3GPP TSG RAN Meeting #80
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Agenda Item: 10.1.3
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RP-180878

On the scope of Rel-16 LTE eMTC work

Huawei, HiSilicon

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Further eMTC evolution in Rel-16

Three main areas:

- Further optimization on Non-BL UE Coverage Enhancement
- Uplink Enhancements on Efficiency and Power Saving
- Downlink Enhancements on Efficiency and Power Saving

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Further Optimization on Non-BL UE Coverage Enhancement

- Support communication in extreme long range coverage based on LTE network, further optimization on Non-BL UE coverage enhancement is needed (as described in RP-172497)
- Integrate eMTC coverage enhancement (CE) in phones, display CE mode indicator on screen, and guarantee QoS from both core network and RAN
- Mobility enhancement and system information delivery to non-BL UEs in CE modes
- Connected mode support for ETWS/CMAS
- DL 2x2 MIMO in CE mode A

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Uplink Enhancement on Efficiency and Power Saving

UL data transmission in IDLE mode

- UL data transmission without UL grant
  - Control channel overhead reduction
- Data transmission in PRACH
  - Latency reduction

- CDM on PUSCH transmission
  - Orthogonal cover codes applied over subframes of repetitions
  - Higher UL capacity to improve spectral efficiency further

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Downlink Enhancement on Efficiency and Power Saving

- Rel-15 MTC discussions to complete
  - Early DL data transmission in Msg 2/4
  - Group-based HARQ-ACK feedback for uplink transmission
  - Group-based wake-up signal (WUS)

- One DCI schedules or triggers transmission of multiple PDSCH/PUSCH transport blocks
  - Control channel overhead reduction for static MTC UEs with similar traffic type

- Paging enhancement for static or semi-static UEs, to allow paging of a group of similar UEs

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Thank You

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