



Link-16

American Competitiveness Institute (ACI), a scientific research and development corporation headquartered in Philadelphia, through a contract with the Office of Naval Research and through a partnership with Rockwell Collins, performed work to re-partition, re-layout, and re-package the 200 Watt Power Amplifier Interface (PAI) portion of the Link-16 Terminal Multifunction Information Distribution System (MIDS) Low Volume Terminal (LVT1) currently employed on F/A-18 and F-16 Navy platforms.

Link-16 is a radio communications system that significantly enhances the platforms' survivability and is designed to meet the most stringent requirements of modern combat. Link-16 compatible hardware has a definitive impact on major Navy weapon systems and future naval capabilities. The systems are extremely sophisticated radio terminals with a unique mix of capabilities in voice, data communications, real-time navigation, self-identification totally distributed network operations, shared use of frequency with air traffic control facilities, and super-high resistance to self interference jamming or enemy jamming.

Phase 1 of this project produced a State-of-Technology report. This report, though ITAR restricted, is available for distribution. The report surveys and analyzes technical areas including modular packaging, wide band gap semiconductor introduction, printed wiring board materials, stripline and microstrip influences, embedded passives, thermal management, interconnects, and manufacturing methods. This report acts as the basis for design, material, and process selection to improve the PAI. In addition, this information is applicable to other RF design and packaging efforts such as the Joint Tactical Radio System (JTRS).