TSG-RAN Working Group 1(Radio) meeting #4
Yokohama, Japan, 19 – 20 April 1999

Agenda Item:	**6**
Source:	**Panasonic**
Title:	**Usage of CCPCH and Performance Evaluation of Open-Loop Power Control Scheme**
Document for:	**S1.24 V1.0.1**

1   Introduction

This paper proposes the usage of CCPCH on cellular environment and evaluates open-loop power control of uplink dedicated channels in TDD.

3   Performance Evaluation of Open-Loop Power Control Scheme

We evaluate uplink open loop TCP performance with respect to control delay.

In figure 3-1, we compare with open loop TPC and closed loop using RAKE receiver. TPC gain exists up 5 slot delays. Introducing 4 CCPCH slots for downlink, TCP gain is from 3.5dB at 1 slot delay to 2.1dB at 3 slots delay, respectively.

In figure 3-2, we evaluate the open loop TPC performance on multi-user environment with Joint Detection. TPC gain exists up 6 slot delays. Introducing 4 CCPCH slots for downlink, TCP gain is from 6.0dB at 1 slot delay to 4.5dB at 3 slots delay, respectively.
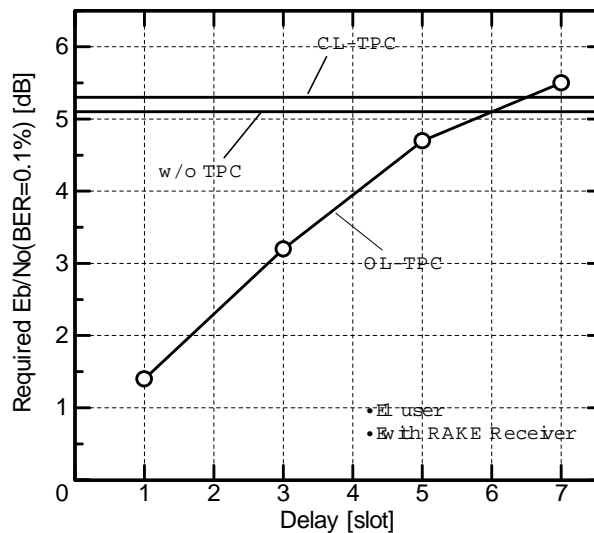

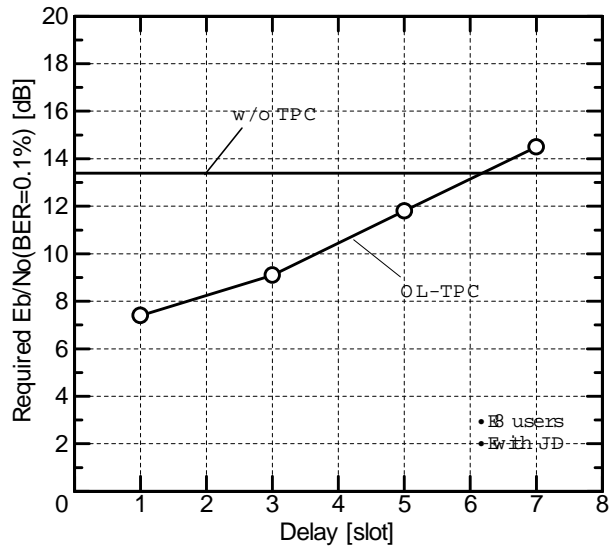Figure 3-1 OL-TPC performance using RAKE receiver

Figure 3-2 OL-TPC performance on the multi-user environment using Joint Detection

4   Conclusion

We propose 4 CCPCH slots structure shown in figure 4-1 to get good TPC performance with open loop on the cellular environment. Even if the control delay is 3 slot, we get 1.8dB TPC gain with RAKE receiver and 4.5dB with Joint Detection, respectively.
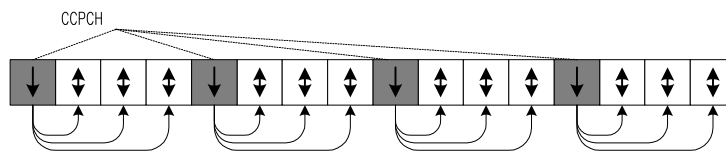

Figure 4-1 Usage of CCPCH on cellular environment