

### Electromagnetic shielding characteristics of highly transparent conducting film with micro pattern through a high-frequency electromagnetic analysis of the coaxial airline system

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The rapid increase in the use of RF (Radio-Frequency) caused by the numerous developments of electronics used is rapidly increased. The development of multi-electronics with a microwave relay communication technology, enhancement of the radio wave induction technique of the moving object, such as last installation interval has been gradually narrowed. Therefore, EMI (Electro-Magnetic Interference) shielding technologies are considered as an important topic. For effective EMI shielding, a highly conductive transparent film is needed to be developed. However, it is still inadequate to satisfy recent requirements in high EMI shielding performance and high transparency for highly conductive transparent film application. In our study, we demonstrate EMI shielding properties of highly transparent conducting films with mesh-type micro pattern on the PET substrate. The numerical analysis of a coaxial airline fixture is performed to evaluate the effect of morphological parameters of the conducting films such as wire width and film thickness on electromagnetic shielding at 1GHz frequency.