

ABSTRACT:

A micromachined H-plane horn antenna designed at 63 GHz is presented. The horn is integrated with an air filled coaxial line to ridge waveguide transition with the ridge waveguide feeding the horn. The antenna is constructed by bonding five layers of gold coated SU-8 photoresist, each 200 m-thick. The performance has been validated experimentally using on-wafer probe measurements. A good match is achieved with low return loss obtained at the designed operating frequency. This proposed design is to be used in three-dimensional phased array beamformers.