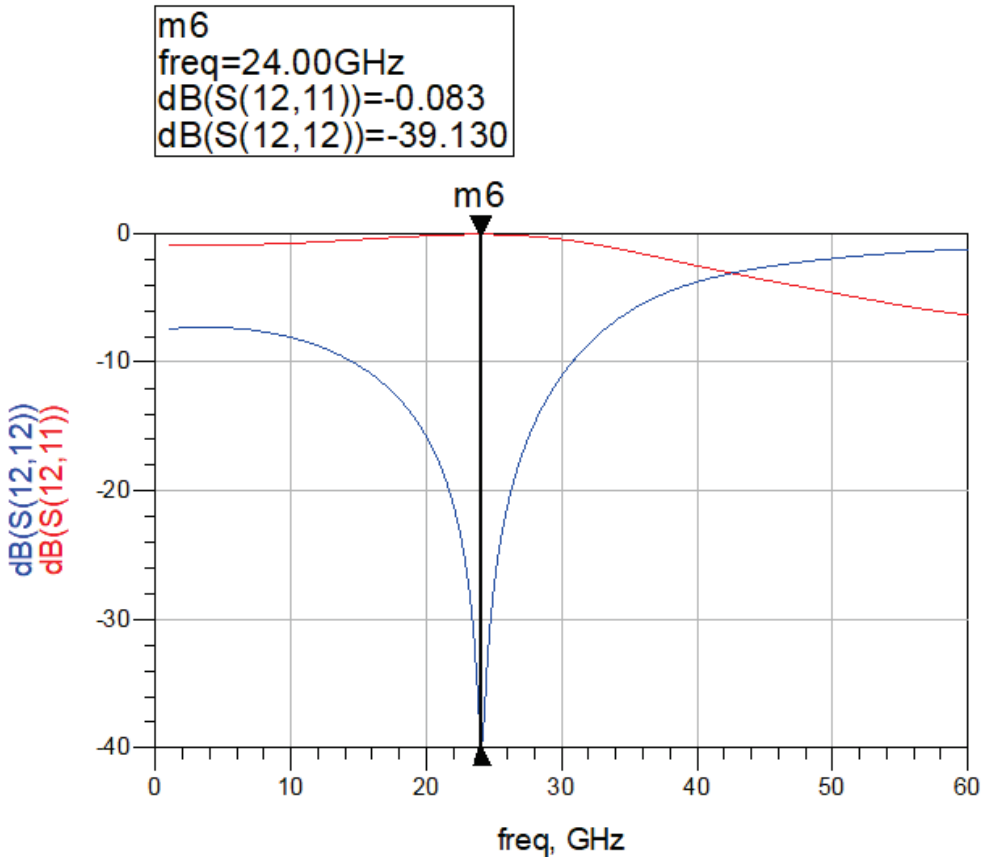

This design has excellently performance in theory, but it is impossible to manufacture 178 Ohm transmission line for almost all widely used substrates. Due to the limitations in manufacturing, the cascading solution should be used for this Matching Structure.

We know that the RX Impedance of MMIC is Z_{RX} =104.667+38.391j Ohm @ 24Ghz. The first stage (TL10), transforms the impedance from 104.667+38.391j Ohm to 60-25j Ohms. The final stage (TL11), transforms the impedance from 60-25j Ohms to 50 Ohms.