

High Power Low Loss CMOS SPDT Antenna Switch for LTE-A Front End Module

Authors : Ki-Jin Kim, Suk-Hui LEE, Sanghoon Park, K. H. Ahn

Abstract : A high power, low loss asymmetric single pole double through(SPDT) antenna switch for LTE-A Front-End Module(FEM) is presented in this paper by using CMOS technology. For the usage of LTE-A applications, low loss and high linearity are the key features which are very challenging works under CMOS process. To enhance insertion loss(IL) and power handling capability, this paper adopts asymmetric Transmitter (TX) and RX (Receiver) structure, floating body technique, multi-stacked structure, and feed forward capacitor technique. The designed SPDT switch shows TX IL 0.34 dB, RX IL 0.73 dB, P1dB 38.9 dBm at 0.9 GHz and TX IL 0.37 dB, RX IL 0.95 dB, P1dB 39.1 dBm at 2.5 GHz respectively.

Keywords : CMOS switch, SPDT switch, high power CMOS switch, LTE-A FEM

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