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EMARENA<sup>®</sup>**QBIT COIL ARRAY™ TESTING**

SERVICES ::

QUALIFICATION OF MATERIAL RESPONSE TO  
ELECTROMAGNETIC COIL ARRAYS AND MAGNETIC FIELDS.  
STATIC, IMPULSE OR FREQUENCY BASED FIELD  
EXPOSURE.

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EMARENA

**Target Market:**

There is an industrial bid to qualify and elucidate response of ferromagnetic, diamagnetic, paramagnetic or combinatory properties of materials. Starting material evaluation within an oscillating or static magnetic field can improve such understanding as found near an oscillating motor or response through an variable magnetic field in Outer Space. Benefit may be realized by both industrial powder manufacturers and industrial powder consumers. There is no limit to industrial sector benefit in understanding within 3D printing or press body assemblies within Medical Manufacturing, Aerospace, Marine, Research and General Industry to name a few. Such testing is globally pertinent to understanding of oscillatory, uncontrolled, aperiodic or exotic magnetic field response for function elucidated through Qbit Coil Array™ Testing.

**QBit Magnetic Field Generation:**

A 2 inch by 2 inch array has been constructed for dimensional placement of electromagnetic coils. This magnetic QBit coil array has solid state computer control so as to optimize current profile, noise. Control is optimized to allow for positive, negative, constructively additive, destructively additive or zero magnetic field strengths of each of the 4 coils. Array capability is based upon independent node application states [+1, 0, -1] as +12Volts, 0Volts or -12Volts to impose current flow. All coils are driven in parallel using a DC filtered power supply. Independent regulation of 4 channels may be performed at additional cost to the client. Current profiles can be altered using resistive or capacitive filters, however matching pairs will be required to elicit homogenous response. Sustained current flow between 0-3 amps for each coil allows for 4<sup>(3)</sup> or 64 programmable states. Standard silicon steel cores are used for testing while nylon threaded inserts may be introduced so as to reduce ferromagnetic core effects and hysteresis. MicroTesla measurements may be made, as additional service to calibrate as a function of voltage. Standard normalization of the system is through viewing film placed within the QBit Well prior to experimentation. Each coil within a 2x2 array is independently capable of static, oscillation or between 0 Hz and 120 Hz. Each 2x2 array space is video taped during experimentation. A 4K single sensor with a 30x inspection microscope records at 10 frames per second, or up to 120 frames per second with reduced resolution and sensor coverage.

**Material Suspension in Fluid:**

Material may be dispersed within a non-reactive fluid. Distilled water, mineral oil or dielectric silicon oil is used within the reaction chamber. A standard fluidized chamber may be used to pump across the field as an option.

**Hourly Rate and Reaction Chamber Options:**

Fees and hourly rate are based upon state of the electronics, computer programming, standard or customized setup, and Hazmat sample handling, preparation and cleanup. Fees are calculated in per instance or setup and then per hour format as (/i+h)

**Ship Samples To:**

Ship Samples with instructions with handling instructions to:: Emarena QBit Array Testing PO BOX 44 Millis MA 02054

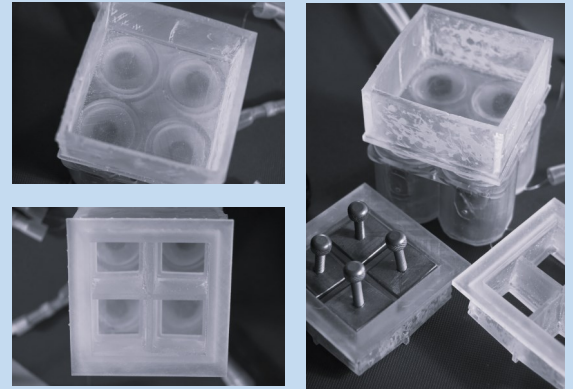
DO NOT SHIP Flammable, Radioactive, or Carcinogenic Samples that cannot be handled by USPS. Samples may be shipped in 50CSt Silicon Oil to reduce preparation costs.

**Options:**

- 225\$ (/i+h) computer setup and unique oscillatory curve profile via computer program.
- 300\$ (i) setup per sample.
- 1200\$ (/i+h) fabrication of a unique magnetic chamber with or without conductive inlay or hall sensor installation.
- 125\$ (/i) per isolated current channel, up to 4 channels.
- 125\$ (/i+h) per coil for repetition of magnetic array using 2x2 blocks up to a 8x8 array or 64 coils.
- 750\$ (/i+h) 2x2 Array Calibration mTesla using third party magnetic probe or directional sensor centered above each coil.
- 100\$ (i+Hazmat Disposal) Free Flowing Silicon Oil is considered to be a Hazmat item and requires special disposal.
- At Cost \$ Return Shipping of Hazmat Samples

**Standard Setup and Use:**

550\$ (/i+h) 2x2 magnetic array; includes 4K video and Magnetic Viewing Film Standard. Cycle up 0 to 60Hz



1:: [Top Left] Top View of a QBit Well  
2:: [Bottom Left] QBit Acrylic Well with Segmentations.  
3:: [Right] Optional testing format for current carrying capacity using segmented sectors. There is no 4K optical view with this format.