



TangerineSDR RXM-5001D Receiver Status Update

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DCC 2020

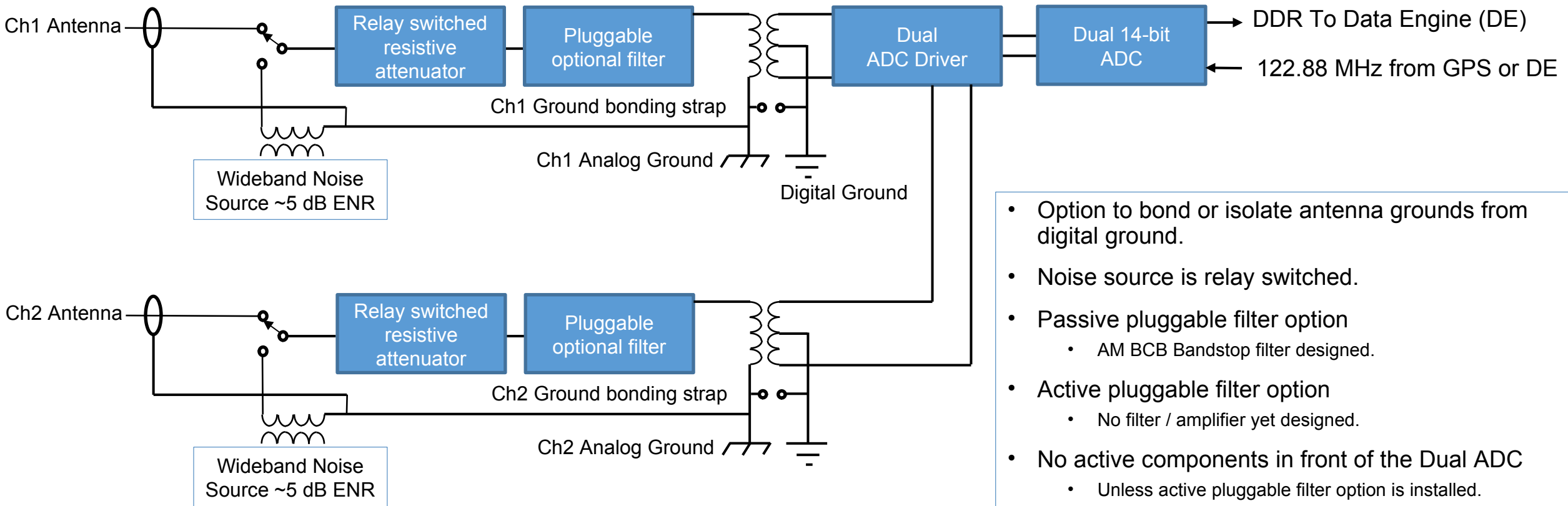
September 11, 2020

We gratefully acknowledge support to this project from NSF Grants
AGS-2002278, AGS-1932997, and AGS-1932972.

Purpose / Status

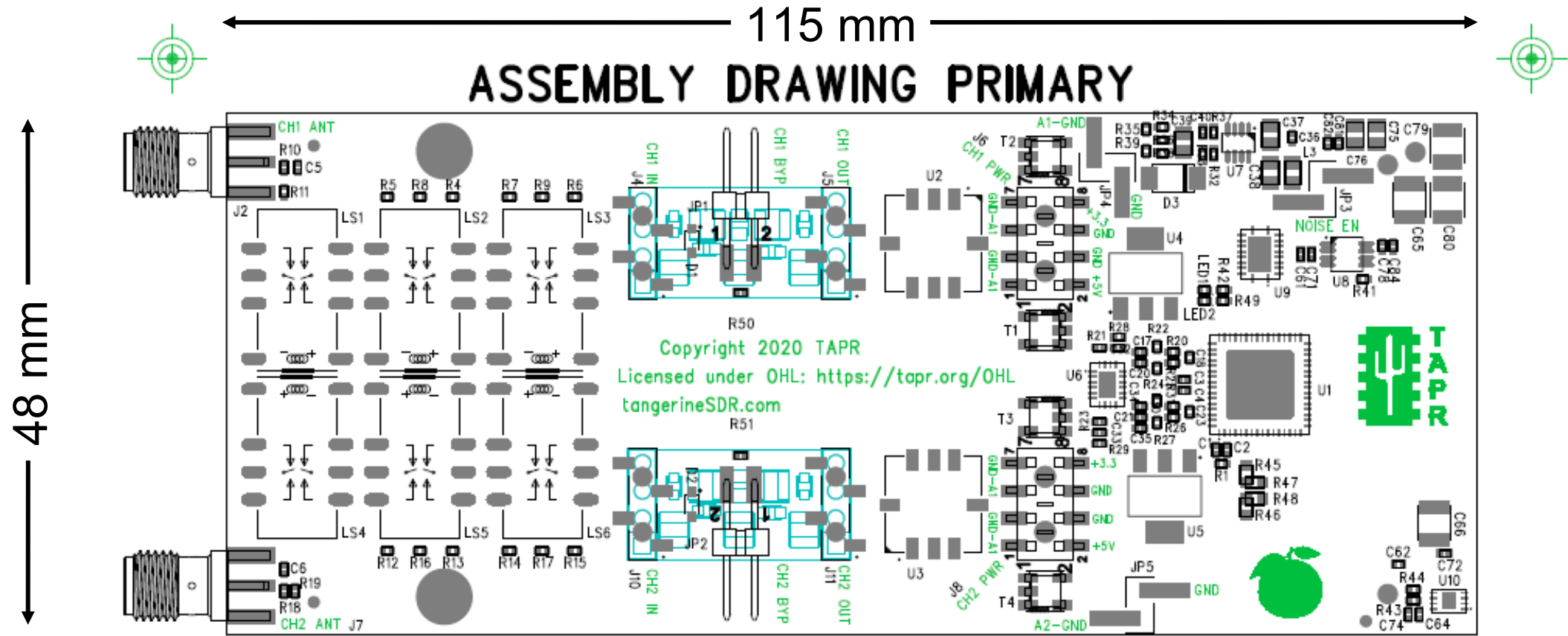
- Dual Channel HF receiver ~ 100 kHz to 54 MHz.
- Uses TangerineSDR Data Engine (DE) to process signals, e.g.:
 - Down-convert & decimate received signals
 - Process Chirped ionosonde signals
 - Double-Data-Rate (DDR) parallel interface to DE.
- Receiver Status
 - Schematic & PCB layout completed
 - Nothing fabricated or built yet.
 - Awaiting final DE in case of changes.

RXM-5001D High Level Diagram



- Option to bond or isolate antenna grounds from digital ground.
- Noise source is relay switched.
- Passive pluggable filter option
 - AM BCB Bandstop filter designed.
- Active pluggable filter option
 - No filter / amplifier yet designed.
- No active components in front of the Dual ADC
 - Unless active pluggable filter option is installed.
- 0 dB / 10 dB / 20 dB / 30 dB attenuator.

Receiver Preliminary Layout



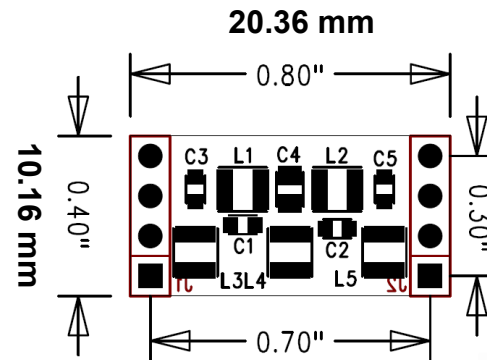
ASSEMBLY DRAWING PRIMARY

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SCOTT COWLING / THOMAS C. McDERMOTT, N5EG TANGERINE SDR DUAL CHANNEL RECEIVER
P/N RXM-5001D Rev.A 03/12/2020 L1 PRIMARY

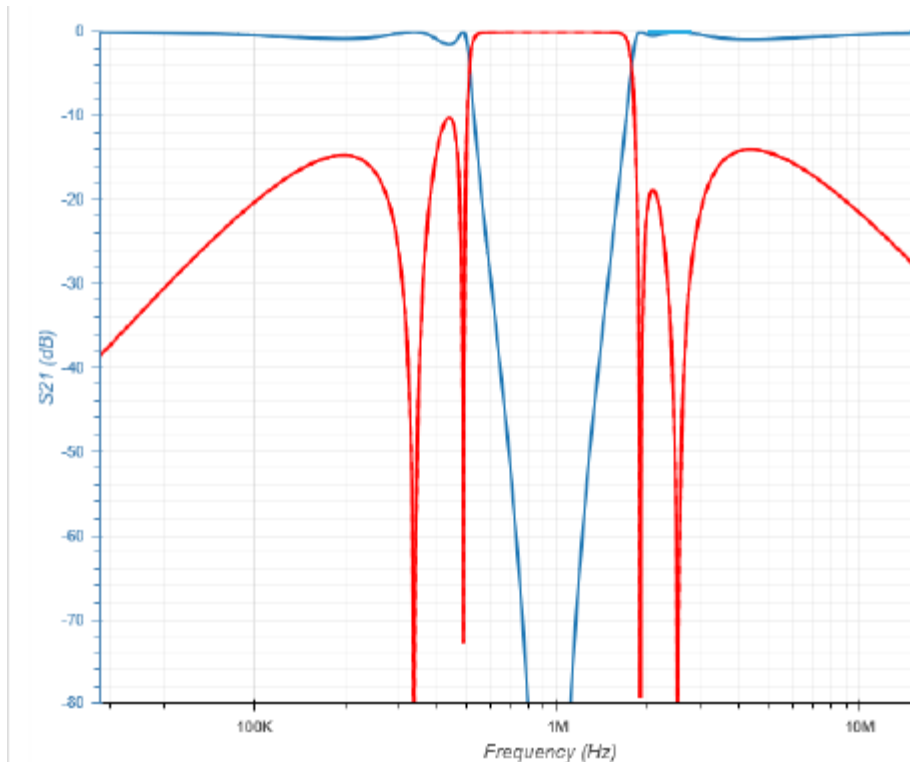
SILKSCREEN PRIMARY

AM BCB (Passive) Filter Layout

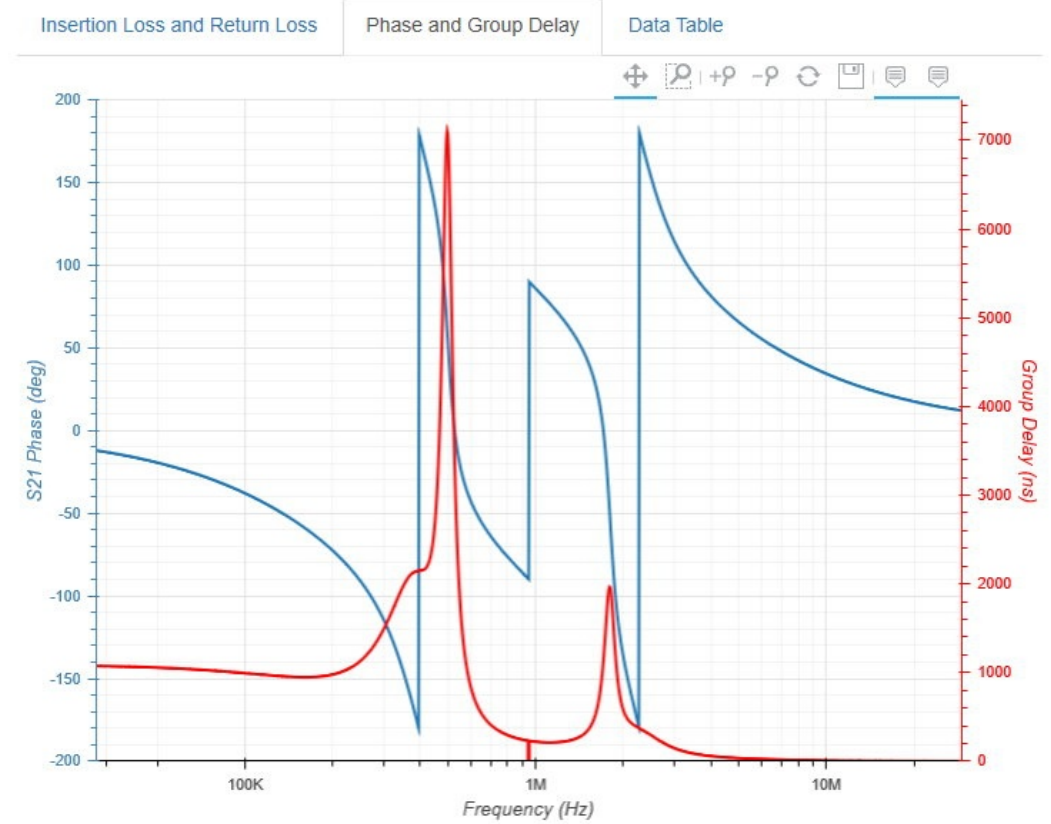


AM BCB Passive Bandstop filter

- Optional pluggable filter. Simulation:



— Attenuation
— Return Loss



— Phase
— Group Delay

Powered & Isolated Antenna Configuration

