Dual-Frequency Film Type Antenna for dual ISM bands

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Abstract

In recent years, Many people are interested in 'Flexible antenna' such as 'RFID Tag Antenna'. 'Flexible antenna' must be more studied because 'Ubiquitous Network' such as 'Wireless Body Area Network (WBAN)' and 'Wireless Local Area Network (WLAN)' need this type of antenna. The antenna must be small, thin, light and flexible for 'Wireless Body Area Network (WBAN)' and 'Wireless Local Area Network (WLAN)'. This paper presents a study of Dual_frequency Film_type antenna that has operating frequency at 2.4GHz (IEEE 802.11b, Bluetooth, Home RF) and 5.2GHz (IEEE 802.11a). It use the characteristics of slit antenna and loop antenna complexly.. It also has superior characteristics such as broad bandwidth and small size. Even if this antenna is bended, Return loss and radiation pattern nearly remain unchanged. The obtained results are useful for practical applications of the portable wireless communication device.



Fig.1. Film Antenna



Fig.2. CST Simulation and Measurement