

# MATTHEW E. SQUIRE

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## SUMMARY

An experienced, accomplished and results-driven engineer with a proven track record of achievement in electronics engineering, test engineering, analog, sensors, antennas, microwave, debugging, radar, PCB design, compliance engineering, research and development, and new product development. Remains abreast of changing technologies to ensure the creation of the most up-to-date products in the marketplace. Collaborates with multiple parties to achieve common goals. With a solid commitment to excellence, lays the foundation for the continued success and profitability of an organization.

## EXPERIENCE

ZEBRA TECHNOLOGIES, Vernon Hills, Illinois

**EMC Technician, 2010-2014**

Performed, documented, and filed the following:

- Energy Star compliance testing.
- FCC, CISPR, IEC 61XXX-X, RF emissions testing.
- RF Immunity testing through 80V/M.
- Antenna characterization RFID, Bluetooth, 802.1.1; 13MHz through 6.8GHz.
- Electrostatic discharge testing to 16KV.
- Electrical fast transient testing to 5KV on printers and I/O cabling.
- Sustaining and new product development test.
- Compliance engineering support.
- Design remediation support.

BELKA CORPS, LLC, King George, Virginia; Dahlgren, Virginia

**Contract RF Engineer (with Secret Clearance), 2008**

- Performance of high-power RF system testing.
- System analysis and debugging of control components and subsystems.
- Assembly component through system-level, analysis, automation, and debugging of high-power RF control system and prototypes.
- Antenna characterization automation; HP Vee in a Tapered Anechoic chamber.

INGENIUM EMC EMI GROUP, Rockford, Illinois

**Contract Senior Technician, 2006-2007**

- Set up new EMC/EMI lab, including troubleshooting, characterization, and verification of new and used received equipment and testing control software routines.
- Completed RTCA DO-160, Boeing, and MIL-STD 461 testing of aerospace power-generating and control systems.
- Operated, troubleshot, and trained new employees on aircraft drive stands and load banks.

HONEYWELL, ELECTRONICS SENSORS GM SPEED & DIRECTION TEAM, Freeport, Illinois

**Contract Senior Research & Development Technician, 2006**

- New product development of prototype magnetic automotive sensors. Assisted in builds of chip-on-lead-frame design prototypes.
- Calibration, trigger, and timing testing of engineering samples for customer analysis.
- Thermal testing and correlation studies and automated testing of various prototypes, using rotary high- and low-speed sensing targets.
- Participated in failure mode analysis and resolution.

MOTOROLA, PRODUCT INTEGRATION TEST EVALUATION & CONFORMITY, Schaumburg, Illinois  
**Contract Senior E3 Technician, 2004-2006**

Performed, automated, documented, and reported all of the following tests:

- E3, EMC, and EMI tests on digital and analog radio systems from system level to circuit board and component level.
- Tested systems to conform with FCC Parts 15, 27, 90; IEC 61XXX-X series; ETSI; CISPR; and other domestic and international E3 immunity and emissions standards. Coordinated testing and design mitigation and remediation assistance.
- Temperature and humidity accelerated life testing.
- Power supply radiated, conducted, and line conducted emissions.
- Transmitter radiated, line conducted, and conducted.
- Transmitter close in spurious, DC, and AC line conducted and radiated.
- Receiver BER, Dynamic range, blocking, SNR, and Adjacent channel rejection.
- RF immunity testing through 50V/M, with previous experience to 1K V/M.
- Conducted and radiated L.O. harmonics.
- GPS protection band testing.
- Electrostatic discharge: multi-point air and contact testing to +/-15KV.
- Electrical fast transient and lightning surge testing to 50KV.
- Line voltage: dips, interruptions, variations, and phase dropout testing.
- Held accountability for development and execution of highly specialized manual and automated testing of various prototypes and issues as they presented themselves
- Measured with: Injection, OATS, GTEM cells, Shield rooms, Spectrum/Vector Signal Analyzers, Oscilloscopes, RF Power Meters and Amplifiers, E-field 3 axis Vector Voltmeters and Signal Generators, Sweep, I/Q (to 64QAM), and AM & FM.
- Automated testing with National Instruments LabVIEW and TILE.
- IEEE488, GPIB, 10base2 thru CAT6, RF/WIFI linked, fiber-optic, hard-wired, and good old RS-232.

LINDGREN RF ENCLOSURES, Glendale Heights, Illinois  
**Senior New Product Development Technician, 1995-2004**

Designed, developed and executed the following:

- Economical RF and Magnetic test equipment for EMC shield room testing and RF proofing.
- Economical testing antennas.
- Anechoic RF and Acoustic chamber research, tuning and commissioning.
- GTEM cell research, tuning and commissioning
- Mode stirred reverberant chamber research, tuning installation and commissioning.
- Electro-magnetic inference studies and mitigation.
- Research and development of fiber-optic and infrared driven audio, video and EUT supervisory and monitoring data collection systems for use in RF and magnetically hostile environments to 1KV/M and 2T.
- Computer automation of test and data collection equipment.
- E3 and EMC testing control for IEC 61XXX-X, FCC, IEE, MIL, STD 461, DO 160 and many other (rapidly) evolving pre-EU standards.

## ADDITIONAL EXPERIENCE

**RF and E3 Consulting**, Ingleside, Illinois, 1975-Present. Engineering, design, prototype, installation, maintenance, service, test, compliance and certification of Cellular, PCS, wireless, two-way, satellite, broadcast, marine radio, RADAR fixed, BTS, mobile, portable, and ELT transmitters. Electromagnetic interference radiolocation, study, and mitigation. Counter-surveillance as well as RF and Infrared detection sweeps.

## MILITARY EXPERIENCE

**U.S. ARMY**, 1981-1984, Reserves to 1993,

**Dual MOS, 31S** (formerly 26Q), **31C**;

TACSAT, Tactical and Satellite systems radio operator and repair (with Morse). Single-channel through T3.

Artillery Battalion radio and electronics repair.

Volunteer Army MARS operator until 2013.

### **Decorations and Awards;**

Army Achievement Medal, 1991 Cited for Artillery Battalion radio systems repair under adverse tactical conditions.

Good Conduct Medal, National Defense Medal and Overseas Service Medal.

## PATENT

*U.S. Patent #6686818, Reverberation chamber tuner and shaft with E/M leakage device*

## LICENSES

*Amateur Extra, NM1S*

*2ND Radiotelegraph Operator w RADAR,*

*Global Maritime Distress & Safety System Operator/Maintainer w RADAR,*

*General Radiotelephone Operator w RADAR Endorsement, Grandfathered 1990*

*All current*

## CERTIFICATIONS

*Illinois Emergency Management Agency Professional Development Series, Awarded 2001 and ongoing.*

## PROFESSIONAL DEVELOPMENT

*Multiple Courses through Illinois Emergency Management Agency*

## SECURITY CLEARANCE

*Secret, Granted by United States Government*