

Single Carrier Frequency Domain Equalization Design to Cope with Narrow Band Jammer

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Abstract : In this paper, based on the conventional single carrier frequency domain equalization (SC-FDE) structure, we propose a new SC-FDE structure to cope with narrowband jammer. In the conventional SC-FDE structure, channel estimation is performed in the time domain. When a narrowband jammer exists, time-domain channel estimation is very difficult due to high power jamming interference, which degrades receiver performance. To relieve from this problem, a new SC-FDE frame is proposed to enable channel estimation under narrow band jamming environments. In this paper, we proposed a modified SC-FDE structure that can perform channel estimation in the frequency domain and verified the performance via computer simulation.

Keywords : channel estimation, jammer, pilot, SC-FDE

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