

ATCA L/S C/X Receiver Upgrade

Project Overview

The Australia Telescope Compact Array (ATCA) L/S C/X upgrade is a program to upgrade the existing ATCA cm-wave receiver systems.

The complete upgrade will:

- Provide almost complete frequency coverage from 1.1 - 12GHz.
- Improve the system noise performance by 25% - 50%.
- Enable maximum use of the Compact Array Broadband Backend (CABB) - instantaneous bandwidths of up to 4GHz.

The AAL EIF funding of \$1.471M enables the completion of the C/X receiver upgrade - the third and final phase of the upgrade program.

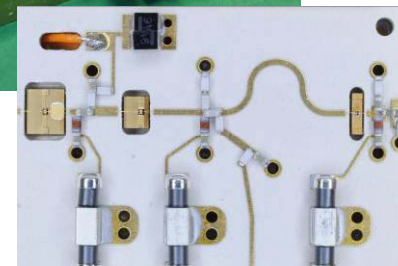
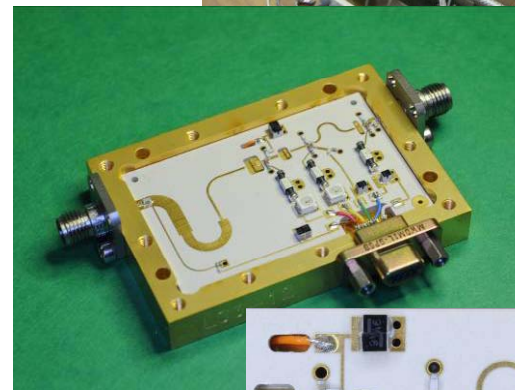
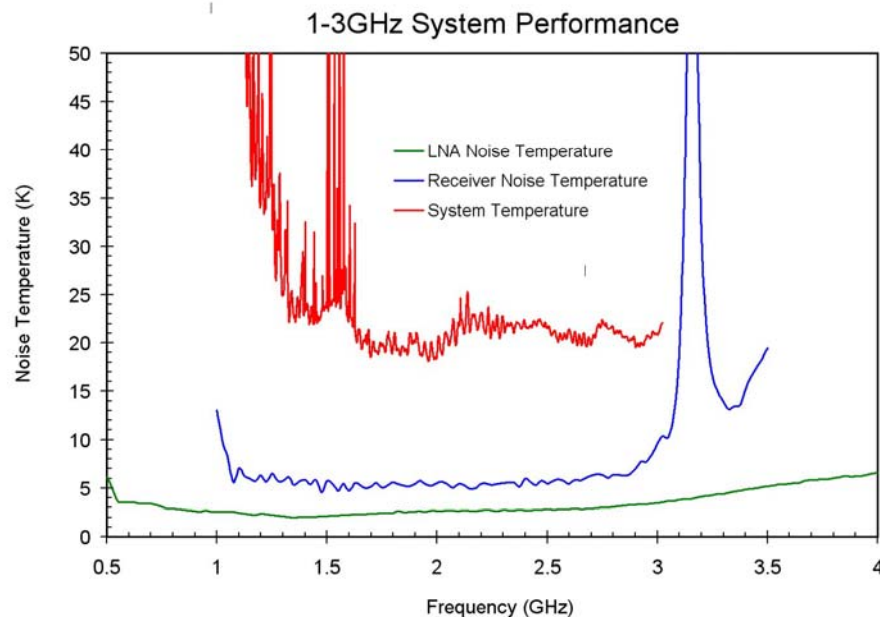
The C/X upgrade makes extensive use of capability developed during the L/S receiver system upgrade.

4 - 12GHz LNA development required for the C/X upgrade is being carried out as part of the L/S receiver upgrade.

ATCA C/X Receiver Upgrade

L/S Receiver Upgrade

- Upgrade completed on all ATCA antennas in December 2010.
- Delivered a 25% - 30% reduction in system noise and doubled the available bandwidth.
- 3 stage 1 - 3GHz, InP, HEMT LNA was developed by CASS as part of the upgrade.



ATCA C/X Receiver Upgrade

4 – 12GHz LNA Development

- The active section of a 4-12GHz LNA is currently undergoing cryogenic testing.
- A prototype LNA is on schedule for completion in April 2011.
- On schedule to have a prototype C/X receiver under test by late 2011.

