

MATCHING NETWORK OPTIMIZATION

The matching process is one of the most important steps in the antenna design to minimize undesired power losses that could increase battery consumption or degrade the quality of the communication link. This process requires expertise and specialized antenna testing equipment.

Assuming that the customer device already contains pads for a matching network, Fractus Antennas performs the following tasks:

- **Set-up:** The device is prepared with a transmission line and a SMA connector to access to the antenna and the pads area.
- **Passive Measurements:** The reflection coefficient and the total efficiency are provided. Please note that all measurements are performed considering all the available mechanical parts (populated PCB, battery, LCD, cover, etc...)
- **Active Measurements:** In case of GSM devices, active measurements (TRP- Total Radiated Power- and TIS-Total Isotropic Sensitivity) can be taken under request.
- **Report:** A report is issued with the following information:
 - Set-up explanation plus pictures.
 - Recommended matching network configuration and topology.
 - VSWR (Voltage Standing Wave Ratio) measurement before and after the matching service.
 - Efficiency measurement before and after the matching service.
 - Radiation Patterns: 3 cuts (planes XY, YZ and XZ).
 - Summary, conclusions, and design recommendations.
- **Phantom Head/Hand:** To take into account the body effect, measurements with a phantom head/hand can be performed under request.

To request a quotation for a matching network service please contact info@fractusantennas.com.