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Designing of Ultra-Wideband Microstrip Patch Antenna for WLAN Application – A Review

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Abstract: *As per the antenna theory, the main advantage of the microstrip patch antenna (MPA) is that it is small in size, suitable for flat and non-planar surfaces, and is simple to manufacture and low in cost using current printed circuit technology. Therefore, in this modern era, microstrip patch antennas are widely used in communication accessories. Ultra-Wide Band (UWB) technology is emerging as a promising solution to this problem. High data rates, large bandwidths and immunity to multipath interference are important features of UWB. UWB antennas must not create unwanted distortions and therefore good design is very important. This paper reviews the work done in this field to date and attempts to give an overall scenario of the research direction in UWB antenna design. This article has shown in the previous years of research that various antenna design methods in the ultra-wideband range, such as U-shaped cutting edge tapered grooves, DGS-based microstrip patch antennas, planar partially grounded patch antennas, and parasitic patch antennas, Fractal antennas and reconfigurable antennas.*

Keywords: Microstrip Patch Antenna (MPA), Ultra-Wide Band (UWB), WLAN, Antenna Design.

REFERENCES

[1]. R. Cicchetti, E. Miozzi and O. Testa, "Wideband and UWB Antennas for Wireless Applications: A Comprehensive Review," International Journal of Antennas and Propagation, 2017.
[2]. S. Verma and P. Kumar, "Printed Egg Curved Monopole Antenna for ultrawideband applications," in National Conference on Communications, 2013.
[3]. A. A. Ibrahim and M. A. Abdalla, "Compact size UWB antenna with multi-band notched charactristics for wireless applications," IEEE International Symposium on Antennas and Propagation (APSURSI), pp. 1819-1820, 2016.
[4]. K.-L. Wong, Y.-H. Chen and W.-Y. Li, "Decoupled compact ultra-wideband MIMO antennas covering 3300 - 6000 MHz for the fifth-generation mobile and 5GHz-WLAN operations in the future smartphone," Microwave and Optical Technology Letters, vol. 60, no. 10, pp. 2345-2351, 2018.
[5]. S. Maiti, S. K. Rajak and A. Mukherjee, "Design of a compact ultra-wide band microstrip patch antenna," in Fifth International Conference on Computing, Communications and Networking Technologies (ICCCNT), 2014.
[6]. S. Yazdanifard, R. Sadeghzadeh and M. Ojaroudi, "Ultra-Wideband Small Square Monopole Antenna with Variable Frequency Band-Notch Function," Progress In Electromagnetics Research C, vol. 15, pp. 133-144, 2010.
[7]. C. Singh and G. Kumawat , "A Compact Rectangular Ultra-Wideband Microstrip Patch Antenna with Double Band Notch Feature at Wi-Max and WLAN," Wireless Personal Communications, vol. 144, pp. 2063-2077, 2020.
[8]. S. Hota, S. Baudha, B. B. Mangaraj and M. Varun Yadav, "A novel compact planar antenna for ultra-wideband application," Journal of Electromagnetic Waves and Applications, vol. 34, no. 1, pp. 116-128, 2020.
[9]. Q. Awais, H. T. Chattha, M. Jamil, Y. Jin, F. A. Tahir and M. U. Rehman, "A Novel Dual Ultrawideband CPW-Fed Printed Antenna for Internet of Things (IoT) Applications," Wireless Communications and Mobile Computing, 2018.
[10]. M. Debab and Z. Mahdjoub, "Characteristics UWB Planar Antenna with dual notched bands for WIMAX and WLAN," Advanced Electromagnetics (AEM), vol. 7, no. 5, pp. 20-25, 2018.
[11]. M. Nejatijahromi, M. Rahman and M. Naghshvarianjahromi, "Continuously Tunable WiMAX Band-Notched UWB Antenna with Fixed WLAN Notched Band," Progress In Electromagnetics Research Letters, vol. 75, pp. 97-103, 2018.

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[12]. S. Kundu, "Balloon-shaped CPW fed printed UWB antenna with dual frequency notch to eliminate WiMAX and WLAN interferences," Microwave and Optical Technology Letters, vol. 60, no. 7, pp. 1744-1750, 2018.