TSG-RAN Meeting#25 **RP-040375**
Palm Springs, USA, 7-9 September 2003

Source: **Cingular, Nokia, NTT DoCoMo, Motorola, Panasonic, Samsung, Siemens, Vodafone**

Title: **New Work Task Proposal: Improved Performance Requirements for HSDPA UE categories 7 and 8**

Document for: Approval

Work Item Description

Title: **Improved Minimum Performance Requirements for HSDPA UE categories 7 and 8**

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None

3 Justification

It would be beneficial to improve in REL6 the HSPDA requirements for 10 code UEs (i.e. for the categories 7 & 8). This improvement would be targeted for high end terminals where the benefits have increased operator/network advantages while allowing categorisation of terminals (from low end to high end) based on market demand.

By improving the performance requirements of category 7 and 8 we would allow low cost terminals with 5 codes to be implemented based on RAKE. This would enable the deployment of 10 codes to be extended, which on the other hand would increase the attractiveness of higher code capability classes.

LMMSE chip level equalizer would be a suitable reference receiver for defining these performance requirement improvements as LMMSE offers gains in multipath conditions for a range of Îor/Ioc values. It also has a benefit of being a well-known advanced receiver structure.

Therefore, it is proposed to define in TS25.101 an optional performance requirement for categories 7 and 8 by changing the baseline receiver from RAKE to Equaliser (LMMSE). However, no specific implementation solution would be mandated by the performance requirements.

4 Objective

The purpose of this work item is to improve the minimum performance requirements of HSDPA UE categories 7 and 8 by providing a base line option for a LMMSE chip level equalizer. UE is allowed to meet the requirements with any means.

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes		X			
No	X		X	X	X
Don't know					

10 Expected Output and Time scale

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
25.101		UE Radio transmission and reception (FDD)	RAN#28 (June 2005)	

11 Work item rapporteurs

Jussi Numminen (Nokia)

12 Work item leadership

RAN WG 4

13 Supporting Companies

Cingular, Nokia, NTT DoCoMo, Motorola, Panasonic, Samsung, Siemens, T-Mobile, Vodafone

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)
X	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature
14b The WI is a Building Block: parent Feature is Improvements of Radio Interface.
14c The WI is a Work Task: parent Building Block is Improved Receiver Performance Requirements for HSDPA