

Sandia MiniSAR – update

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What is MiniSAR?

Sandia National Laboratories has developed a high-performance Ku-band Synthetic Aperture Radar (SAR) intended for UAV applications as well as manned aircraft operation. The total radar weighs 27 lbs. (12.2 kg) and forms real-time images on-board the aircraft with resolutions as fine as 4 inches (0.1 m) at up to 5.5 nmi (10 km) range in inclement weather. Longer ranges are achievable at coarser resolutions.

Production Status

Sandia National Laboratories and Rockwell Collins have formed a strategic alliance to develop, manufacture and offer service and support for a production version of MiniSAR. In addition, Rockwell Collins is expected to in the interim make available duplicates of the Sandia prototype system.

Ongoing R&D

Sandia is continuing to apply its SAR expertise, and MiniSAR in particular, to remote sensing problems in the national interest. For example,

Sandia is developing an X-band variant of MiniSAR to perform crevasse detection in Antarctica for the NY ANG.

Sandia is performing field tests and data collections for a number of government and industrial partners concerning problems of national interest.

Opportunities

Sandia is soliciting additional applications for the current or future versions of MiniSAR. These include desired enhancements and new capabilities. These might include, but are not limited to

multiple channel systems,
enhanced high-performance GMTI,
new frequencies,
enhanced resolution,
polarimetry,
FOPEN,
IFSAR topographic mapping,
ultra-fine resolution stripmap,
real-time route monitoring,
real-time Coherent Change Detection (CCD)

ISAR,
VideoSAR,
maritime search,
radar-responsive tags,
scene motion detection and mapping,
facilities monitoring,
environmental monitoring,
guidance & control,
bistatic operation,
size/weight reduction

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