Leaky Coaxial Cable MIMO Performance in an Indoor Office Environment

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Abstract:

This study has been performed in order to improve the understanding of the performance of leaky feeders used in MIMO radio access deployments. In order to achieve this, a measurement campaign has been conducted in an indoor office environment at 2.4 GHz. Several configurations of leaky feeders as well as dipole antennas, as a reference case, have been investigated. The corresponding MIMO channel performance has been evaluated. The main findings are that leaky feeders provide as good performance as well separated dipole antennas. The measured performance is very close the performance of the well known i.i.d. (full MIMO richness) channel. Even taping two leaky feeders together does not degrade the performance significantly. The advantage with the leaky feeders is that they provide much more uniform signal strength over the coverage area.