

RFI Test Report – Powerwerx SS-30DV Power Supply

Manufacturer: Powerwerx
Model: SS-30DV
Serial: 224004297FRC20

Description: 120/240 VAC-powered switching power supply, fixed output, 14.1V, 25A.
Purchased from: Ham Radio Outlet, March 2024

Test equipment: Isolation transformer, 50 uH LISN, Siglent SSA 3021X+ with 20 dB preamp, Siglent SDS 2354X+. **Note:** Spectrum spikes around 100 MHz are FM band leakage.

Tested by: Gary Johnson, NA6O **Date:** March 14, 2024

Summary

Recommend for amateur radio stations: **YES**
FCC Part 15 conducted emissions: **Compliant**
FCC Part 15 labeling: **Compliant**



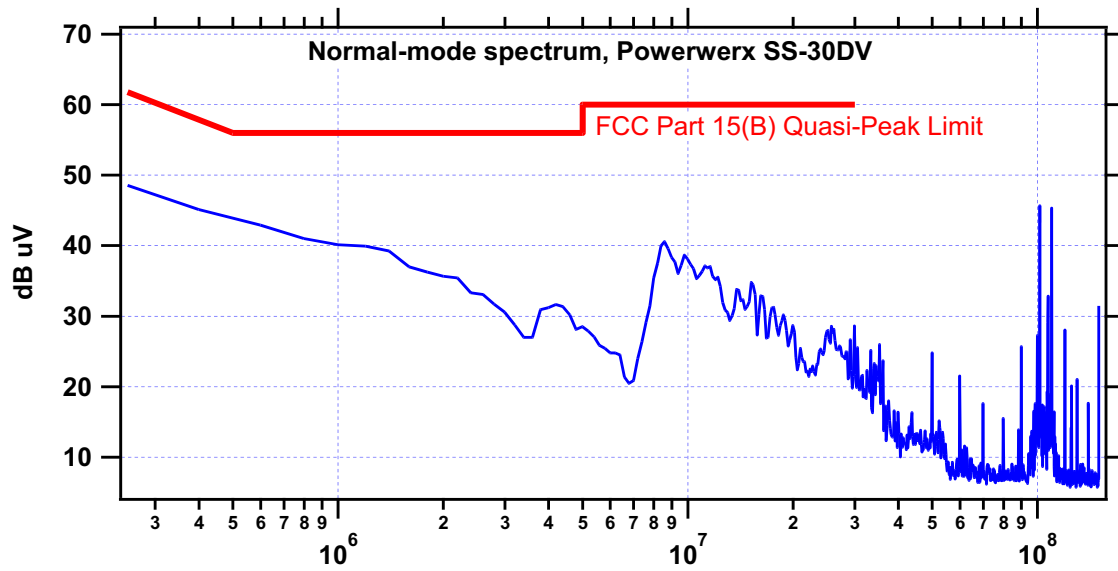
Observations:

All testing performed with a 4 ohm (~3 A) load to represent nominal receive conditions at a typical ham station, where noise is of the greatest concern. DC output voltage was 14.1 VDC. Switching frequency is ~33 kHz. AC line-side noise consists of sinusoidal energy at 33 kHz plus a 1.3 kHz ringdown which could be related to the voltage control loop response. No obvious high-frequency glitches were noted. DC output is quiet with 1.1 mV rms total noise 0-20 MHz consisting of low-level 33 kHz harmonics. There was no VHF noise detected other than my usual interference from FM broadcast in my unshielded lab.

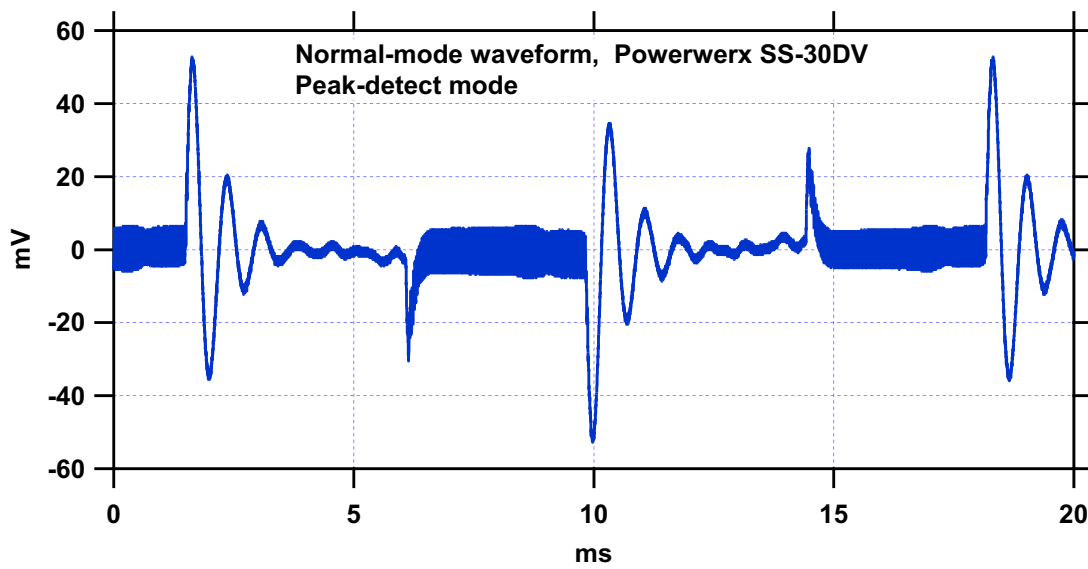
This switching power supply easily meets FCC Part 15(B) requirements for conducted emissions. Filtering at the input and output are very good. In most cases I would not expect this supply to cause interference at most ham installations. Conducted emissions in the upper HF bands could be lowered a bit more by adding a common-mode choke to the power cord consisting of 8 turns through a Fair-Rite 2631803802 2.4 inch mix 31 ferrite toroid.

I also think that this supply is an excellent value and it's very compact, has both PowerPole and binding post connectors. Recommended.

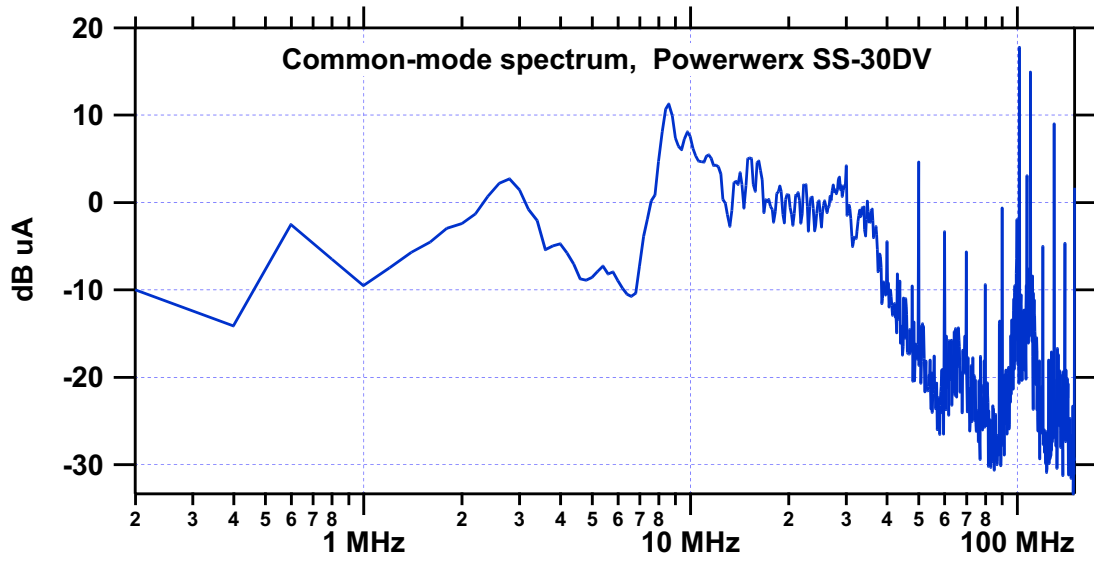
Normal-Mode Spectrum



Normal-Mode Waveform



Common-mode Spectrum



Output Spectrum

