雙頻操作印刷天線小型化之研究

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摘 要

在本論文中，我們提出兩類雙頻操作印刷槽孔天線設計，第一類的設計主要是在圓環形槽孔中央的金屬微片中植入槽線的結構設計，使其激發兩個共振頻帶且設計使其中的第一個共振頻帶低於未加入設計結構之原始天線的第一個共振頻帶，而達到縮小天線尺寸的目的。 這兩個激發頻帶在槽孔天線的金屬面上所形成的電流分佈由植入槽孔中的金屬微帶或在槽孔中央金屬微片上挖入的凹槽尺寸決定，因此適當設計這些結構的型式，使其能蜿蜒槽孔天線金屬面上的電流分佈，即能達成降低激發頻帶共振頻率的縮小化效果，同時能使這兩個頻帶的中心頻率比能達於規範頻帶的需求。除此之外，為達縮小天線尺寸而在圓環形中央金屬微片上挖入凹槽的結構設計，也可調整金屬面上的電流分佈，改善原始印刷槽孔天線較高激發頻帶的輻射場型。 而第二類的設計是以方形槽孔背面貼附複合金屬微片的方式，可有效地激發出兩個寬頻的頻帶，並且經由調整圓形金屬微的大小及其相對中心的位置及對圓環金屬微外圍植入凹槽來達到降頻的效果。

關鍵詞 : 印刷槽孔天線 ; 雙頻 ; 縮小化

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