

Effect of Narrow Band Signal Interference Caused by CFO on OFDM System for Proximity-based Direct Communication

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Abstract—Proximity-based direct communication is the technology that devices in the near distance can use the radio resource efficiently by operating distributedly without control of BS or AP. Many technologies are proposed for proximity-based direct communication and taking the operation in unlicensed band into account. Thus, coexistence techniques are needed for coexistence with different kind of devices which operate in unlicensed band such as Wireless LAN. A blocking signal transmission scheme to avoid contention with other devices by transmitting narrow band signal is proposed as one of the coexistence schemes for coexistence with different kind of devices. In this work, we present analysis of the effect of narrow band interference such as blocking signal caused by CFO on OFDM system for proximity-based direct communication and validate the theoretical results by means of computer simulation.

Keyword—Direct Communication, Proximity, ICI, CFO



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