

## WLW 180KW PA Tank Circuit Inductor and Capacitor Measurements.doc

Jeff,

Thanks for finding and sending the "pancake" inductor(s) and "bread rack" capacitor data we took on July 14th of 2007 and sharing it with me.

Somehow, I misplaced my copy. We continue to learn from the way those amplifiers were designed and implemented.

One thing that doesn't quite make sense, is that the mid-value of the tank circuit primary inductance is + j128, but the total capacitive reactance across the tank with center tap would be - j300. This would imply that the combined tube output capacitance would have to be about equal to the fixed air, bread rack capacitors. Is this the case according to your computer model including the tube output capacitance?

Regards,

Geoff

Geoffrey N. Mendenhall, P.E.

VP Transmission Research and Technology

Harris Broadcast Communications

Mason, Ohio 45040

Primary Pancake Inductor - Measured at 700 kHz

Max  $0 + j 142$

Mid  $0 + j128$

Min  $0 + j115$

With different  $\frac{1}{2}$  half turn variometer positions

Notes say Q measurement was inconclusive.

Secondary Pancake Inductor - 700 kHz

Run #1  $0 + j164$

Run #2  $0 + j157$

Secondary Pancake Inductor, 1 turn not in use – 700kHz

$0 + j100$

$0 + j 87$

I presume one measurement was for the whole coil, other was for what was actually in use. Not sure.

Bread racks - 37" by 37" spaced 2.75 inches apart

Each one of two capacitor bank capacitance =  $0 - j150$

The whole stack together -

Run #1  $0 - j76$

Run #2  $0 - j70$

Jeff Glass, BSEE CSRE

Chief Engineer

WNIU WNIJ

Northern Illinois University