



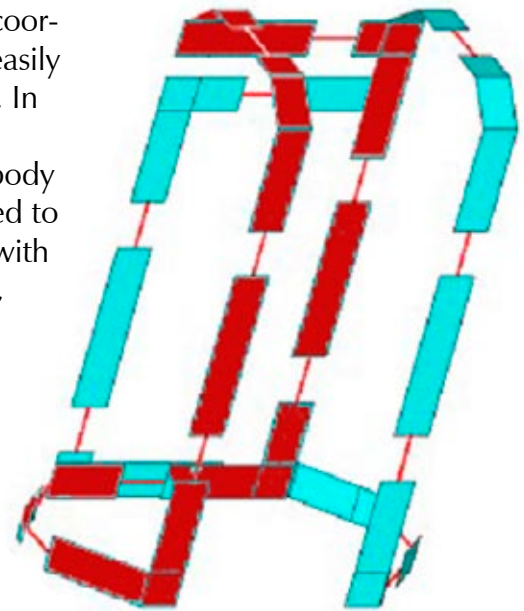
# BODY WORN SQUAD LEVEL ANTENNAS

## OVERVIEW:

A rigid Merenda double-loop antenna has been transformed into a wearable, flexible, textilebased antenna that is compatible with SINCGARS (Single Channel Ground and Airborne RadioSystem), and has been integrated into the MOLLE (Modular Lightweight Load-carryingEquipment) vest. It has advantages over the 30-inch whip antenna in that it is body conformaland visually covert, not compromising the soldier's silhouette. CECOM, a partner in the effort,has provided related prototype electronic switching devices, which were also integrated intothe vest. Preliminary performance evaluations of the vest have been performed at the ElectronicProving Ground, Fort Huachuca, Arizona, showing positive results. A follow-on safety assessmentis planned for FY03.

## DESCRIPTION:

Maintaining communications on the battlefield is critical to coordinateand control units and firepower. Radio operators are easily identified bytheir protruding antennas and are prime targets. In addition, theantennas are easily broken by trees and bushes, limit their mobility, andare relatively inefficient radiators. A body worn, visually covert, textilebased antenna is being developed to address these operationalissues. The antenna is compatible with SINCGARS (30 to 88 MHz) andis a joint effort with CECOM, supporting their advanced antennaand communications science and technology objectives (STOs).The double loop antenna developed by NSC, and 16 electronicswitching modules developed by CECOM, have been integratedinto the MOLLE vest.



## STATUS:

Prototype antenna vests will be tested and evaluated for performance (transmission andreceive) and safety over the next calendar year. CECOM will verify RF commu-nicationsperformance with SINCGARS in a variety of positions including standing, kneeling, and prone. Their safety assessment will include the measurement of specific absorbency rates, and depth ofpenetra-tion measurements, which will be compared to related safety standards. If theperformance and safety evaluation demonstrates acceptable performance, CECOM hasagreed to investigate further miniaturization ofthe electronic modules.

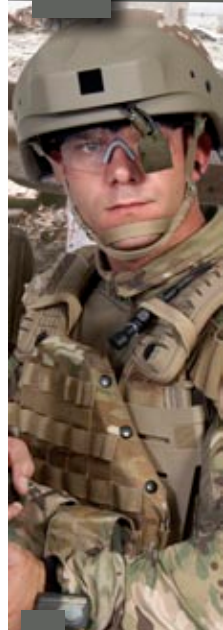


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