

Manager: Magnus Feuer  
Advisor: Rudolf Steif  
Designer: Jesse Banks  
**Jaguar Land Rover OSTC**

Sheet: /  
File: V2X.sch

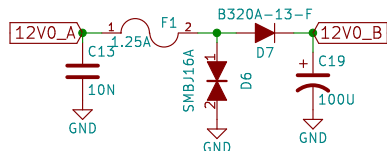
**Title: V2X – Open source RVI over SMS daughter card**

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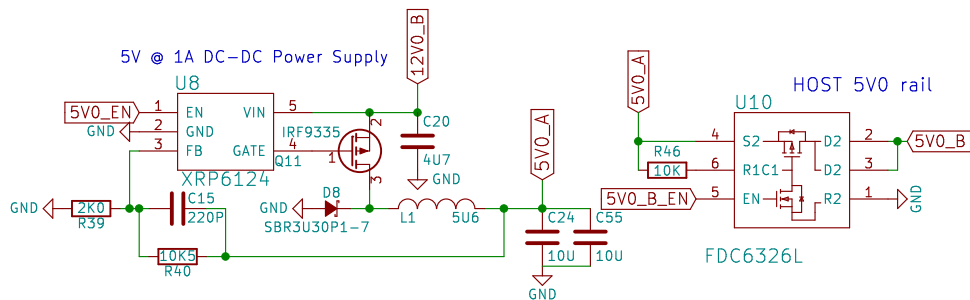
**Rev: 1.2**  
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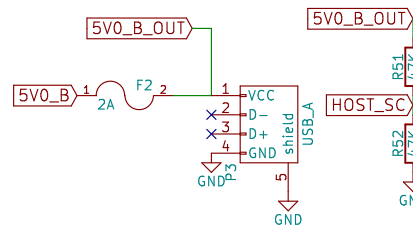
# Vehicle Power Input Filtering and ESD Spike Suppression



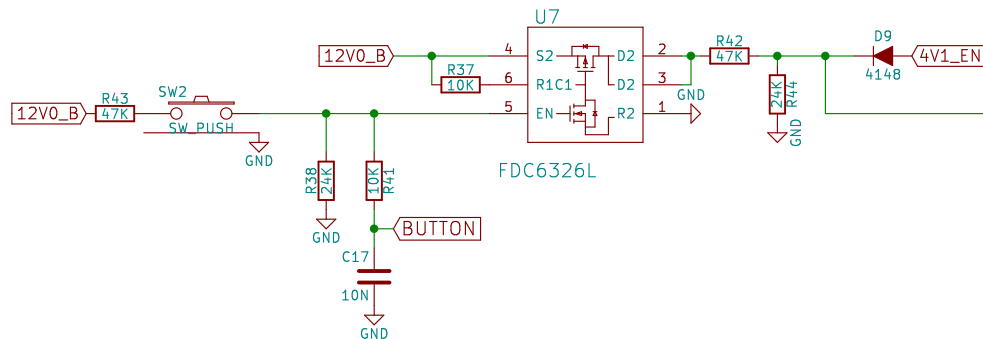
## 5V @ 1A DC-DC Power Supply



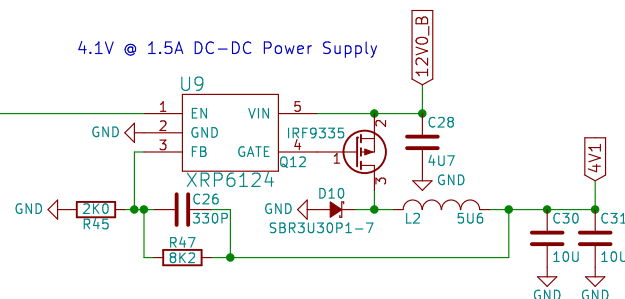
## HOST Power Connection



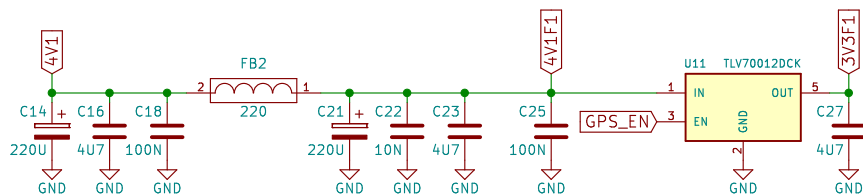
Short Circuit Detection  
5V0\_B\_OUT is post poly fuse  
Sample using logic level (maybe A2D)  
Logic '0' signal (<1.5V) indicates poly  
fuse is set; host output is in protect.  
Logic '1' signal (approx 2.4V) indicates  
poly fuse is clear, normal operation.  
An A2D value that is too high might  
indicate the Host is not attached.



## 4.1V @ 1.5A DC-DC Power Supply



Button starts the 4V1 -> 3V3 supplies  
Must hold 4V1\_EN high to stay on  
BUTTON is input signal once running

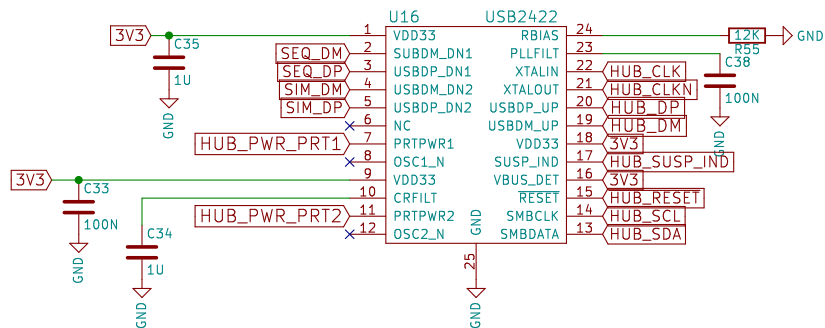


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Sheet: /V2X Power Sub/  
File: V2X\_PWR.sch

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## Bootstrapping Options

GND  $\leftarrow$   $\boxed{47K}$   $\leftarrow$  HUB\_SCL 0: Default configuration: Strap options enabled, hub as "self-powered"

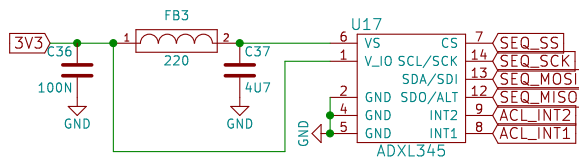
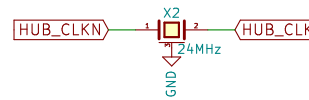
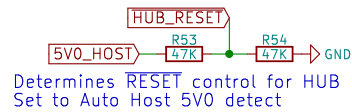
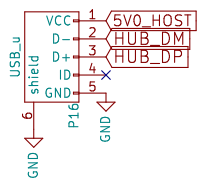
GND  $\leftarrow$   $\boxed{47K}$   $\leftarrow$  HUB\_PWR\_PRT1 0: Battery charging feature is not supported for port 1

GND  $\leftarrow$   $\boxed{47K}$   $\leftarrow$  HUB\_SUSP\_IND (NON\_REM0)

$\boxed{3V3}$   $\leftarrow$   $\boxed{47K}$   $\leftarrow$  HUB\_SDA (NON\_REM1)

NON\_REM[1:0] = 10: ports 1 and 2 are non-removable

## HUB Data



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Sheet: /V2X Accy Sub/

File: V2X\_ACCY.sch

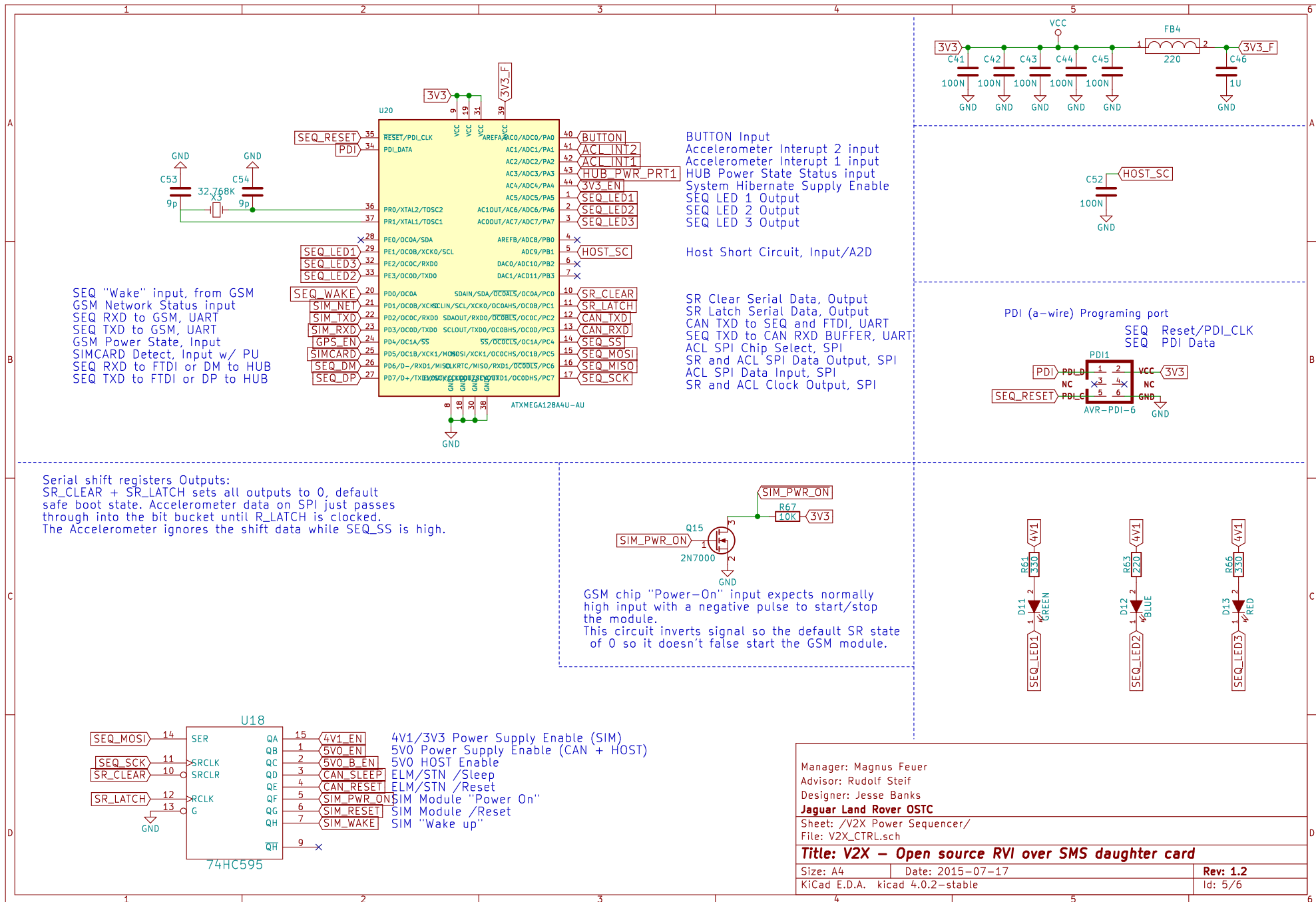
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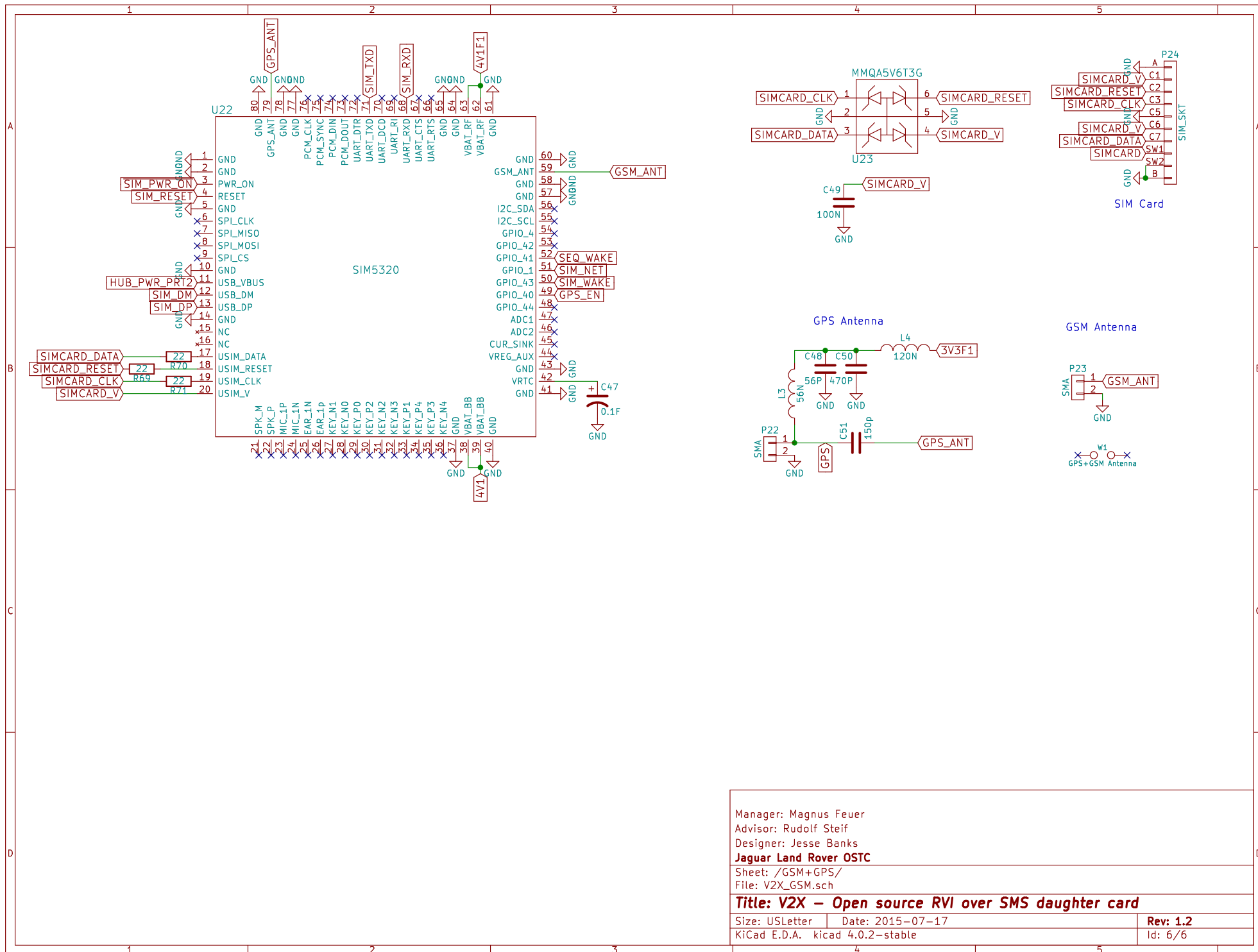
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Sheet: /GSM+GPS/  
 File: V2X\_GSM.sch

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