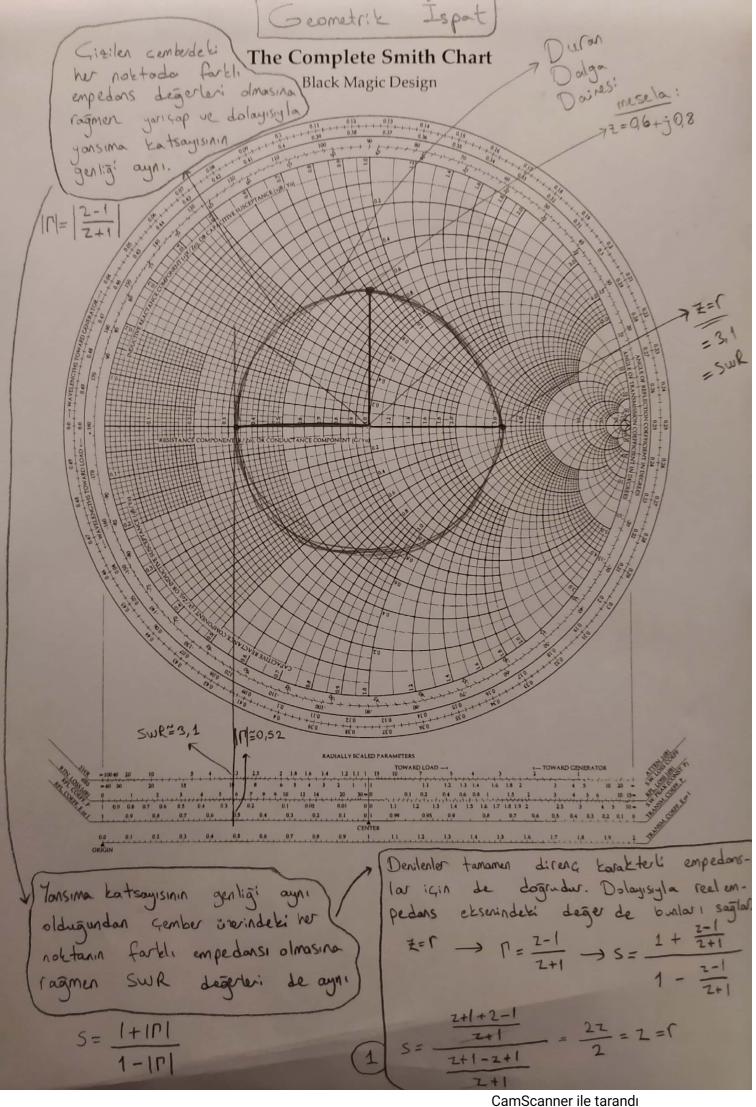
MİKRODALGA MÜHENDİSLİĞİ

ÖDEV - 1



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* Belirli bir empedons deger i ain rel merkezli cirdigimi z cember üzerndeli her noktanın ITI ve dolomsıyla SWR değirleri aynidir. Reel eksen için de bu durum sagilonacagindon dalayı Gember overindeles herborgs bil empedans deger igin bulunar surk deger: reel elsendelé empedons (dinna) deger: icin buluron Sur R'e exittir. Reel eksen kin ise SWR deger: direk Z= molarak (1) bulundugundon; Gizdigimiz duran dalga dairesine sag taraftan teget dan reel empedons comberinin deger: Luran dalga oronnita oldugunden sagden tegete bakk esittis.

* 11/61 ve SWR >1 ve dolayisyla SWR dagerle: L1 oldegundon. + Soldali reel empedans

Analitik Ispat:

Herhangi biz $z = \frac{Z}{Z^{0}}$ deger: için olusturular dwar dalga dainsi ünerindelei her noktarın III degeri aynıdır (Cizilen Çemberin yarıçapı bôti en die gemberin yaricapi) delaysyla SWR degelei de aynı. Cirdiginiz cemberin a noktasndon geatigini varsayalım.

$$Z = \frac{Z}{Z_0} = r + jx$$

$$\Gamma = \frac{1-1}{2+1}$$

$$Z = \frac{1+\Gamma}{1-\Gamma}$$

$$\Gamma = \Gamma_r + j\Gamma_r$$

$$= \frac{1 - \Gamma_r^2 - \Gamma_i^2}{\left(1 - \Gamma_r^2\right)^2 + \Gamma_i^2} \quad \text{ve} \quad x = \frac{2\Gamma_i^2}{\left(1 - \Gamma_r^2\right)^2 + \Gamma_i} \quad \text{olarake bulurur.} \quad \Gamma_2 \text{ noketass}$$

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$$= \frac{1 - \Gamma_{r}^{2}}{(1 - \Gamma_{r})^{2}} = \frac{(1 - \Gamma_{r})(1 + \Gamma_{r})}{(1 - \Gamma_{r})^{2}} = \frac{1 + \Gamma_{r}}{1 - \Gamma_{r}} = \frac{1 + \Gamma_{r}$$

$$S = \frac{1+|\Gamma|}{1-|\Gamma|}$$
 olarak biliyoruz. Peel empedans degeri icin Γ de reel dw. $(|\Gamma|=|\Gamma|)$

$$= S = \frac{1+|\Gamma|}{1-|\Gamma|} = 2$$
Sur oran Γ olark bulunur.