3GPP TSG RAN WG1 Meeting #54bis Prague, Czech Republic, September 29 – October 3, 2008

September 29 - October 3, 2008 / NTT DO

## UL Layered Control Signal Structur in LTE-Advanced

NTT DOCOMO, INC.

Agenda item: 11

**Document for: Discussion and Decision** 



### **Objective**

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- Proposed layered control signal structure in LTE-Advanced
- Achieves high commonality with control signal formats in R
- Uses layered control signal formats according to assigned transmission bandwidth to achieve efficient control signal transmission
- Investigate UL control signal structure for LTE-Advanced Ul wider Tx/Rx bandwidth capability



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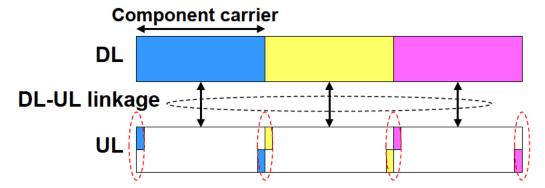
# PUCCH Transmission Scheme for Rel-8 LTE UE



### **PUCCH Transmission Scheme for Rel-8 LT**

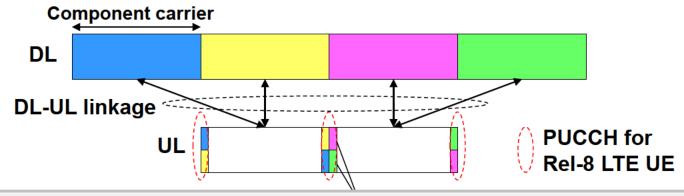
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- Should support PUCCH for Rel-8 LTE UE in symmetric and asymmetric bandwidth assignments (ref. R1-082999)
  - Symmetric bandwidth assignments



OPUCCH for Rel-8 LTE UE

Asymmetric bandwidth assignments





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# PUCCH Transmission Scheme Candidate for LTE-Advanced UE



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