Advanced RF Power Diagnostic for Plasma Processing Applications

- for CW or Pulsed RF Plasmas
 - Dissipated Power
 - Voltage & Current Waveforms
 - Phase Shift
 - Impedance
 - Harmonics





USERS

- RESEARCHERS
- R&D ENGINEERS
- PROCESS ENGINEERS
- EQUIPMENT MAINTENANCE ENGINEERS

APPLICATIONS

- STUDY OF RF DISCHARGES
- DEVELOPMENT OF PROCESSING TOOLS
- PROCESS CONTROL
- TROUBLESHOOTING OF RF SYSTEMS



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We combine many proprietary innovations to offer what is probably the most advanced RF power diagnostic for plasma applications commercially available today:

- Customizable high performance electrical sensors: wideband, robust, low-perturbation and compact voltage and current sensors developed through extensive experimental work and electromagnetic modeling. The characteristics of these sensors are customized during calibration to maximize performance for your application (maximized sensitivity and power rating while minimizing the perturbation).
- High speed, high resolution cutting edge acquisition electronics with USB connectivity to sample directly and simultaneously the RF voltage and current waveforms.
- Automated highly accurate calibration process to ensure the best measurement accuracy and probe-to-probe repeatability. Our calibration process is NIST-traceable and uses the best available electronic test instruments in a temperature and EMI controlled environment.

The electrical connectors are customized to your needs.



Additionnal input/output ports to synchronize with pulsed RF generators or external diagnostics.

 Powerful and intuitive user interface software (Vigilant™ RF Lab) to display in real-time the measured data transforming your PC into a state of the art RF laboratory.

Specifications

Frequency band	1-500MHz (max) *
RF excitation mode	Single frequency (CW, pulsed, frequency agile)
Max power	10kW **
Accuracy of power measurement	+/- 2% on a matched load at the excitation frequency ***
Insertion Loss	<0.5% at the excitation frequency
Connections	50Ω coaxial line with customized input & output connectors
Size	90mm x 220mm x 40mm (without the connectors)

- (*) The frequency band depends on the RF excitation frequency.
- (**) The ratings depend on the RF excitation frequency and the type of connector installed.
- (***) Accuracy decreases when the power reflection coefficient increases.

Ordering information

In order to provide you with the best suitable probe for your application, please use the following model numbering: **VPM-FREQ-POWER-IN-OUT** (Example: VPM-13.56-1000-1F-1M)

Code	Details	Values
FREQUENCY	Excitation frequency in MHz	2, 3.39, 4, 6.78, 13.56, 27.12, 40.68, 60, 81.36
POWER	Max generator power in Watt	30, 60, 100, 300, 600, 1000, 3000, 6000, 10000
IN	Input connector and gender	0: No connector (M5 threaded hole) C: Custom 1F: N Female 1M: N Male 2F: HN Female 2M: HN Male
OUT	Ouput connector and gender	3F: 7/16 Female 3M: 7/16 Male 4F: LC Female 4M: LC Male