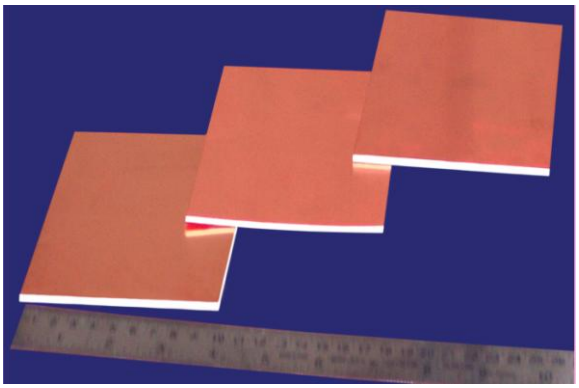
# TECHNOLOGY TRANSFER

## C-MET offers technology for the production of novel high dielectric and low loss microwave substrates for wireless communication applications

Centre for Materials for Electronics Technology (C-MET), an autonomous research institution under Department of Electronics and Information Technology (DeitY) has developed a spectrum of microwave circuit boards for variety of applications including satellite communication, mobile base station, high power solid state amplifier, missile navigation, patch antennas etc.



This class of niche microwave substrates are having excellent dimensional stability and tight dielectric tolerance. They are developed through a proprietary process termed as SMECH process. Plasma or chemical etching methods are employed for surface modification of the microwave substrates to ensure better peel strength of the conductor layers.

*Salient features of the indigenously developed substrates are:*

□ *Ultra low loss tangent for selectivity*
□ *High dielectric constant for miniaturization of circuit size*
□ Excellent *temperature stability for outdoor wireless applications*

## Typical properties of the microwave substrates include:

Dielectric constant : 10.2±0.25, 13±0.30 and 14.8±0.3 (@ 10 GHz)
Loss tangent : 0.0018 to 0.002 at X-band
Temperature coefficient of dielectric constant : +72 to -400 ppm/$^{o}$C
Ultimate tensile strength: 14 MPa
Moisture absorption: 0.05-0.08%

Interested parties are requested to provide their expression of interest along with details about present activities, product line, infrastructure, expertise and plans for implementation of the technology to: The Director, Centre for Materials for Electronics Technology (C-MET), M.G. Kavu, Athani (P.O.), Thrissur 680 581 Kerala, Tel: 0487-2201757; e-mail: krdayas@cmet.gov.in. Last date for receipt of expression of interest: 31$^{st}$ October, 2013