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3GPP TSG RAN WG4#8 TSG R4 #8 (99) 780
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Agenda Item	:	
Source	:	RAN WG4
Title	:	LS ON UE MINIMUM POWER
To	:	RAN WG1, RAN WG2
Document for	:	Approval

WG4 would like to forward to WG1 and WG2 some concerns raised about the UE minimum output power in some operating scenarios. WG4 would welcome the opinion of WG1 and WG2 on this matter.

Background

It has been considered in some operating scenario, that it would be useful to reduce the UE output power so as to reduce the level of the received signal at the co-located base station. In most cases the current UE power control dynamic range would be satisfactory, however in some scenarios like pico and micro cellular conditions , a lower limit would be reached where it is not possible for the UE to further reduce its minimum output power. In these cases the signal received by the base station would in excess of the QOS requirements and would require other solutions so as not to impact the coverage/capacity of the cell.

One solution would be to reduce the UE minimum output power under power control, however this has not been discussed in sufficient detail in WG4. It was felt this would present significant implementation problem for the UE terminal design.

One proposal which has been proposed in WG4 to reduce the impact of this problem would be for the terminal to reduce the time for which the mobile is transmitting by the use of UL slotted mode where the UE could be placed into a modified slotted mode, transmitting for less than a full slot but without increasing the transmit power as with conventional slotted mode. The UE could also decrease the SF without an increase in power and delete frame until the required QOS is achieved. The choice of which solution is adopted could be flexible and would be selected by the network/operator to suit the required operating scenario

Proposal

This reduction in the UE minimum output power can be achieved without a major change in the specification WG4 would like to the opinion of WG1 and WG2 for the concern raised and if the proposed solution could be accommodated in the current specifications. . WG1 and WG2 is invited to comment on the related complexity aspects.

Reference

More details on the discussions in this document can be found in the following WG4 documents.

1. TSGW4#8 (99) 737 - FDD UE minimum transmission power – Motorola
2. TSGW4#6(99) 395 – FDD UE minimum transmission power simulations results - Nokia