

RF Tutorial – 8:

1. Distributed (Microstrip) Matching Network Design

- Fundamentals of Distributed Transmission Lines (when used for Matching N/Ws)
- Practical Considerations
- Custom Toolbar creation
- Using LineCalc to your advantage– *unlock the full potential of LineCalc in ADS*
- Practical Microstrip implementation & overall design optimization

2. EM analysis & verification of Distributed Matching Networks

- Setting up EM stackup
- Practical Layout considerations – avoiding parasitic coupling & minimize future problems
- EM simulation & EM/Circuit co-simulation & verification
- Final Layout
- Gerber Export for fabrication

Help me to spread the word and kindly share the video link or my YouTube channel link to the wider RF Design community....!!

The screenshot displays the ADS software interface. On the left, the **LineCalc** window is open, showing the **Substrate Parameters** for **MSub1** (H=20.000 mil, Er=3.660, Mur=1.000, Cond=5.8E7, Hu=1e+33 mm, T=0.035 mm, TanD=1e-4, Rough=0.000 mm, DielectricLossModel=1.000, FreqForEpsTanD=1.000, LowFreqForTanD=1.000, HighFreqForTanD=1.000, RoughnessModel=2.000). The **Physical** parameters are W=0.239268 mm and L=1.283220 mm. The **Electrical** parameters are Z0=100.000 Ohm and E_Eff=24.500 deg. The **Calculated Results** show K_Eff = 2.527, A_DB = 0.005, and SkinDepth = 0.026. A diagram of a microstrip line is shown. The **Schematic** window on the right shows a matching network with components **MLIN TL11**, **MLIN TL12**, **MLIN TL13**, **MLIN TL14**, and **MLIN TL15**. The **Parts** list shows the selected components. A text overlay at the bottom reads: "what we calculated simple all right so let's select another component".