

EE4306 Tutorial Wilkinson Hybrid

- 1 A 12.7 (OD) x 6.35 (H) mm Neosid/ MMG toroidal transformer core with an F14 ferrite material has a 14 turn bifilar trial winding on it. At 1 MHz, the measured Open Circuit impedance is $4+j221 \Omega$ and the Short Circuit impedance is $0.26+j0.99 \Omega$. Calculate the number of turns required for a 50Ω Wilkinson Transformer Hybrid operating at a 1 MHz centre frequency. What are the expected upper and lower cut off frequencies of this transformer.
- 2 Calculate the transmission line impedances and isolating resistors required for a three-way Wilkinson Transmission line Hybrid.

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