

Parametric Study of Single Receiver and Multi Transmitter, Receiver Multiband Antenna

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Abstract:

Today's devices use many inbuilt communications systems like Bluetooth, Wi-Fi, GSM technology, and now 3G/4G technology is used in almost all mobile gadgets. Apart from these, a more advanced technique, WiMAX is used in many devices in foreign regions. Different WLAN protocols are also used although they have almost similar operating frequency range. The demand for designing a multiband antenna is proliferating to support a variety of diverse communication systems. The marketing value of antennas designed for a single receiver and MIMO configuration is rapidly increasing. A comparative analysis between single receiver multiband antenna and a MIMO multiband antenna is performed to decide which antenna is the better from antenna parameters like VSWR, return loss, and radiation pattern point of view. The antenna design and simulation are done in Ansys HFSS v18 software. The conducting material used in the design is copper while the dielectric is FR4 with permittivity 4.4 and the feedline method used here is microstrip feedline. The dimensions of the single receiver antenna are 70×60×1.8mm³ while that of MIMO is 60×120×1.8mm³.

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