3GPP TSG RAN WG1#88 Meeting
Athens, Greece ,13th - 17th February 2017
Agenda Item 8.1.4.2.2

R1-1703643

WF on channel coding for small blocks

Huawei, HiSilicon, MediaTek, CATT,
ZTE, ZTE Microelectronics

Background

Agreement: (RAN1 #87)

UL control information for eMBB

Adopt Polar Coding (except FFS for very small block lengths where repetition/block coding may be preferred)

DL control information for eMBB

Working Assumption to adopt Polar Coding (except FFS for very small block lengths where repetition/block coding may be preferred)

To be confirmed unless significant issues are identified by the RAN1 Jan ad-hoc in relation to performance, latency, power consumption and implementation complexity.

Agreement: (RAN1 #AdHoc)

The channel coding working assumptions from RAN1#87 are agreed*, with clarification that the mentioned DL control information means DCI (i.e. does not include PBCH, SIBs or PCFICH (if it exists for NR))*

Background

<u>Performance evaluation for repetition,simplex,LTE-RM and Polar on very small block</u>

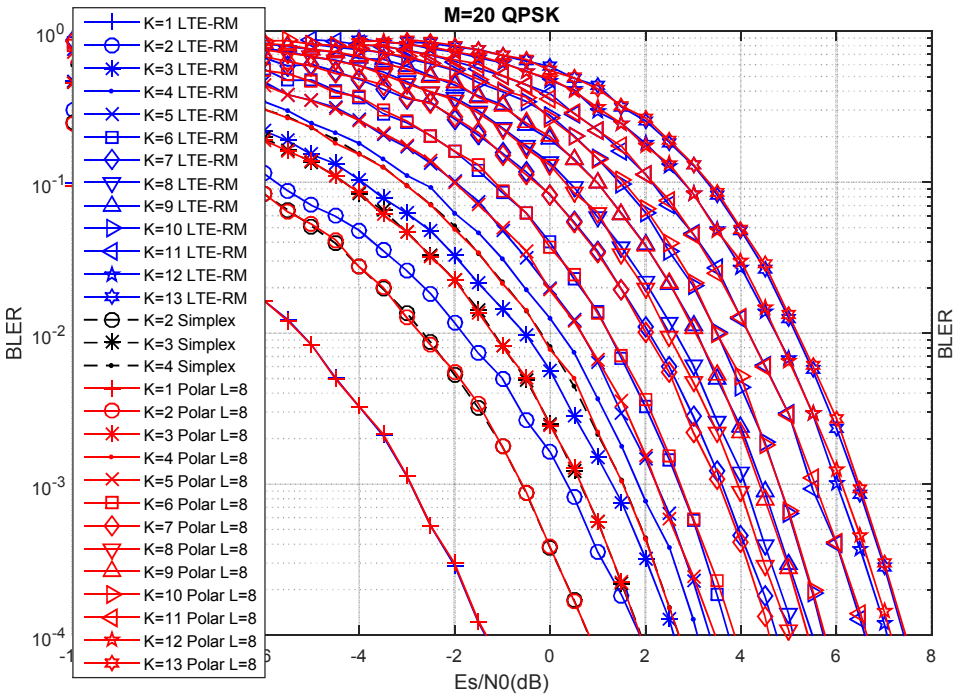

Figure 1: M=20, K=1 to 13

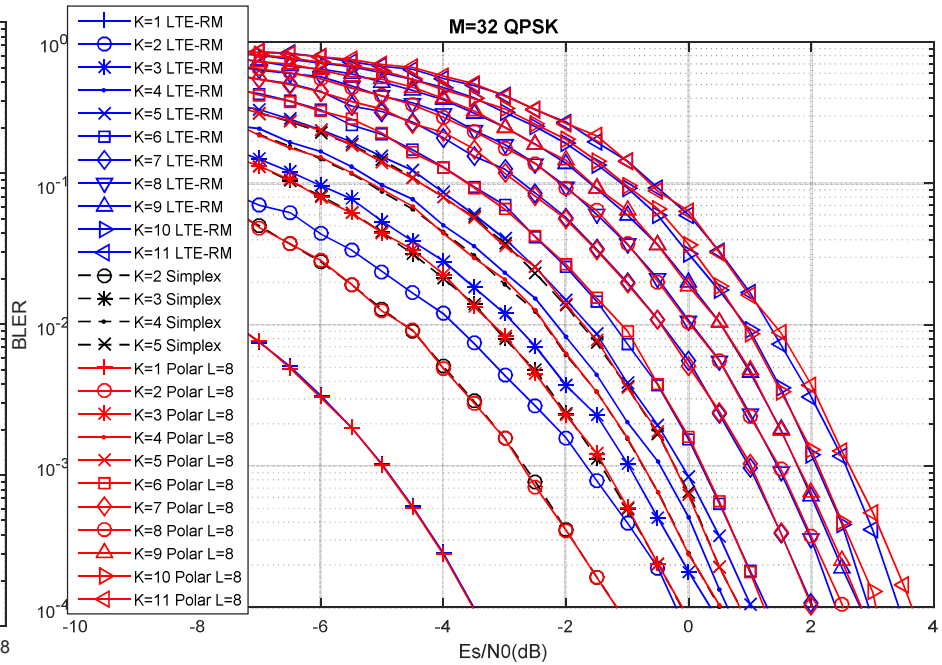

Figure 2: M=32, K=1 to 11

Proposals

- For channel coding for very small block lengths of control information
  - Adopt repetition coding for 1 bit of control information
  - Adopt simplex coding for 2 bits of control information
  - For K=3 – 11 bits of control information, FFS between polar codes or RM codes

- Adopt polar codes for K>=12 bits