

BALUN TRANSFORMER DESIGN.

Design parameters:

- $X_L = 50\Omega, 200\Omega$
- $F_L = 3.5\text{MHz}$
- $F_U = 30\text{MHz}$
- $T = \text{T130-2 up to 300W}, A_L = 110$

Using the formula $X_L = 2\pi FL$ -(Eq.1), and manipulating:

For $X_L = 50$, and $F = 3.5\text{MHz}$ we get $L = 2.27\mu\text{H}$. For $X_L = 200$, $L = 9.09\mu\text{H}$

For $X_L = 50$, and $F = 30\text{MHz}$ we get $L = 0.265\mu\text{H}$. For $X_L = 200$, $L = 1.06\mu\text{H}$

Now using the formula $N = 100\sqrt{L/A_L}$ -(Eq.2), and manipulating for $L = 2.27\mu\text{H}$
 $N = 15$, for $L = 9.09\mu\text{H}$, $N = 28$

This implies that:

1: 1 Balun 15T #18 AWG Trifalar

4:1 Balun 28T #18 AWG Bifalar
 200Ω (3.5 MHz), 450Ω (7 MHz)

