

## Ku-band Module

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed a Ku-band Module that up-converts the C-band frequency to Ku band frequency by multiplication. The up-converted signal is then amplified by MESFET amplifier. The MESFET amplifier output drives the final stage GaAsFET amplifier to generate +26dBm in Ku-band. This module is required in all Ku-band transmitters, where frequency generation is done at C-band.



**Ku-band Module**

### Salient Features

- ✦ Low conversion loss Frequency multiplication using MESFET.
- ✦ Production friendly Hardware.

### Major Specifications

- ✦ Single stage Frequency multiplication by MESFET frequency tripler.
- ✦ High harmonics and spurious suppression.
- ✦ Medium power output in Ku-band.
- ✦ PAE 20%.
- ✦ Used in Ku-band TTC transmitters for in-orbit operations.
- ✦ Overall module gain : 30dB.
- ✦ Input Frequency Range : 3.56 GHz- 4 GHz.
- ✦ Output Frequency Range : 10.7 GHz-12 GHz.
- ✦ Current(mA) : ≤ 10 (for tripler), ≤ 15 (for DA), ≤ 1000 (for SMM).
- ✦ Output power @ Ku-band(in dBm) : ≥ 26.
- ✦ Spurious (in dBc) : ≤ -50.
- ✦ Harmonics (in dBc) : ≤ -50.

## Technology Transfer

URSC/ISRO offers to transfer this technology of Ku-band Module 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.

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.

✉ Email-id: [tt-icd@ursc.gov.in](mailto:tt-icd@ursc.gov.in)

☎ Fax No: 080-25205261

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