Multilayer Printed Antenna Technology Transfer Event

Organized by
Technology Transfer & Industry Interface Division
Planning & Projects Group

April 16, 2012

Between

SPACE APPLICATIONS CENTRE, ISRO

and

ASTRA MICROWAVE PRODUCTS LIMITED

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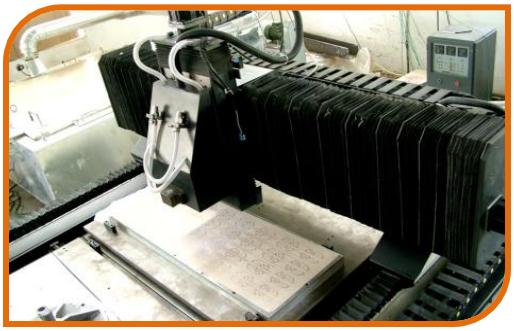
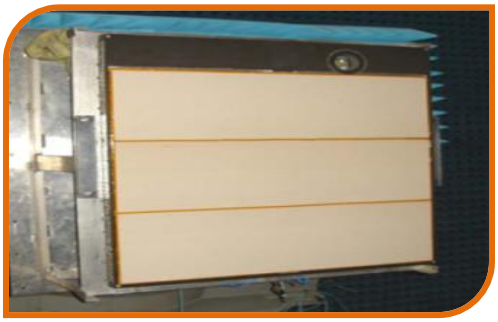
ABOUT MULTI LAYER PRINTED ANTENNA

Space Applications Centre of ISRO has developed multilayer printed antenna array technology for various ISRO's projects. The salient features of antenna includes light weight structure, conformal to the surface, computer controlled automated fixture for aligning layers, inspection of layers and bonding of layers.

There is an ever increasing demand of multilayer printed antenna from mobile communication to very sophisticated space qualified active phased array antenna systems. The design includes the new type of light weight low dielectric constant material for high radiation efficiency, low surface wave propagation, low cross polar suppression. The development includes fixture capable of performing surface roughness using laser, inspection of PCB, high speed drilling, vacuum bagging for bonding all the antenna layers and vacuum gripping for pick and place. Presently high efficiency multilayer antenna system is designed at L and C band and can be designed at other frequency range based on requirements from industry/institution.





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TECHNICAL SPECIFICATIONS

- **Antenna Type:** Planar
- **Cross Polarization:** Better than -30 dB
- **Bandwidth:** Up to 40 % (2:1 VSWR)
- **Polarization:** Vertical / Horizontal / Circular
- **Size:** 1.2 m X 1.2 m
- **Clean Room:** Class 1 lac
- **Magnification:** 50 X / 100 X
- **Alignment:** 20 micron
- **Repeatability:** 5 Micron
- **Beam width and Gain:** Efficiency better than 60 %

Sh. A S Kirankumar - Director, SAC presiding over the function.

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