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Product Note 26

Tuner and GPIB Operation using MATLAB®

MATLAB® is a widely used software package that permits complex mathematical and graphical operations including matrix, statistical and contouring/surfacing routines. MATLAB is available for **DOS** and **WINDOWS®** and uses an easy to learn User Interface and programming language.

FOCUS Microwaves has developed a set of MATLAB compatible routines (CCMT-MTLB®) which permit to

1. **Initialize** and **Calibrate** up to two **Tuners**
2. **TUNE** to any required **Impedance** point
3. Compute **S-parameter, Loss and motor positions** of a CCMT tuner twoport at any tuneable impedance
4. **Send GPIB commands** to instruments to configure and trigger them.
5. **Read** the response of **GPIB instruments.**

Using MATLAB and the Focus CCMT-MTLB® option Engineers can develop their own test and measurement procedures and subroutines, such as:

-Measure S-parameter of devices and generate plots
-Make setup corrections and de-embedding
-Measure Power, Gain, Efficiency, Intermod, Noise Figure
-Set/Read Bias of Devices and Control Wafer Probe Stations
-Search for Maximum Gain/Power and Minimum Noise Figure
-Measure transistor transfer curves and Load Pull

January 1995