

Detailed Test and Qualification of S-band WR-340 Waveguide Full Height to Quarter Height Transitions for Satellite Testing Applications

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Abstract: *The paper presents the detailed test and qualification of S-band WR-340 Waveguide full height to quarter height transition for usage in satellite testing applications. The transition specifications achieved by theoretical calculations and the High frequency structure simulator software (HFSS) simulations have close match. This technical paper presents the work carried out for realization of such waveguide transitions used for Satellite testing applications. The Aluminium (AL6061) material is used for fabrication of the transition. The detailed test procedures and test results of the WR-340 waveguide transition developed in-house are been presented in the paper.*

Keywords: High Frequency Structure Simulator(HFSS), Transition, Waveguide, Radio Frequency, Scattering parameters, Thermal-vacuum testing, Vector network analyzer (VNA)

