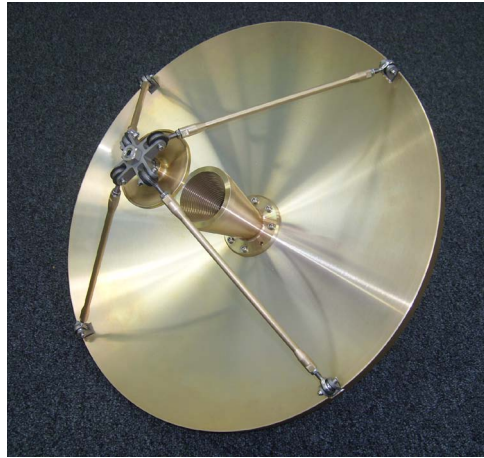


Ka-band SATCOM On-The-Move Antenna System





Australian Army units operating on the modern battlefield require secure, effective and reliable mobile communications systems whilst On-The-Move.

Mobile satellite communications, better known as SATCOM On-The-Move (SOTM), has the potential to provide 'Beyond Line of Sight' connectivity for mobile Army units.

The challenge for SOTM solutions is to maintain the satellite communication link as the vehicles move, often over rugged terrain and at speeds of up to 100 kilometres per hour. The solution to this challenge lies in the SOTM Antenna System which must be able to track the satellite in real-time and with a high degree of accuracy.

Existing in-service SOTM systems operate at Ku-band. However, BAE Systems has developed and demonstrated a leading edge Ka-band SOTM Antenna System, as part of a SOTM Terminal Capability Technology Demonstrator project conducted in partnership with EM Solutions, a highly capable Australian SME. The adoption of Ka-band supports the use of smaller antennas, whilst delivering higher data rates.

Building on our extensive experience in antenna and feed design, the BAE Systems team has built a world-first, reflector-based SOTM Antenna System that has an unprecedented ability to maintain the satellite communications link whilst On-The-Move.

BAE Systems' Ka-band SOTM Antenna System can provide Australian Army units with access to Ka band SATCOM capacity via the Optus C1 and Wideband Global System (WGS) satellites.

The Ka-band SOTM Antenna System was successfully demonstrated on an Australian Army Bushmaster vehicle in a field trial in August 2010.

The Ka-band SOTM Antenna System is an example of both our commitment to developing leading-edge technologies that meet the needs of the Australian Defence Force, and our commitment to fostering productive relationships with Australian SMEs.

SOTM Antenna System - Technical Specifications:

- Transmit: 30 – 31 GHz
- Receive: 20.2 – 21.2 GHz
- Antenna Size: 480 mm in diameter
- Feed Length: 135 mm
- Four port circularly polarised feed network for simultaneous dual polarisation
- Advanced tracking system that operates with both linearly and circularly polarised beacons or carriers
- Easy mechanical integration onto antenna positioners
- Transmit Axial ratio: 1.0dB max
- Receive Axial ratio: 1.0dB max

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