

Enhancement of Performance Utilizing Low Complexity Switched Beam Antenna

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Abstract : To manage the demand of wireless communication that has been dramatically increased, switched beam antenna in smart antenna system is focused. Implementation of switched beam antennas at mobile terminals such as notebook or mobile handset is a preferable choice to increase the performance of the wireless communication systems. This paper proposes the low complexity switched beam antenna using single element of antenna which is suitable to implement at mobile terminal. Main beam direction is switched by changing the positions of short circuit on the radiating patch. There are four cases of switching that provide four different directions of main beam. Moreover, the performance in terms of Signal to Interference Ratio when utilizing the proposed antenna is compared with the one using omni-directional antenna to confirm the performance improvable.

Keywords : switched beam, shorted circuit, single element, signal to interference ratio

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