

## Frequency Reconfigurable Multiband Patch Antenna Using PIN-Diode for ITS Applications

**Authors :** Gaurav Upadhyay, Nand Kishore, Prashant Ranjan, V. S. Tripathi, Shivesh Tripathi

**Abstract :** A frequency reconfigurable multiband antenna for intelligent transportation system (ITS) applications is proposed in this paper. A PIN-diode is used for reconfigurability. Centre frequencies are 1.38, 1.98, 2.89, 3.86, and 4.34 GHz in &ldquo;ON&rdquo; state of Diode and 1.56, 2.16, 2.88, 3.91 and 4.45 GHz in &ldquo;OFF&rdquo; state. Achieved maximum bandwidth is 18%. The maximum gain of the proposed antenna is 2.7 dBi in &ldquo;ON&rdquo; state and 3.95 dBi in &ldquo;OFF&rdquo; state of the diode. The antenna is simulated, fabricated, and tested in the lab. Measured and simulated results are in good confirmation.

**Keywords :** ITS, multiband antenna, PIN-diode, reconfigurable

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