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Low Profile Wide-Band Broad Side RMSA Suitable for On-Board Applications

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Abstract : This paper presents simulation and experimen-tal results for wide band U-shaped side slots loaded linearly polarized rectangular microstrip antenna with broad side radiation characteristics suitable for onboard applications. The structure has been evolved in rugged and compact form to make it suitable for on-board applications. In addition to U-shaped central slot, pair of parallel narrow slots has been embedded close to non-radiating edges. The size and shape of these side slots have been optimized to improve the matching at upper frequency of the band. The impedance bandwidth of 34.8% as compared to 2-5% bandwidth of conventional microstrip antenna has been achieved. The frequency ratio of the two well-matched operating sections is found to be f2 / f1=1.33. The experimental results are in good agreement with the numerical results.

Keywords : low profile antennas, u-slot antennas, broad band antennas, broad-side radiation pattern, high gain antennas
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