

# Magnetic Shielding Measurements for RF oscillator tube assembly

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Relative test data taken at 60Hz and 300Hz using a commercial calibrated coil reading into the SR785. Four scenarios are measured at each frequency, no shield, steel (not stainless) pipe, mu metal, steel pipe plus mu metal. The mu metal shield was a CO-NETIC AA Foil .010"(thick) x 15" x 10" rolled into a cylinder twice around and inserted into the steel pipe.

Test Case	60Hz Measurement	300Hz Measurement
<b>No Shield</b>	-96dBV pk	-100dBV pk
<b>mu metal</b>	-106dBV pk	-112dBV pk
<b>Iron Pipe</b>	-110dBV pk	-140dBV pk
<b>Both</b>	-126dBV pk	-147dBV pk

The calibration is Magnetic field (Gauss-peak) =  $60 \cdot \text{millivolts-peak} / 15.9 / f$  where f is in Hz. We saw just shy of 10uVolts peak of signal at 60 Hz unshielded on the transducer. This corresponds to about 0.6 mGauss peak.