

Millimeter-wave wireless propagation characteristics for indoor environments

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Owing to its large potential bandwidth, the millimeter-wave (mm-wave) frequency spectrum is expected to play a key role in next-generation wireless networks. Despite its theoretical capacity for great data transmission, the mm-wave frequency confronts a number of difficulties, including significant path loss and substantial penetration loss. As a result, developing accurate and simple indoor communication systems necessitates a thorough understanding of channel propagation characteristics. In this study, we conducted measurement campaigns in an indoor environment in Gwangju, South Korea, at 3.7 and 28 GHz. We investigated the channel characteristics in depth, including path loss, RMS delay spread, and time cluster. Understanding radio channels and developing mm-wave communication systems will benefit from research on mm-wave propagation characteristics.