

Source: NTT DoCoMo

Title: New WI Proposal: Performance Requirements of
Receive Diversity for HSDPA

Document for: Approval

Work Item Description

Title: Performance Requirements of Receive Diversity for HSDPA

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None

3 Justification

Performance requirements for HSDPA UE were discussed in RAN WG4, and the requirements for RAKE receiver are currently specified in TS25.101 for the 5 and 10 code UE. As the next step, in order to enhance the benefits of HSDPA as a feature in 3GPP, it is proposed that a Rx Diversity option should be considered since it can significantly and robustly enhance the coverage, cell capacity and the peak data rate in a HSDPA system.

Therefore, it is proposed that the performance requirements of receive diversity should be discussed, and specified in TS 25.101. It is also proposed that Receive diversity shall be an optional capability for a HSDPA UE terminal.

Receive diversity is a simple structure which does not require a study to define a reference structure for the receiver. Therefore, ~~to avoid confusion, this work item should only focus on Rx diversity as an enhancement for HSDPA. If necessary other solutions like MIMO and other advanced receivers techniques can be covered as a separate work item since these types of terminal will require further study to define reference architecture for the receiver (and any associated L1 aspects) before the work can progress.~~

4 Objective

The purpose of this work item is to specify the performance requirements ~~of based on~~ receive diversity for HSDPA UE. However, 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#25 (September 2004)		

11 Work item rapporteurs

Takehiro Nakamura (NTT DoCoMo)

12 Work item leadership

RAN WG 4

13 Supporting Companies

TSG RAN

3, AT&T Wireless Services, Cingular Wireless, Ericsson, Fujitsu, InterDigital Communications Corp., Lucent Technologies, Motorola, NEC, Nokia, NTT DoCoMo, Orange, Panasonic, Samsung, Siemens, Telecom Italia, T-Mobile, Vodafone Group

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
<u>X</u>	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