TSG-RAN Working Group 4 (Radio) meeting #5   **TSGR4#5(99)344**
Miami, June 14 – 16, 1999

Agenda Item: 8.3

Source: Nortel Networks

Title: Text Proposal for ACLR section of TS 25.104

Document for: Discussion and decision
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1.   Introduction

Extensive simulations were performed to evaluate the impacts of both uplink and downlink ACLR on system performance and capacity.
These simulations would allow to derive a specification for the first adjacent channel leakage ratio. However, it gives no indication for the second adjacent channel and no document gives rationale for the 55dB value currently in the S25.104 specification.

2.   Proposed modification in s25.104

The ACIR of the mobile is given by :

$$ACIR = \frac{1}{\dfrac{1}{ACLR} + \dfrac{1}{ACS}}$$

Taking into account the second adjacent channel ACLR2, this formula could be written :

$$ACIR = \frac{1}{\dfrac{1}{ACLR1_{BTS}} + \dfrac{1}{ACLR2_{BTS}} + \dfrac{1}{ACS_{UE}}}$$

It is possible to compare the impact of the $ACLR2_{BTS}$ value :

Assuming ACS_{UE} = 30dB, $ACLR1_{BTS}$ = 45dB,

- $ACLR2_{BTS}$=50dB, ACIR = 29.82dB
- $ACLR2_{BTS}$=55dB, ACIR = 29.85dB

Assuming ACS_{UE} = 35dB, $ACLR1_{BTS}$ = 45dB,

- $ACLR2_{BTS}$=50dB, ACIR = 34.46dB
- $ACLR2_{BTS}$=55dB, ACIR = 34.55dB

The difference is not significant. Thus, there is no need for an over specification of the ACLR2. The 50dB value is proposed.

3. Text proposal for '6.6.2.2 Adjacent channel leakage ratio'

6.6.2.2.1 Minimum requirement

Table 4: BS ACLR

BS channel	ACLR limit
± First adjacent channel	[45] dB
± Second adjacent channel	[55]50 dB

4. Conclusion

A 50dB value for the second adjacent channel leakage ratio has been proposed.