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**Quantifying wave propagation over a corrugated metal using 5dBi
antennas**

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Abstract

Understanding radio wave propagation is important for the design and implementation of reliable wireless communication systems. This paper describes transmission coefficient quantification. Measurements were done by using two antennas placed over a corrugated metal of a shipping container and also in a free space. The free space measurement is used as a reference point to study the influence of the metal on the wave propagation. The transmission coefficient measured over the shipping container is normalised to the same data measured in free space, to study the exact difference between these two scenarios. The results indicate which frequency bands are advantageous for communications over a shipping container and for which position of antenna.