon

- PR # 402584 – NI components
 - sbRIO-9629 development kit
 - Procured since it comes with a 12 VDC – 6 A wall wart power supply with latching connector
 - Expansion chassis for gas system monitoring using C modules
 - DIN rail mount supplies for expansion chassis
 - Four NI-9219 universal input modules
 - Need three, one for spare
 - Two NI-9485 solid state relay (SSR) modules
 - Need one, one for spare
- PR # 402588P – Hardware for prototyping interlock relay circuit on RMC
 - Two SSR types (different integrated circuit packages)
 - One type is DIP-8 (eight-pin, dual in-line package) with two internal relays
 - Other is SIP-4 (four-pin, single in-line package) with one internal relay
 - NPN bipolar junction transistors
 - Used as switches for external 3.3 V power to control relays that require higher power than sbRIO outputs are capable of
 - Prototyping hardware
 - DIP-8 socket adapter for SSRs
 - TSSOP-8 (eight-pin, thin-shrink, small outline package) to DIP-8 adapter for connecting NPN transistors to breadboard

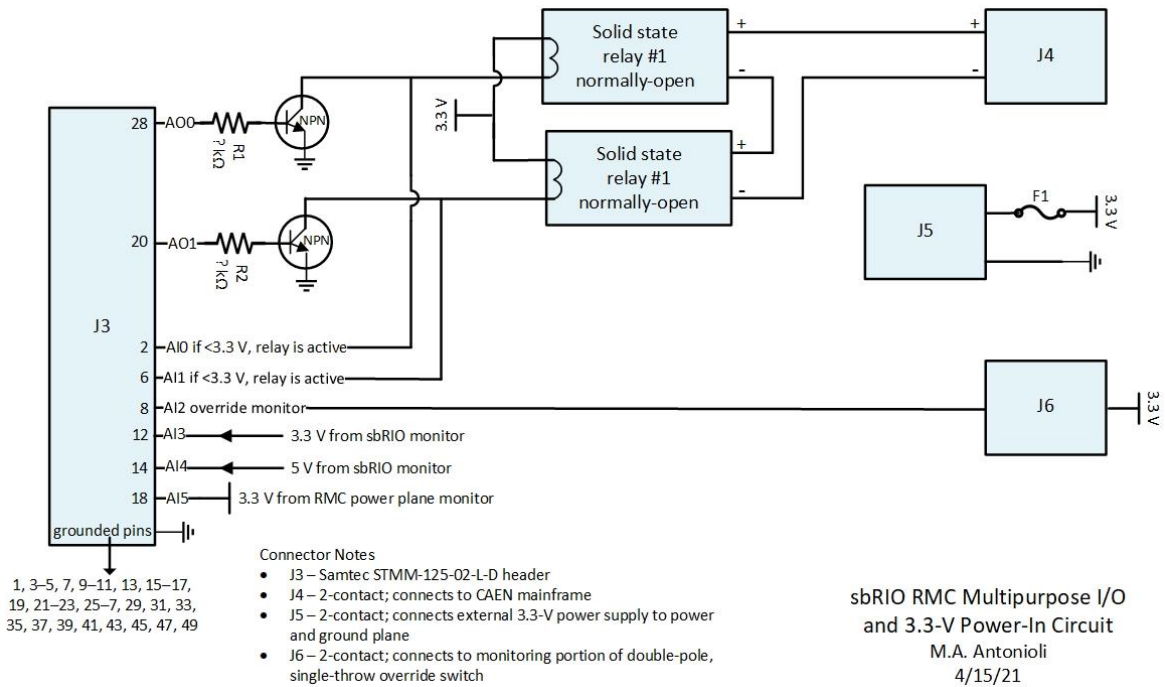
3. RICH-II RIO Mezzanine Card (RMC)

Tyler Lemon and Marc McMullen

- Marc McMullen started designing schematic for RMC's 48 I²C circuits, interlock relay control, and sbRIO monitoring
- Tyler Lemon has procured prototyping components for RMC's interlock relay circuit



RMC Serial Data – Serial Clock Circuit
M.A. Antonioli
4/14/21, rev. 4/21/21



sbRIO RMC Multipurpose I/O and 3.3-V Power-In Circuit
M.A. Antonioli
4/15/21

Block diagram for RMC circuits