

Integrated 5.8 GHz phased array antenna, for electronic toll collection

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An integrated 3/spl times/8 element phased array receiving antenna combined with a 4/spl times/8 element transmit antenna for 5.8 GHz DSRC D_edicated S_hort R_ange C_ommunication has been built. The number of analog phaseshifters and antenna elements has been optimized to meet the specific requirements of the application and of the DSRC-standard. A sophisticated concept for the integration of analog beamformer, RF-chain, and array antenna has been developed to enable a design of the complete antenna system on a thin multilayer structure. The size of the whole antenna is 280 mm/spl times/400 mm/spl times/20 mm.

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