

Abstract: A beam steering compact patch antenna with high gain application

A beam steering compact patch antenna with high gain application is invented. The proposed antenna is capable to steer the beam radiation to 45° , 135° , 225° and 315° . This is realized in the unique form of single main radiator and four parasitic elements. The activation of the parasitic required a shorting pin to the ground that indicates ON state condition and the deactivation of the parasitic means no shorting pin to the ground that lead to OFF state configuration. Each of the shorting pins can be linked to the RF PIN diode switch. It is discovered in CST simulation software, the specified location of the pins is really significant to ensure the parasitic perform either as a reflector or director. Moreover, the proposed antenna has small physical dimension of 130 mm square. The simulation and measurement results have successfully exhibited the idea of the proposed antenna for smart antenna and WiMAX application..