

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	Peak-to-Average Power Ratio Reduction For OFDM	
Date Submitted	<b>2007-11-07</b>	
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Re:	IEEE 802.16m-07/040 Call for Contributions on Project 802.16m SDD	
Abstract	Peak-to-Average Power Ratio (PAPR) issues are the problems associated with the high power peaks occurring in the signals to be processed. They are historical problems in wireless system design and become more critical when we are moving to broadband communications. A new PAPR reduction scheme is proposed.	
Purpose	For discussion and approval by TGM	
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**Suggested ToC Topic for IEEE 802.16m SDD:** Forwardlink Transmission.**Title:** Peak-to-Average Power Ratio Reduction for OFDM

**Description:** Peak-to-Average Power Ratio (PAPR) issues are the problems associated with the high power peaks occurring in the signals to be processed. They are historical problems in wireless system design and become more critical when we are moving to broadband communications. PAPR issues are intensively investigated by both academy and industry. Different wireless systems have their own requirements of PAPR. The cost and efficiency of the implementations always are major concerns when considering a PAPR reduction technique. It is very necessary for this issue to be revisited when new mobile systems are being developed. Here a new PAPR reduction scheme is proposed. It essentially is a modification of the well-known partial transmit signal approach. With the proposed scheme, the input symbols are partitioned into multiple groups and the IFFT output of each group is cyclically delayed and combined for reducing PAPR.

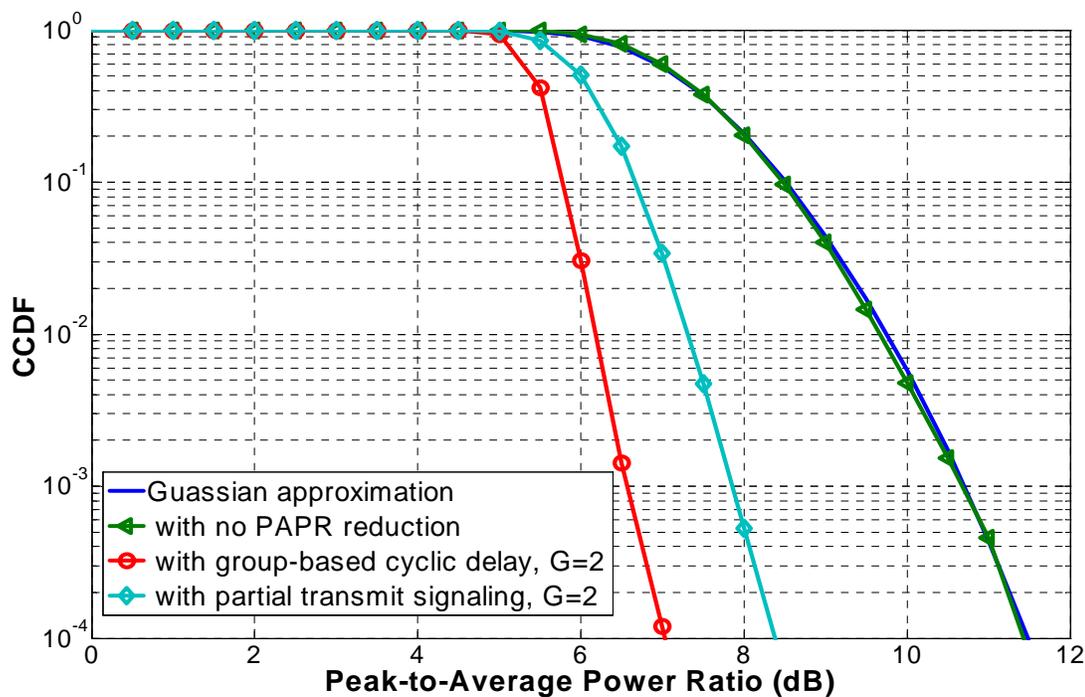


Figure 1. Performance Comparison of the proposed PAPR reduction scheme with PTS scheme.

**Related Area(s) in SRD:** 5.2 complexity.