



Antenna Design Capabilities

SSC Pacific designs high performance transformational antennas

Background

The modern Naval surface combatant is a sophisticated assortment of weapons, electromagnetic (EM) radiators, and other hardware. Large numbers of antennas, transmitters, and receivers are required to meet Radar, Electronic Warfare, Information Warfare, and Communication requirements. An increasing inventory of EM systems is constantly being added to meet requirements for more communications capability with greater imagery and data transfer capacity. These requirements, as well as aggressive signature reduction goals, create new demands for antenna design.

The Technology

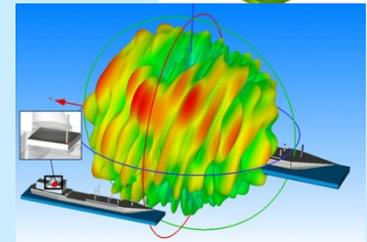
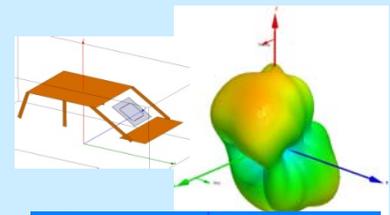
To meet these challenges, SSC Pacific has developed and maintains a unique capability in antenna design tools and antenna testing to support the Navy efforts. These efforts have included the development of next generation designs as demonstrated in the Advanced Enclosed Mast/Sensor (AEM/S), the Multi-function Electromagnetic Radiating System (MERS), the Low Observable Multi-function Stack (LMS) Advanced Technology Demonstrations and the DDG-1000 HF antenna development. Advanced EM modeling has been critical to the success of these technology developments.

Key Software

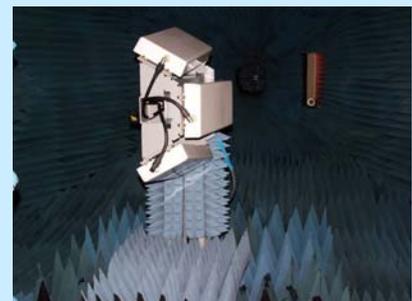
- Full-wave simulation software including Ansoft HFSS and Designer, Periodic Method of Moments (PMM), NEC-MoM
- Environmental codes including NEC-BSC
- Link budget analysis codes including COSAM, CLASS



AEM/S System aboard the USS New York (LPD-21)



HFSS Simulator



Tapered Anechoic Chamber

(Website Version)

For a more detailed information sheet on this subject, or a bundle of all Division 554 information sheets, Make requests to Business Development Manager, 55403@spawar.navy.mil, (619) 553-6538

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Business Development Manager
SSC Pacific Code 55403
Electromagnetics & Advanced Technology Division
San Diego, CA 92152
55403@spawar.navy.mil