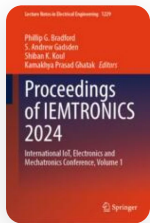


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Review on Ultra-wideband Multi-input and Multi-output Antennas with Notched Band Characteristics


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Abstract

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Institute of Technology, Agartala from 2012 -2014 and from January 2015 he has joined in the IEM / UEM group, Kolkata as Senior Professor and research Director. He was at the top of the merit lists in all the said cases.

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Review on Ultra-wideband Multi-input and Multi-output Antennas with Notched Band Characteristics



Arunima Samanta, Koushiki Ghosh, Pritam Aich, Shatavisha Dasgupta, Srijita Chakraborty, and Mrinmoy Chakraborty

Abstract This paper presents a comprehensive review of Ultra-Wideband (UWB) Multiple Input Multiple Output (MIMO) antennas with notch characteristics. UWB communication systems have emerged as promising solutions for high-speed data transmission, positioning, and radar applications due to their wide bandwidth and low power consumption. However, coexistence with narrowband wireless technologies poses challenges, necessitating the integration of notch characteristics into UWB MIMO antennas to mitigate interference. The review is conducted based on antenna parameters such as antenna size, operating bandwidth, gain and number of notch bands, envelope correlation coefficient (ECC), and isolation. A comparative analysis has been provided based on the characteristics parameters. Various techniques to minimize the mutual coupling within the UWB MIMO antenna have been explored. Several methods have been employed to attain the notch characteristics in the ultra-wideband MIMO antenna. The practical application of the UWB MIMO antenna has been extensively discussed for the operational frequency band. Overall, this review provides valuable insights into the design and implementation of UWB MIMO antennas with notch characteristics, offering a foundation for further advancements in ultra-wideband communication systems.

Keywords UWB MIMO antenna · Mutual coupling · Band notch characteristics

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