

Special Problem 7.1-1

A **4-port directional coupler** made by a Greek microwave company has ports denoted as (in no particular order) port Ψ , port Ξ , port Λ , and port Θ .

If the power **incident** on port Ψ is 1.0 mW, and all other ports are terminated in matched loads, we find that:

- a) the power exiting port Ξ is $0.25 \mu W$ (\leftarrow note the units!)
- b) the power exiting port Λ is **approximately** 0.75 mW
- c) the power exiting port Θ is 0.25 mW

Determine:

1. The **Coupling, Isolation, and Directivity** of this device.
2. The power exiting port Ψ , port Λ , and port Θ , if the incident power of 1.0 mW is now **on port Ξ** (and only on port Ξ).