

# GMW Associates

GMW recently released the [3480 Electromagnet](#), which is a fit, form and function replacement for our popular [3470 Electromagnet](#) but with greatly improved performance. As an example of a system utilizing the new performance of the 3480, we imagine a magnet system for [FMR spectroscopy](#) to deliver the quasi DC magnetic field component.

- [3480 Electromagnet](#) with narrow pole gap, capable of fields approaching 4 Tesla
- Electromagnet mounted to an optical table plate on top of a half-height 19" rack, containing:
  - True bipolar 1kW power supply
  - Eaton power distribution unit providing EMO (Emergency Off) and interlock protection
  - GMW 5972 Magnet Control with USB Interface NI DAQ allows for monitoring of power supply output current and voltage, as well as magnetic field through an integrated hall probe. Control of system is available via magnetic field or power supply output current.
- Hall probe for closed-loop field control. Ultra-thin probes (thickness of 0.5mm) can be integrated into the pole itself, allowing for monitoring and controlling of magnetic fields even in very small gaps.
- Computer with LabVIEW magnet control software. LabVIEW application software can be run as an executable file, or with LabVIEW loaded, can be integrated into user software. Python Scripts are expected to be available by summer 2017. Computer is available as all-in-one computer or rack-mount.
- Compact water chiller removing the need for facility water. Chillers with digital interface for additional monitoring can be provided.
- NRTL approval available for those needing formal approvals from facilities management or for integration into listed/certified tools.

The system is compact and portable, consisting of only 2 primary components: electromagnet with short rack and chiller, with optional rack-mount computer or separate all-in-one computer.

A nearly identical arrangement would provide for high field uniformity for [EPR measurements](#) in the 0-40GHz frequency band over a 14mm pole gap.

Similar systems are available for our popular [5201](#) and [5203](#) Projected Field Electromagnets, incorporating Eaton power distribution, compact chillers and optional NRTL approval in order to make integration of these systems into a fabrication facility as simple as possible.

I will be at [APS March Meeting](#), March 13-17, New Orleans with these and other electromagnets on display. Please contact me with any questions, or to arrange a meeting in March.

Best regards,

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