

E³ (Electromagnetic Environmental Effects) Analysis, Design and Test Support

Nokomis, Inc offers a full range of electromagnetic environmental effects (E³) design, analysis and test support services. Uniquely experienced staff combines state-of-the-art simulation capabilities and field experience to offer the strongest electromagnetic effects support available. This experience allows Nokomis to tackle the most difficult and demanding E³ needs during product development and qualification activities.

Electromagnetic Interference (EMI)/Electromagnetic Compatibility (EMC)

- EMI Compliance MIL-STD 461/462 Modeling and Analysis
- Component/Board Level EMI/EMC Design
- System Level EMI/EMC Design
- EMI Mitigation-Board/System Level
- EMI Test Support (MIL-STD 461/462 Revisions A-E)



Nokomis Engineers have supplied EMP analysis for the AWACS Single Cabinet and Advanced Technology Transmitter (ATT) upgrades.

Electromagnetic Pulse (EMP)

- EMP Compliance Analysis
- Transient/EMP/Lightning Protection
- Circuit Upset Analysis
- Component Failure Modeling
- High Power Pulse Generation Design (EMP Simulators)
- EMP Test Support

High Power Microwave (HPM)/ Electronic Warfare (EW) Threats Analysis and Modeling Capabilities

We perform E³ simulation and modeling of systems interactions that are difficult to characterize using standard EMC simulation tools and/or test procedures. To perform these analyses, engineers use a wide range of theoretical analytical techniques.

Nokomis also is particularly strong in having a wide variety of custom algorithms developed specific to military needs that generally exceed the sophistication of packaged software.



Nokomis engineers have previously provided extensive EMP analysis, design and test of Minuteman and Peacekeeper strategic missiles, launch facilities and missile alert facilities.

Using state-of-the art simulation and modeling techniques Nokomis analyzes individual components, circuits and whole systems.

Design Services

Nokomis employees have a long history of participating in highly skilled design teams with a contribution in the specialization of EMC design. Nokomis can assist your design team with different design services related to E³.

We pride ourselves in offering the most efficient design solutions with a preference to solving E³ problems without the need to over-shield the system. Too many engineers first reaction is to add shielding to solve the problem for lack of an understanding of the problem's source. In today's evolving systems where weight has become an overriding design criteria shielding to solve EMI problems should be the last resort where other less expensive more efficient design options are available. This approach has been proven. It saves customers time and money while staying within tight weight and monetary budgets.



Nokomis engineers currently provide analysis and test support for Wedge tail.

Nokomis can evaluate the electrical properties, shielding effectiveness, transmission loss, and reflection coefficients of materials enclosures and whole systems for frequencies up to 60 GHz.

On-Site Consultation

Nokomis provides rapid response consultation and technical support for specific, on-site evaluations ranging from short-term design consultation to long-term projects requiring more extensive design/analysis/testing. With this expertise, Nokomis engineers can identify and remedy noncompliant conditions while on-site.

EMC Test Support Capabilities

Though Nokomis, Inc. has laboratory space available we do not currently conduct E³ military qualified test activities at our facility. We do offer test support at outsourced facilities local to the customer as well as support at the customer facility. There are numerous third party state-of-the-art facilities near the customer where Nokomis can arrange and manage test activities for the customer.

Our experience ranges across a broad spectrum of E³ testing with experience in several different areas. This test experience ranges from highly classified strategic nuclear missile systems to tactical radar to unclassified laptop procurements.



Nokomis engineers have extensive E³ experience in the analysis and test of advanced military facilities.

Nokomis conducts tests and completes product evaluations for military procurements for a broad array of military, industrial, national, and international standards.

- Conducted Emissions (CE) – MIL-STD 461/462
- Radiated Emissions (RE) – MIL-STD 461/462
- Conducted Susceptibility (CS) – MIL-STD 461/462
- Radiated Susceptibility (RS) – MIL-STD 461/462
- Electrostatic Discharge (ESD) – MIL-STD 1686
- Electrostatic Pulse (EMP) – MIL-STD 464