

# **Ku BAND ELECTROMAGNETIC BANDGAP ANTENNAS**

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Electromagnetic bandgap (EBG) materials, also known as photonic crystals, have created new innovative methods for controlling the electromagnetic behaviour of antennas and other electronic devices. Created from periodic dielectric and/or metallic structures these materials are characterized by a band of frequencies where no propagating modes exist, known as the EBG. In different implementations, the EBG properties may be used to guide, filter, store, reflect or collimate electromagnetic waves. In this paper we provide a brief review of several EBG antenna designs from our research, describe their operation, and highlight the advantages and potential applications of each device.