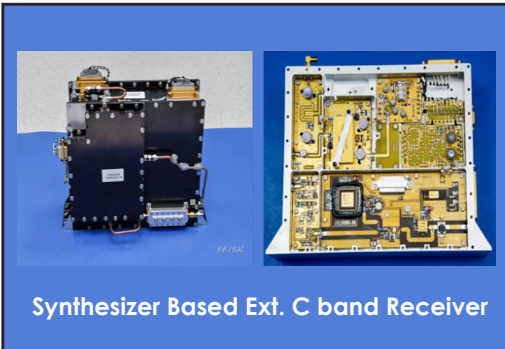


## Synthesizer based Ext.C Band TTC Receiver

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed a Synthesizer based Ext.C Band TTC Receiver to provide on orbit TTC operation for IRNSS missions.



### Salient Features

- ✦ Synthesizer based LO generation.
- ✦ No requirement of project specific TCXO.
- ✦ Frequency can be set before starting testing and evaluation of the receiver package.

### Major Specifications

Frequency	7019/7022 MHz
Bandwidth(3dB)	1.2 MHz
Demodulation Scheme	
• Command	FM/PSK/PCM
• Ranging	FM
TC Bit Rate	500 bps
TC Sub Carrier	8 KHz
FM Deviation	+400 KHz
Dynamic Range	
• Command	-105 to -60 dBm
• Ranging	-98 to -60 dBm
Command Channel Output	Data (PCM/NRZ-L format) with BER of $1 \times 10^{-5}$ 2-12 V p-p Sine output (FSK Scheme)
Ranging Channel	
• SNDR	60 dB-Hz
• Nominal Output	5V p-p + 5% @ -100dBm -20% to +10% w.r.t nominal over the dynamic range and the operating temperature
Operating temperature	-30 to +56 deg C

## Technology Transfer

URSC/ISRO offers to transfer this technology of Synthesizer based Ext.C Band TTC 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.

Technology Transfer & Industry Coordination Division (TTID),  
Programme Planning and Evaluation Group (PPEG),

📍 U R Rao Satellite Centre (URSC), ISRO, HAL Airport Road,  
Vimanapura Post, Bangalore – 560 017.

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🌐 <https://www.ursc.gov.in/industry/index.jsp>