

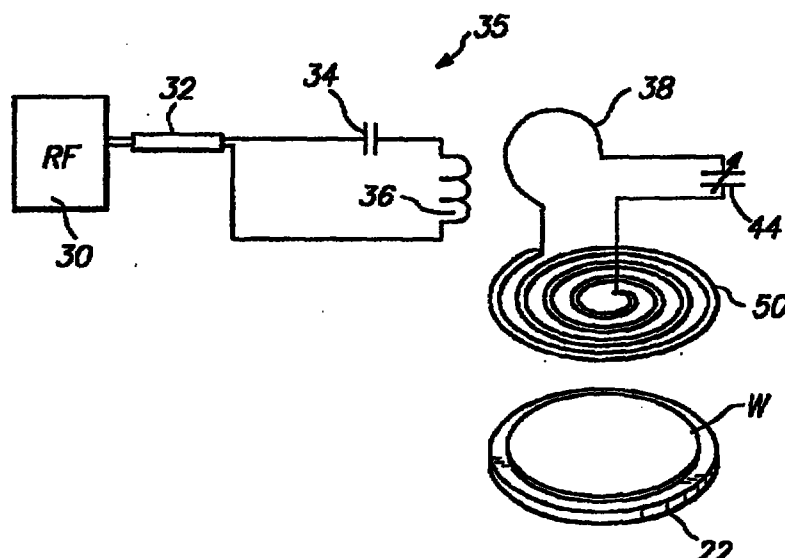
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(54) Title: LOW INDUCTANCE LARGE AREA COIL FOR AN INDUCTIVELY COUPLED PLASMA SOURCE



(57) Abstract

A low inductance large area coil (LILAC) is provided as a source for generating a large area plasma. The LILAC comprises at least two windings which, when connected to an RF source via impedance matching circuitry, produce a circulating flow of electrons to cause a magnetic field in the plasma. Because the LILAC employs multiple windings, few turns of winding are required to obtain a large area coil, so that the inductance of the LILAC is low. The low inductance of the LILAC ensures that the self-resonating frequency of the LILAC is kept at a level far above the RF driving frequency, allowing a broad frequency range for impedance matching. Thus, there is no difficulty in impedance matching, and power transfer can be maximized, permitting efficient generation of a large area plasma.