Characteristics and development report for the MC3812 radar mechanical design

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The MC3812 is the smallest fuzing radar that Sandia Labs has placed into production to date. The radar weighs less than 1.5 lbs and its volume is approximately 21.5 cu in. A single radar housing integrates all subassembly mounting arrangements and provides the mechanical integrity needed to survive severe physical environments imposed on the system. The housing, designed to dissipate high thermal operating loads, also electromagnetically isolates sensitive radar subcircuits from one another. The design makes extensive use of thin film technology for RF circuitry and for the logic circuitry utilizes a multilayer Polyimide-Quartz printed wiring board that permits direct surface mounting of ceramic devices.

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