

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
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MEASUREMENT EXPERIMENT AND EVALUATION OF RADIATION PATTERNS OF THE MESH
REFLECTOR ANTENNA MOUNTED ON COMMUNICATION SATELLITE FOR HYBRID MOBILE
COMMUNICATION SYSTEM**Abstract**

We have been researching and developing the STICSSatellite / Terrestrial Mobile Communication System. It has dual communication function that can be connected with both the terrestrial system and the satellite system is composed by using the common terminal with a handheld shape. This communication system will be especially useful for the emergency disaster. For this system, a large satellite antenna is necessary and we have been studying the antenna with approximately 30m aperture size. This antenna consists of deployable reflector and phased array feed, and performs the multi beam formation. For this system, small size array feed weighted by digital beam forming network and digital channelizer (DBF/DC) is developed. To study and fundamental estimation of antenna characteristics, we measured the radiation pattern of the antenna with 16-elements DBF/DC and mesh reflector (3.3m diameter). And its frequency assumed to be 1.9/2.1GHz. In this paper, radiation patterns of this feed with mesh reflector are measured and studied for fundamental characteristics of this antenna.