

PARAMETRIC COMPARISON OF CIRCULAR, TRIANGULAR AND RECTANGULAR DUAL-BAND MICROSTRIP ANTENNAS FOR WIRELESS COMMUNICATION

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ABSTRACT

This paper presents a parametric comparison of the three commonly use microstrip antenna geometries designed to resonate at dual frequencies for wireless communication. Both triangular and rectangular dual band antennas were designed using flame-resistant (FR-4) substrate while RT Duroid 5880 substrate was used in designing the circular dual band patch. All antennas were designed at 2.4 GHz and 5.2 GHz, respectively. From the results obtained, the rectangular dual band patch achieved the highest percentage bandwidth performance at 2.4 GHz while the triangular patch achieved the best bandwidth performance at 5.2 GHz with all the antennas presented resonating within the acceptable limit of $1 \leq VSWR \leq 2$.

Keywords: Comparison, dual band, microstrip, antenna, bandwidth.