

EMBEDDED TRANSMISSION LINE COUPLER
FOR RADIO FREQUENCY SIGNAL AMPLIFIERS

5

Abstract of the Disclosure

A transmission line coupler (115) for a transmitter
output signal (123) generated by an RF signal amplifier (103)
includes a through-path transmission line (201) and a
10 coupled-path transmission line (202) electromagnetically
coupled thereto by multiple serpentine-like portions (such as
portions 641, 642, 643 and 644 in FIG. 6), which are disposed on
opposite sides of the through-path transmission line (201) for
enhancing coupling sensitivity and eliminating degradation
15 in the amount of coupling due to variations in the
transmission line plating registration. Offset portions (641,
643) on one side of the through-path transmission line (201)
provide substantially the same amount of coupling as the offset
portions (642, 643) on the other side of the through-path
20 transmission line (201). The transmission line coupler (115) is
embedded in the output match of the final amplifier (103) and
includes complex impedances (212 and 210, 222) at each port of
the coupled-path transmission line (202) for substantially
eliminating undesired reflections. The coupled port of the
25 coupled-path transmission line (202) is coupled by an inductor
(211) to a hot-carrier diode (206) for enhancing the detection
sensitivity thereof.

This Sheet Has Been Replaced

