Philip Sisa M. sisaphilip@gmail.com

Q2 Peak current (I) is given by;

$\quad$ I = Vg/(Zg + Za) = 2/(1+50+73 + j(30+43.5) = 0.01612+j0.0275A

$\quad$ Powers from source (Ps)

$\quad$ Ps = 0.5(Vpeak*I*) ,   I* => current conjugate

$\quad\quad$ = 0.5(2*0.01612) = 0.01612 W,   (real power)

$\quad$ Power Radiated (Pr)

$\quad$ Pr = 0.5 |I|^2 * Rr,   Rr => radiation resistance

$\quad\quad$ = 0.5(|0.01612 + j0.0276|^2 * (√(73^2 +43.5^2)))

$\quad\quad$ = 0.0432W

$\quad$ Power decipated (Pd)

$\quad$ Pd = 0.5 |I|^2 * Rl   Rl => Loss resistance

$\quad\quad$ = 0.5(|0.0161 +j0.0276|^2 * 1

$\quad\quad$ = 0.0005W