3GPP TSG RAN#16 **RP-020442**
Marco Island, USA, 4th th – 7 th June 2002

Source: Nortel Networks, Wavecom

Title: Proposed Study Item: Analysis of OFDM for UTRAN evolution

Agenda item: 8.10

The Study Item was presented for information to RAN#14. It has since been confirmed by PCG that this work item can be part of the work on UTRAN evolution and it is proposed for approval.

Study Item Description

Title: **Analysis of OFDM for UTRAN evolution**

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

Feasibility Study considering the viable deployment of UTRA in additional and diverse spectrum arrangements

3 Justification

As the mobile radio systems evolve and become more integrated with daily activities, there is an increasing requirement for additional services requiring very high bit rates and higher system capacity. These include both services to individuals as well as multimedia broadcast services. OFDM (Orthogonal Frequency Division Multiplexing) is a technology that is proving itself well suited to mobile radio access for high rate and multimedia services (i.e. DAB, DVB-T, 802.11a). Given the availability of this radio technology, its applicability should be studied as part of the future mid-term or long term UTRAN evolution.

4 Objective

The objective of this Study Item is to consider the performance of OFDM in the mobile environment and to develop scenarios in which OFDM may be introduced in UTRAN evolution.

The following list provides examples of areas that may be considered in the study:

- Support for very high bit rates e.g. 10 Mbps and above
- Support for MIMO and other advanced antenna array techniques
- Support for personal, multimedia and broadcast services
- Applicability in new spectrum deployments

The study should consider performance aspects, aspects linked to the evolution of UMTS (high level architecture, spectrum), and aspects of capacity/cost/complexity.

The output of the study item will be a Technical Report containing an analysis of the feasibility and potential benefits of introducing OFDM in UTRAN, and a recommendation to RAN Plenary on a potential time-frame and work plan.

5 Service Aspects

No

6 MMI-Aspects

No

7 Charging Aspects

No

8 Security Aspects

No

9 Impacts

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

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TR		WG1	WG4	19	20	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments

11 Work item raporteurs

Sarah Boumendil (Nortel Networks)

12 Work item leadership

RAN1

13 Supporting Companies

Nortel Networks, Wavecom, France Telecom, Alcatel, Philips, Samsung

14 Classification of the WI (if known)

	Feature (go to 14a)
x	Building Block (go to 14b)
	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

14c The WI is a Work Task: parent Building Block