

ETF 2022 – JOOST BREED

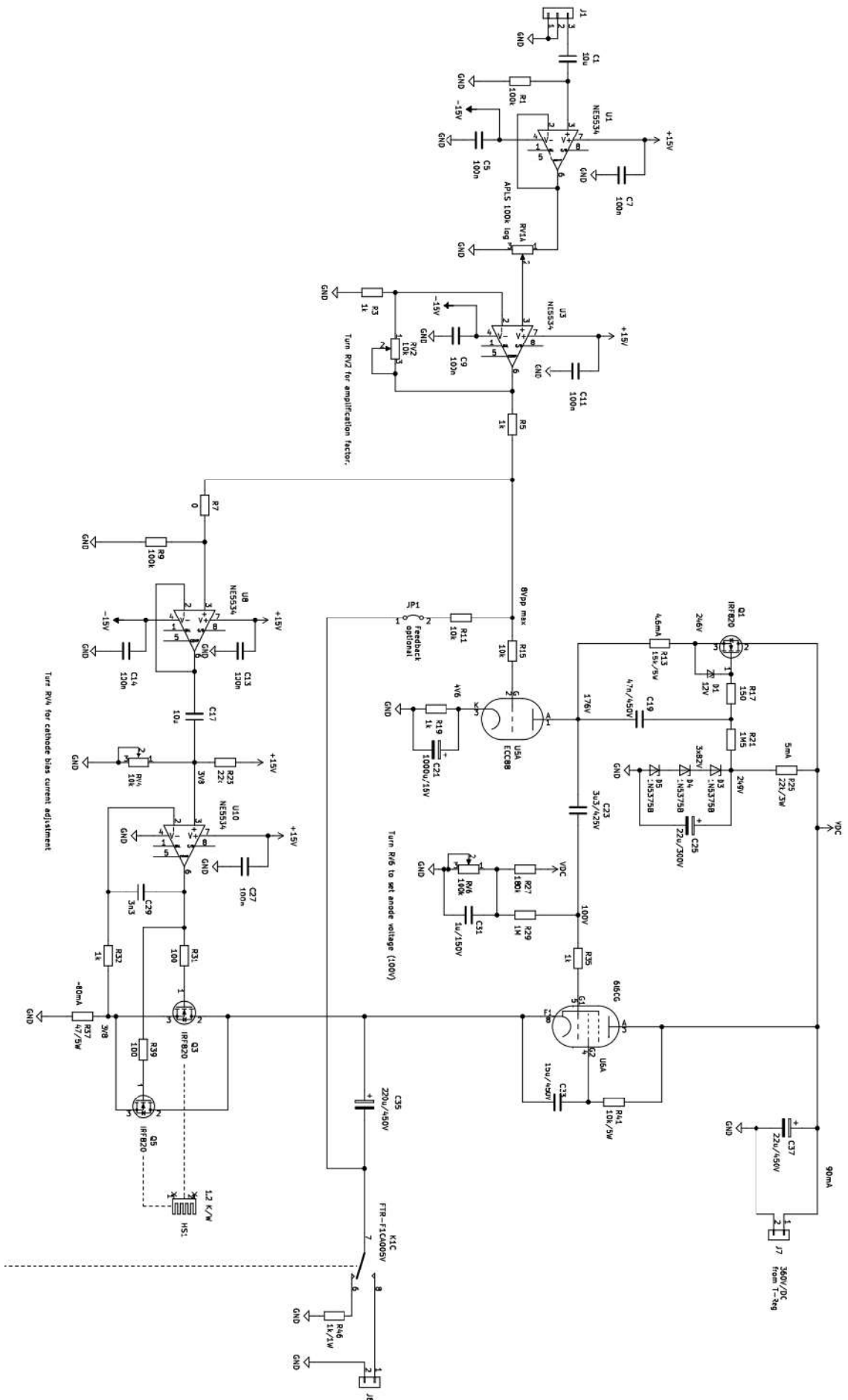


SPECIFICATIONS

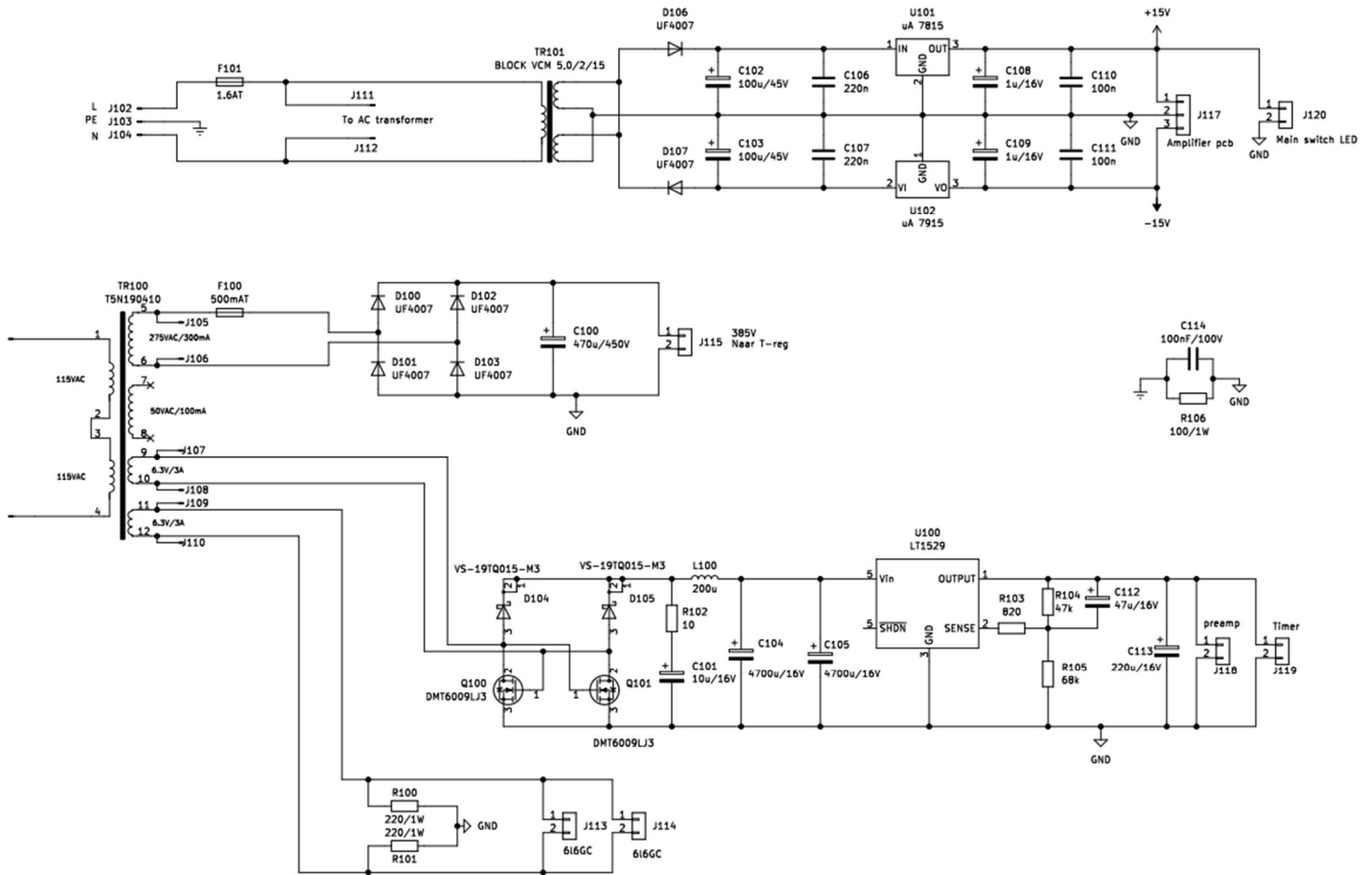
- Stereo OTL amplifier
- ECC88 preamp tube
- 6L6GC power amplifier tubes (TAD 6L6GCM-STR REDBASE)
- 800 Ohm (OTL) and 5 Ohm (non-OTL) selectable outputs
- 36 Ohm output impedance
- 5W maximum output power
- 4 Hz – 340 kHz bandwidth
- DC preamp filament power supply
- T-REG regulated 360V DC amplifier power supply
- 0.04% THD @ 1W
- 0.14% THD @ 5W
- 50 Hz residue at -80 dB on output
- 4 Layer pcb design

SCHEMATICS

Amplifier schematics – single channel

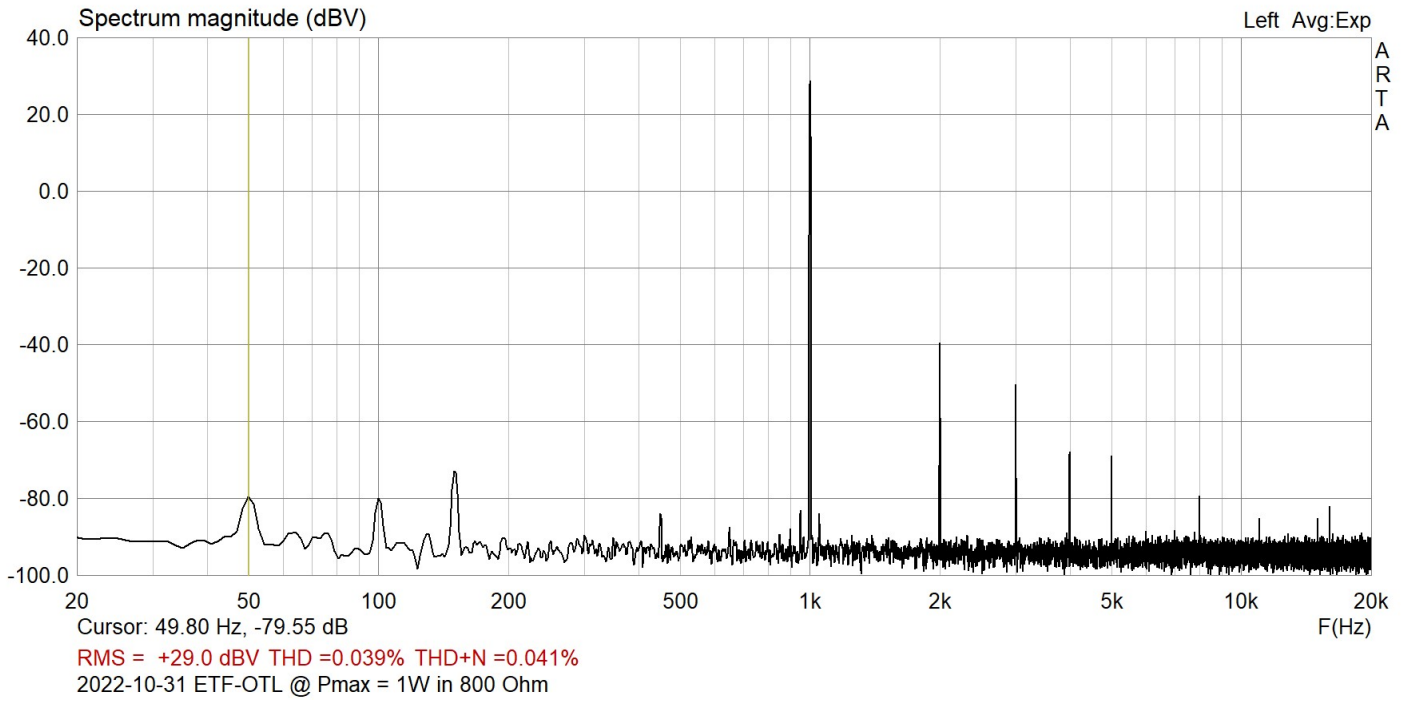


Power supply schematics

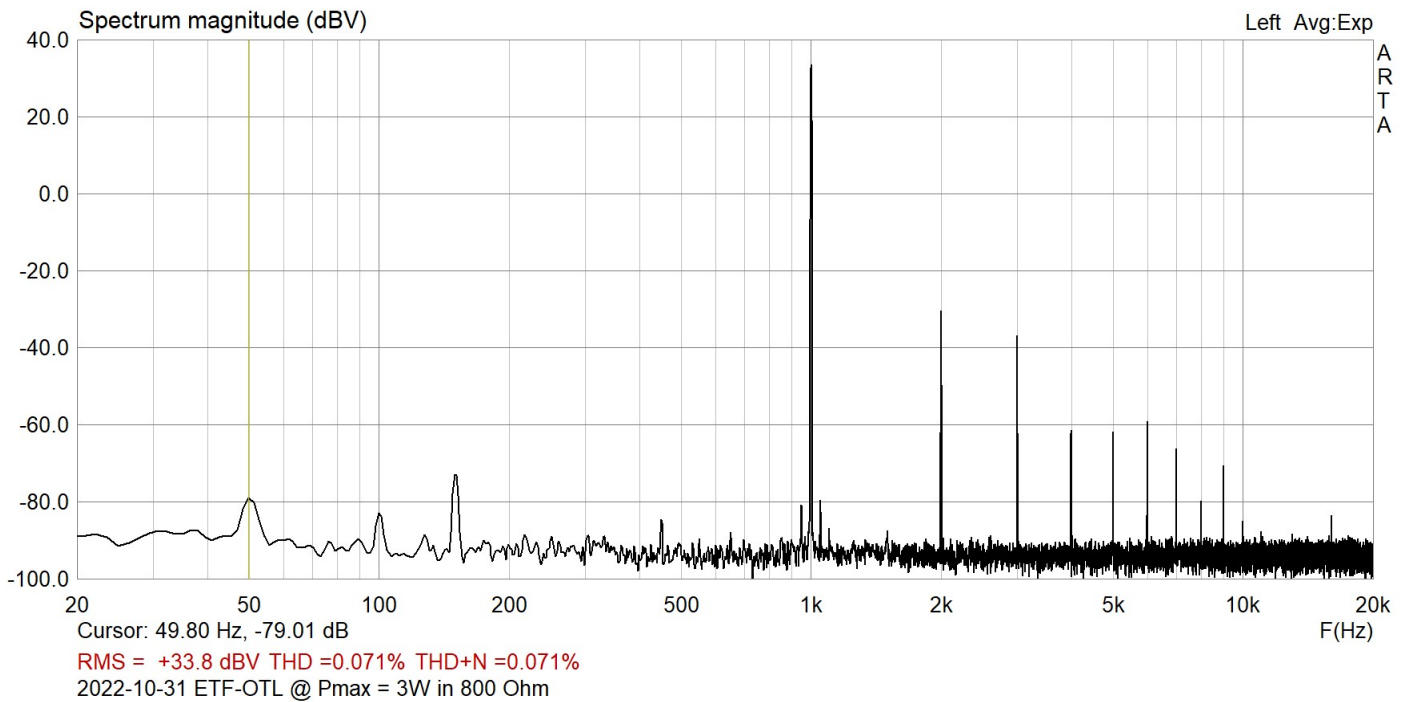


6.3 V DC filament supply created from 6.3 V AC transformer output with active bridge rectifier

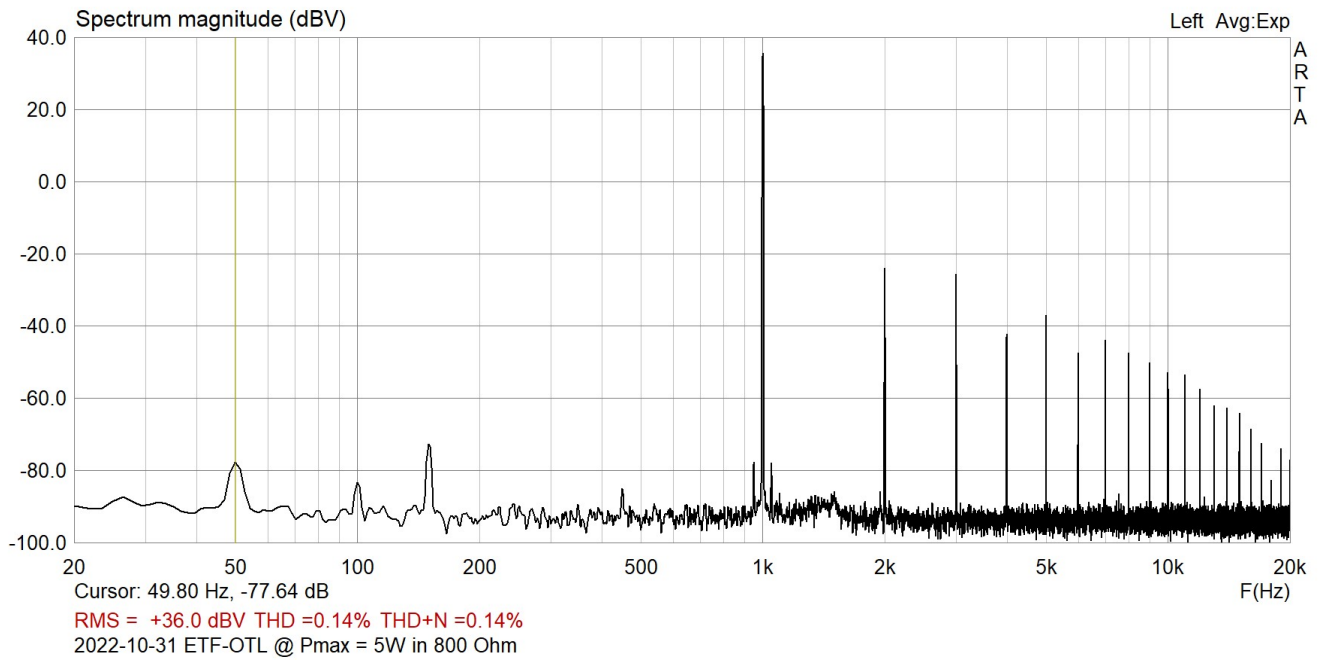
SPECTRUM MEASUREMENTS



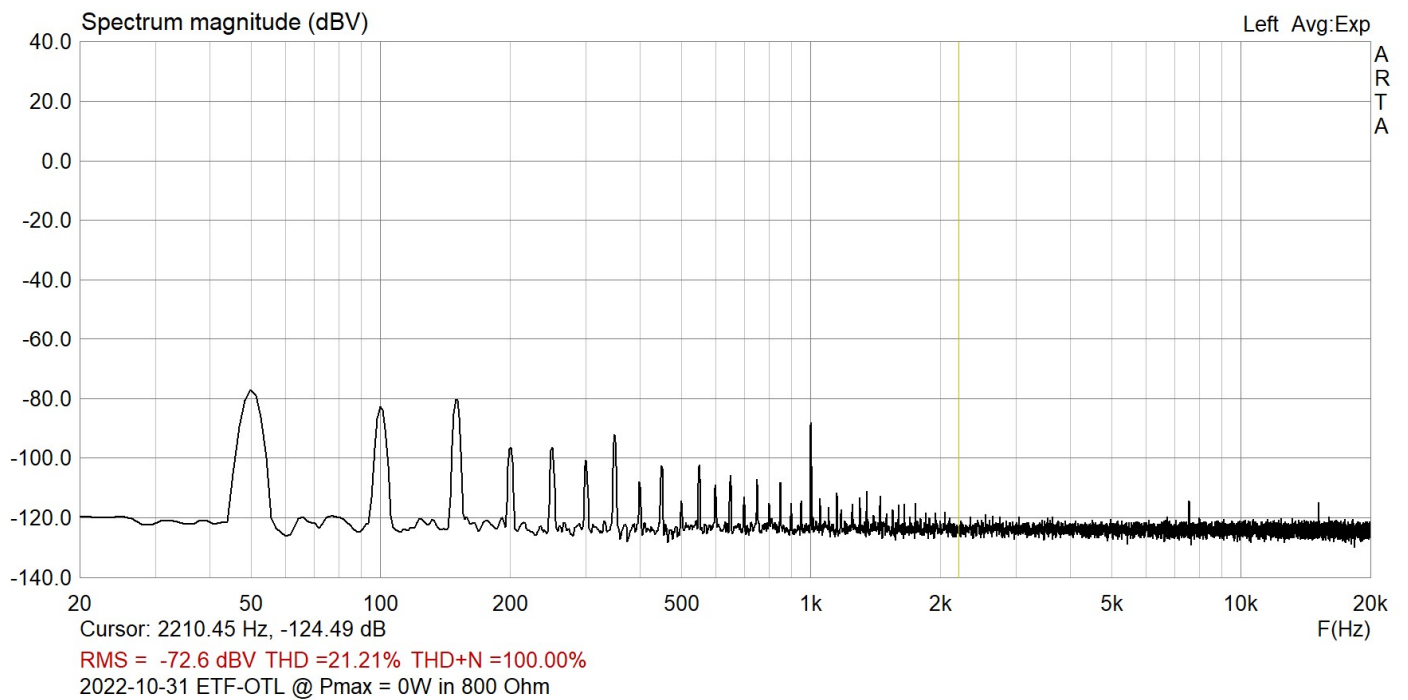
1W 800 Ohm



3W in 800 Ohm

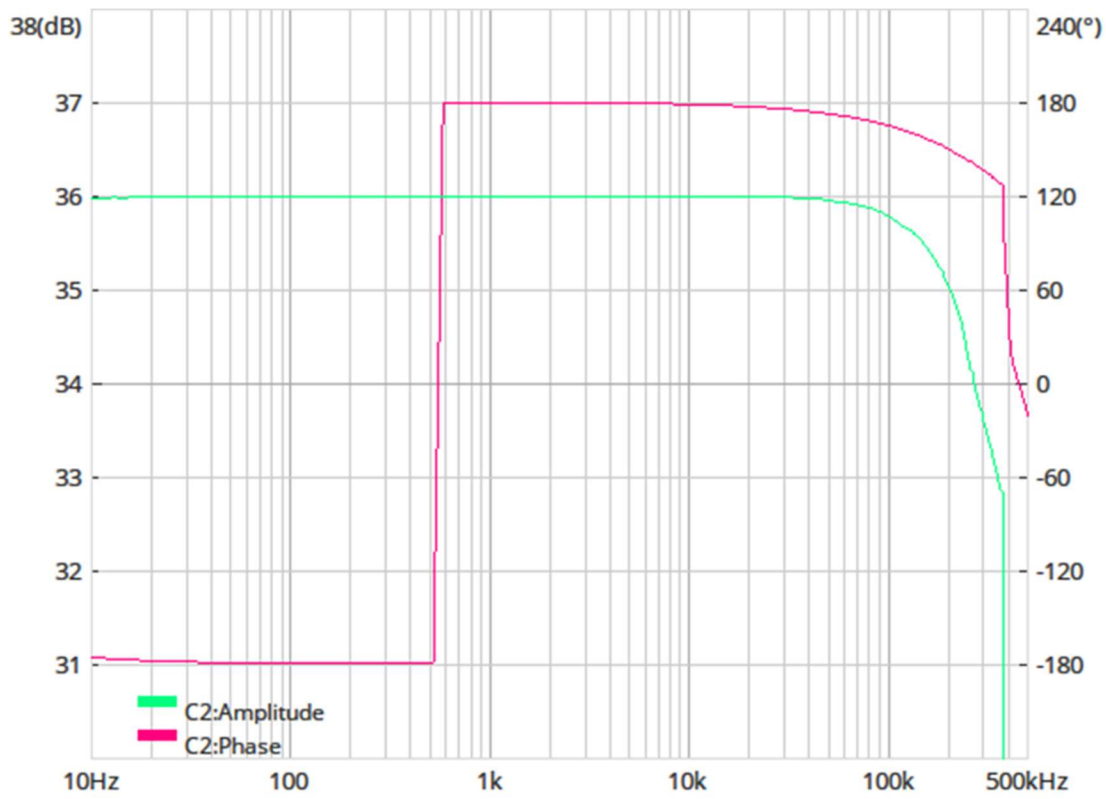


5W in 800 Ohm



Noise floor measurement with no input signal.

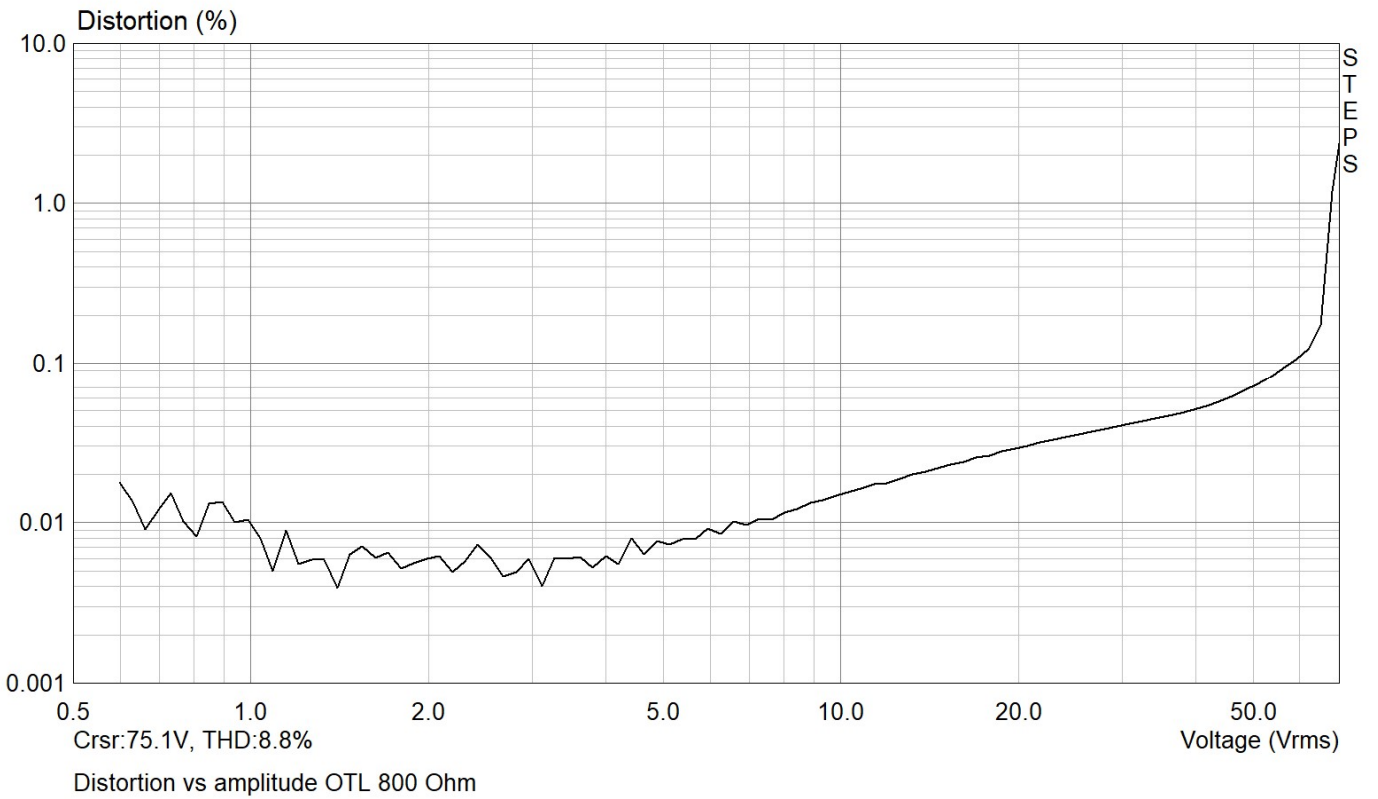
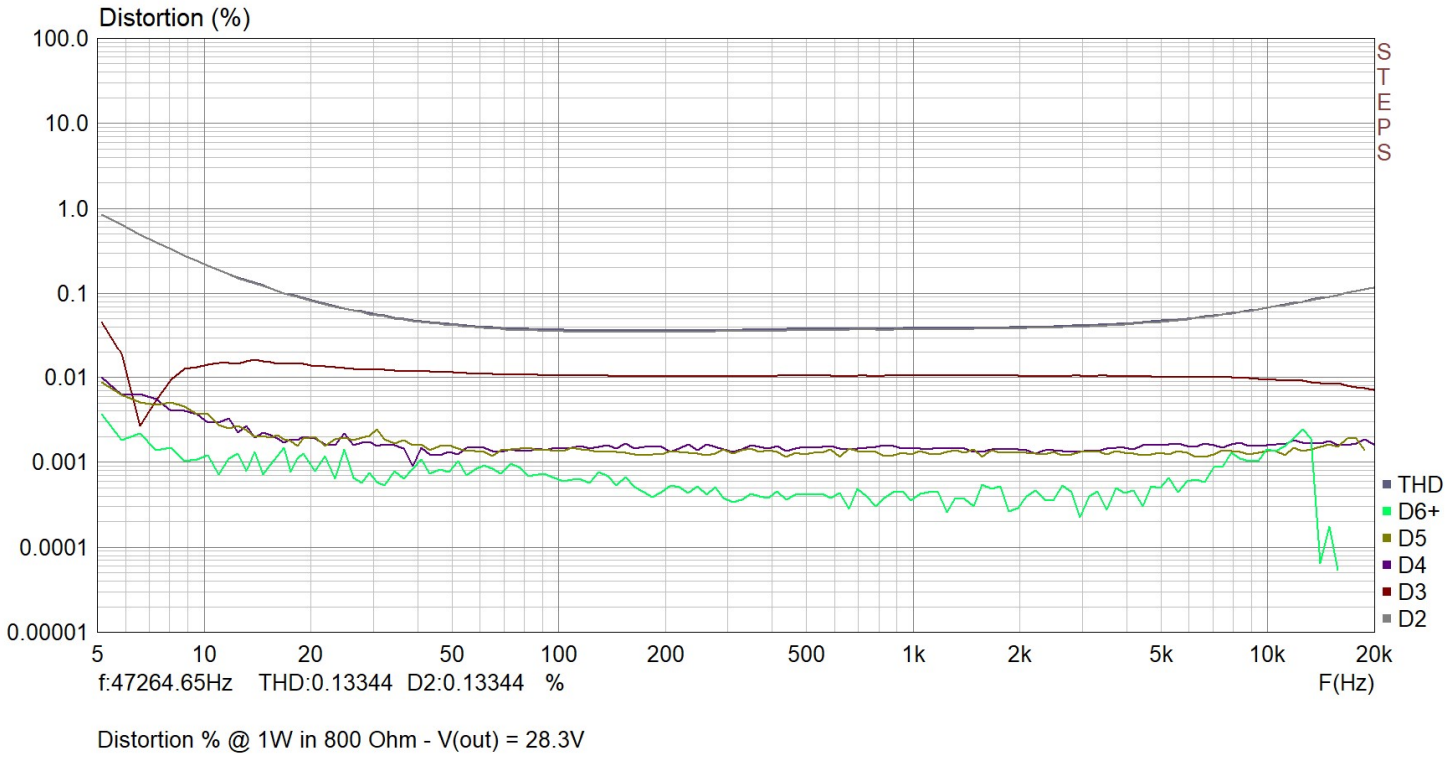
BANDWIDTH MEASUREMENT



Bandwidth measurement with oscilloscope – measurement range 10 Hz – 500 kHz

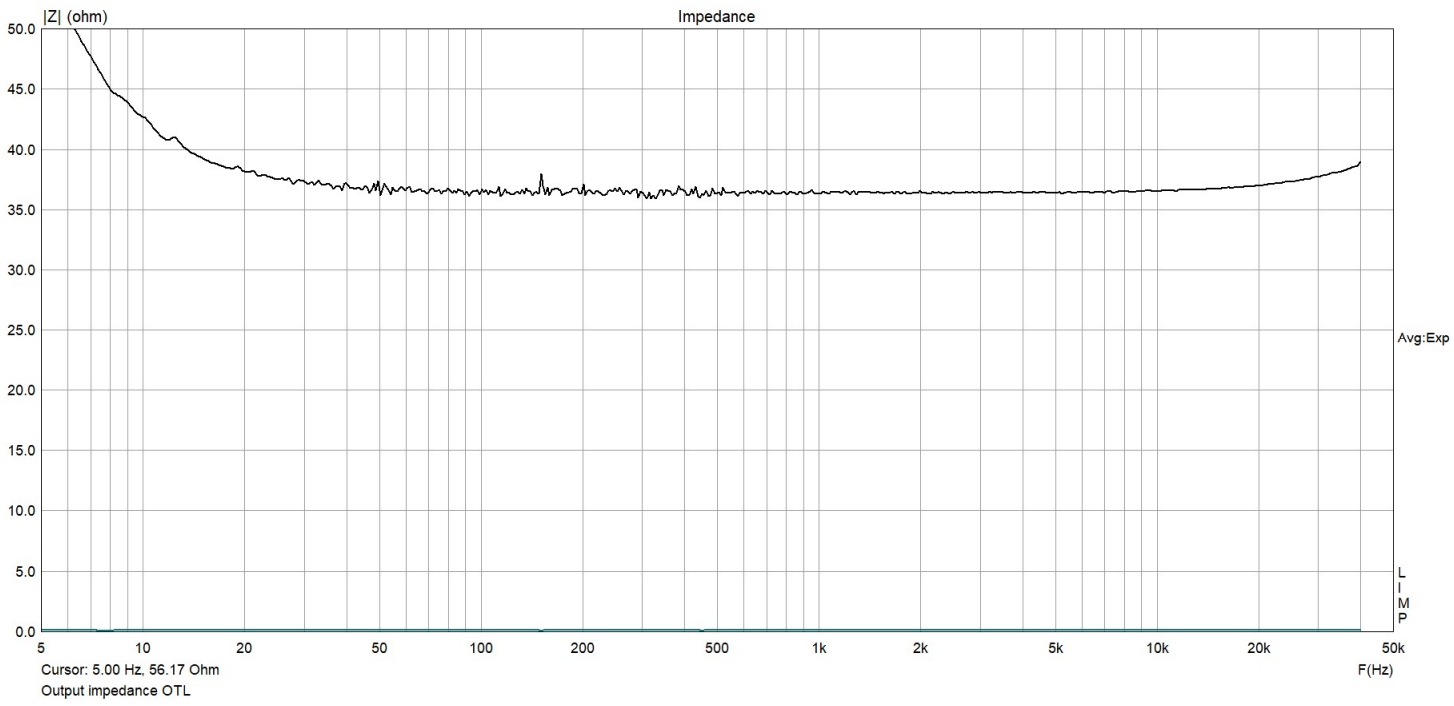
Total amplifier bandwidth: 4Hz - 340 kHz

DISTORTION MEASUREMENTS

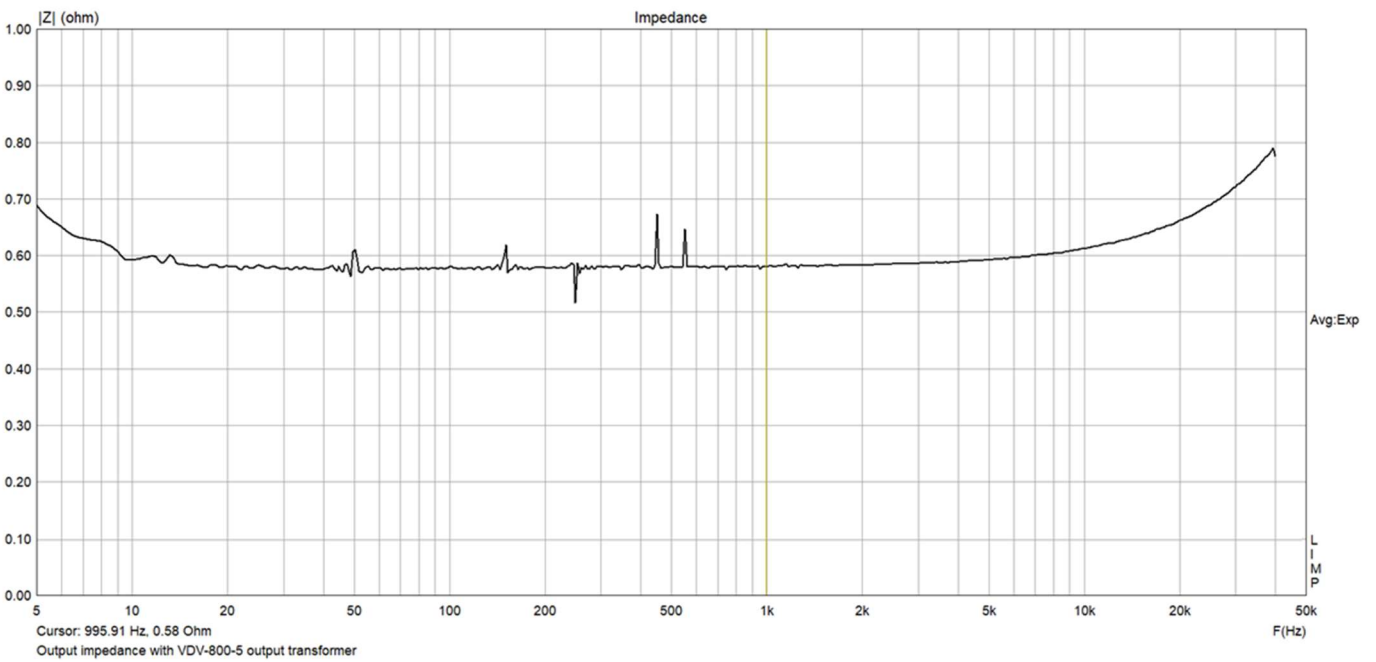


Distortion vs amplitude measured up to 70 Vrms

IMPEDANCE MEASUREMENTS

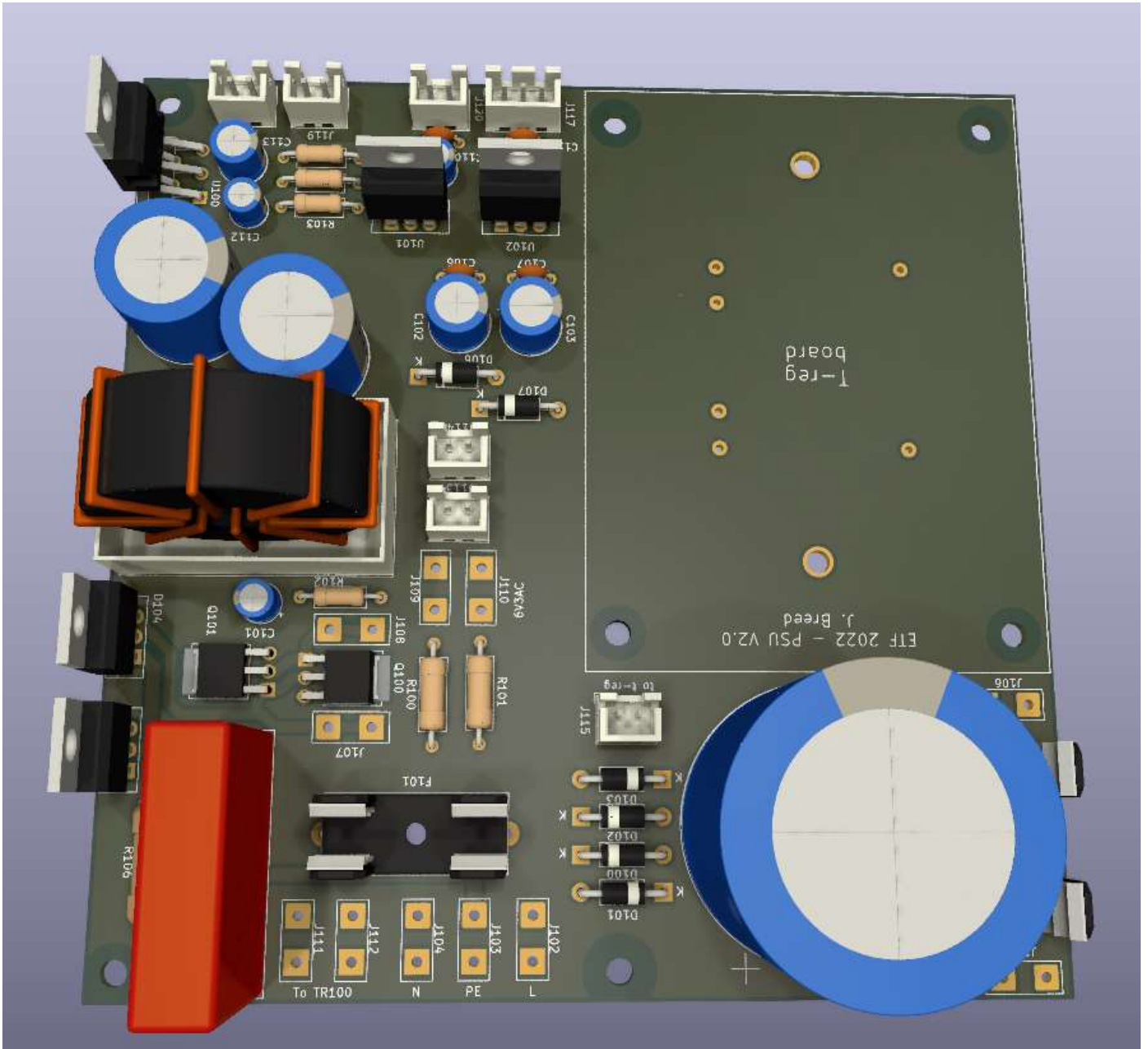


Output impedance @ 800 Ohm

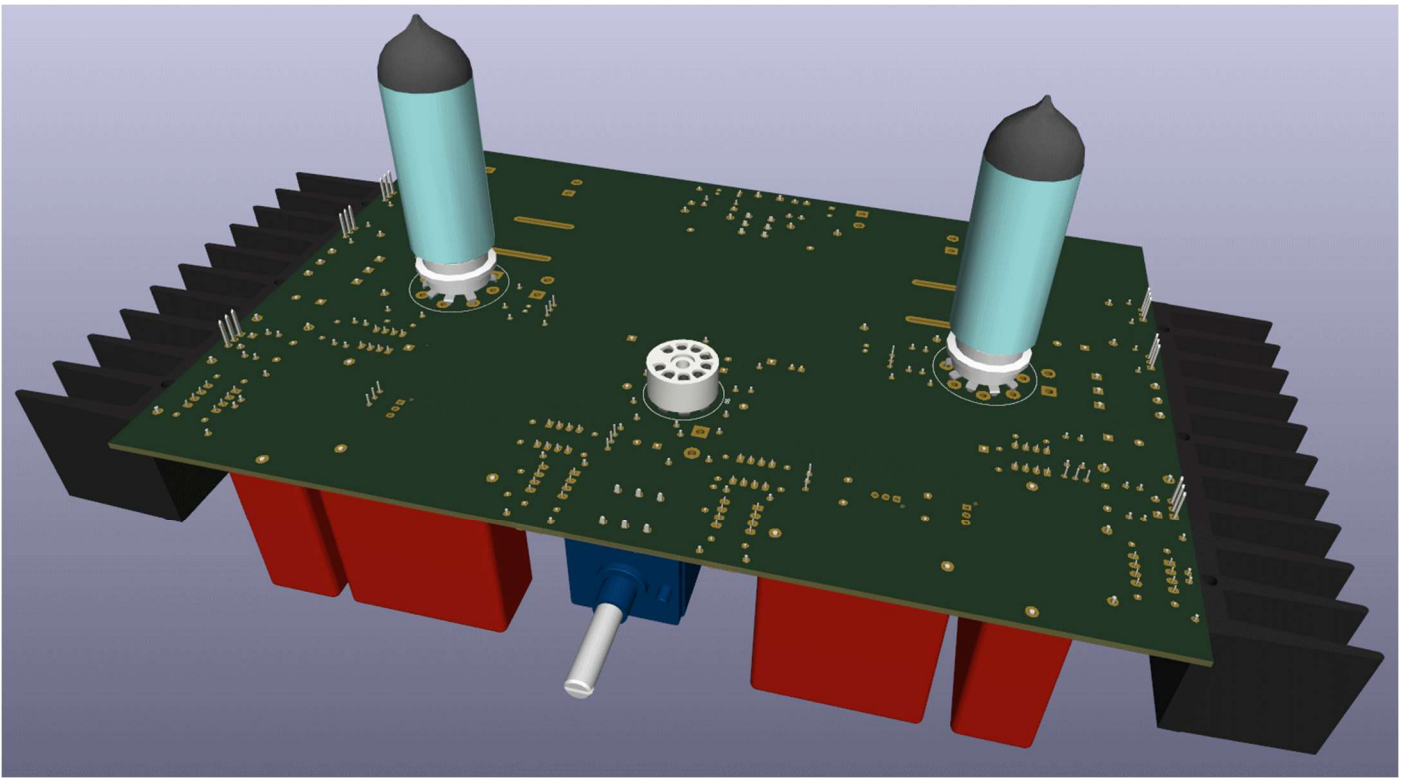


Output impedance with VDV-800-5 output transformer.

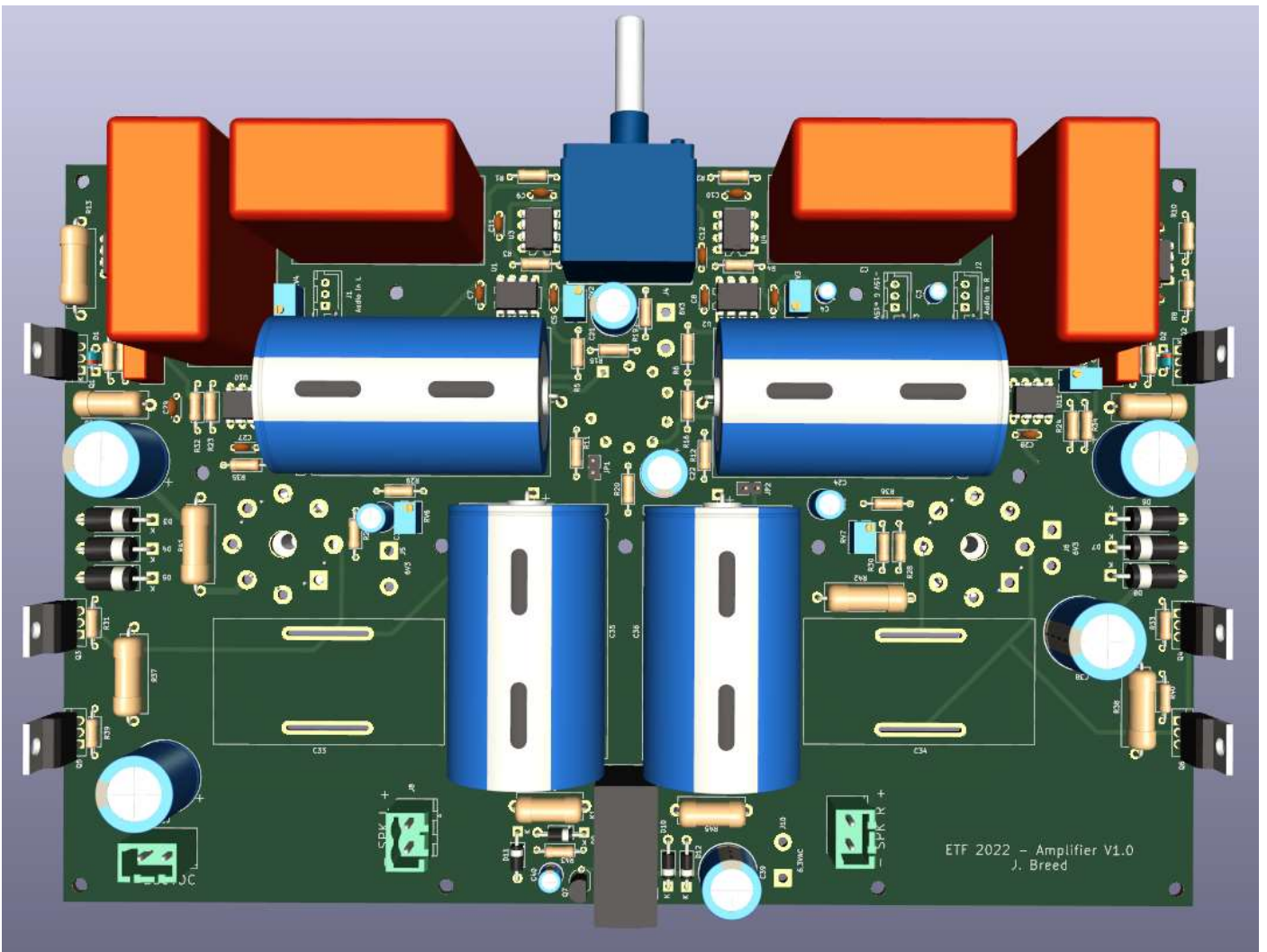
PCB DESIGN



Render of power supply unit – 2 layer board



Render of amplifier pcb top view – 4 layer board



Render of amplifier bottom view – 4 layer board

IMPRESSION PHOTOS

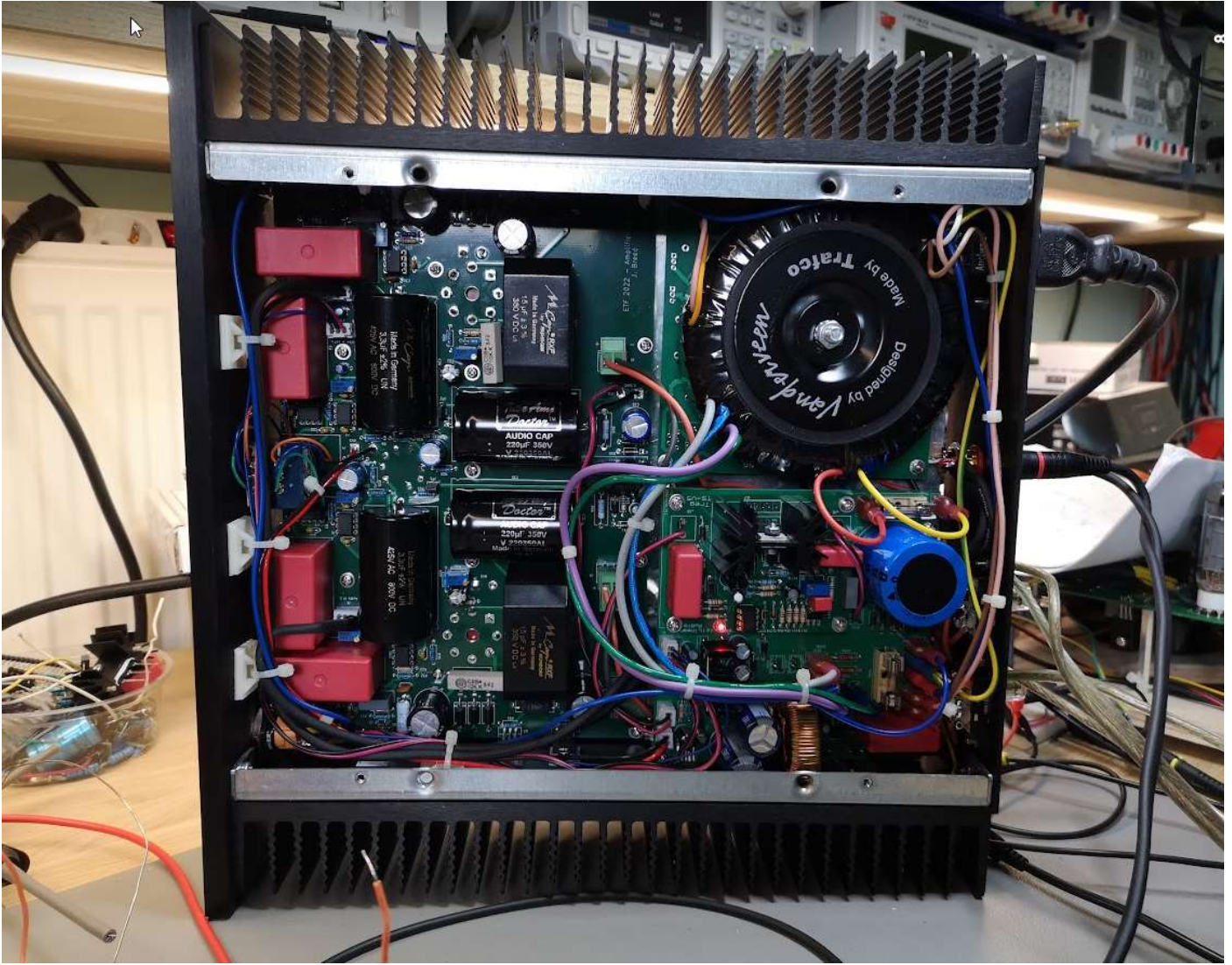


Photo: Inside the amplifier

