

## CDMA Telecommand Receiver

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed CDMA Telecommand Receiver to employ CDMA scheme for Telecommand operations in GEO satellites. CDMA offers scope for co-locating more number of satellites in the same orbital slot compared to FDMA scheme while keeping frequency interference issues at bay.



### Salient Features

- ✦ CDMA wards off frequency interference from collocated satellites allowing more number of satellites in same orbital slot.
- ✦ Operating frequency range is from 5.8 to 7.2 GHz.
- ✦ Realized using Direct Sequence Spread Spectrum techniques with a chip rate of 1.023 M chips/sec and data rate of 100 bps.
- ✦ Fractional-N PLL offers selection of CDMA uplink frequency anywhere in the allocated TTC frequency spectrum with a resolution of 40 KHz.
- ✦ 5.8 to 7.2 GHz wideband MMIC LNA is suited for mass production and can be made available off-the-shelf.

### Major Specifications

✦ Frequency	:	5.8 to 7.2 GHz
✦ Command Data rate	:	100 bps
✦ Demodulation Scheme	:	DSSS
✦ Chip rate	:	1.023 Mchips/sec
✦ Code used	:	Gold code with code length 1023
✦ Sensitivity	:	103 dBm

## Technology Transfer

URSC-ISRO offers to transfer this technology of CDMA Telecommand Receiver to industries in India with adequate experience and facilities. Industries interested in obtaining know how may write giving details of their present activities, infrastructure and facilities.

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