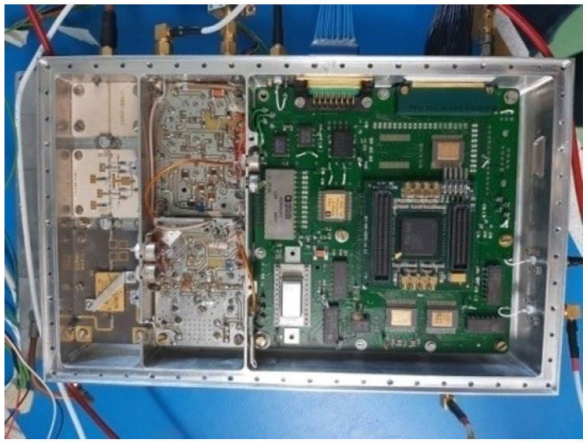
X-Band Coherent Digital TT&C Receiver

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed X-Band Coherent Digital TT&C Receiver. It uses novel implementation technique for BPSK demodulation which can support multiple data rates.



X-Band Coherent Digital TT&C Receiver

Salient Features

- FPGA based digital technology for coherent TT&C receiver baseband processing.
- Implementation of synthesizer based Local Oscillator for coherent receiver.
- Carrier acquisition algorithms with varying loop bandwidths, BPSK demodulation algorithms, PN ranging function for improved range accuracy.

Major Specifications

- X band carrier acquisition threshold : -125 dBm
- Auto-carrier acquisition functionality
- Dual data rate support for commanding
  1. Threshold : -122 dBm at 125 bps
  2. Threshold : -110 dBm at 4 kbps
- Tone ranging support for tones of up to 500 kHz
- PN ranging support with a threshold : -110 dBm at 1 Mcps.
- Capability to accept level commands for dynamic command data rate selection, ranging output selection/deselection, auto carrier acquisition selection/deselection

Technology Transfer

URSC/ISRO offers to transfer this technology of X-Band Coherent Digital TT&C Receiver to industries in India with adequate experience and facilities. Industries interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

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