

Agenda Item :
Source : Hyundai Electronics, ETRI, LGIC
Title : Clarification of Inter-system handover between UTRAN and cdma2000(including 2G system)
Document for : Information & Discussion

There are some kinds of inter-system handover, for examples, between UTRAN and GSM, UTRAN FDD and UTRAN TDD, and so on. These kinds of inter-system handover have been discussed in 3GPP.

There is another inter-system handover, that is, between UTRAN and cdma2000. As requested by OHG, this item has been discussed as a part of Hook & Extension.

This document clarifies something about the inter-system handover between UTRAN and cdma2000 (including 2G system).

1. How do UTRAN & UE know the timing information used at cdma2000 system?

As shown in figure 1, all base stations of cdma2000 and signals are aligned per an assigned timing, GPS signal. The base stations of cdma2000 are distinguished as PN offsets which are added on the assigned timing. If an UE doesn't know about the timing information used by base stations when the UE monitors those as inter-system measurement and handover to it, it takes long time for UE to find what the base station is. Therefore, compressed mode can't support enough time for UE to do the operation.

2. How does UTRAN know the long code state information of cdma2000? And, this information can be sent to UE through high-layer message?

In cdma2000, the traffic data of each user is multiplied by long code which is made by generator shown in figure 2. The long code is made by combining long code state with 42-bit long code masking. For accurate long code, cdma2000 system periodically sends the long code state information to user through "Sync Channel".

It is little possible for user to receive this information from cdma2000 after handover. It requests a long handover break-time¹(more than 240ms), because UE has to receive the full sync channel which is made as 240ms and the received long code state information is used after 320msec. It is difficult to maintain the call during inter-system handover.

Therefore, the long code state information is sent to user through high-layer message or physical channel before completing the inter-system handover.

I want to discuss about this kind of inter-system handover with WG1 members. During discussing, it is also distinguished what can be supported by WG1 or other WGs.

¹ Handover break-time : the timing gap between disconnection of source node-B and connection of target node-B

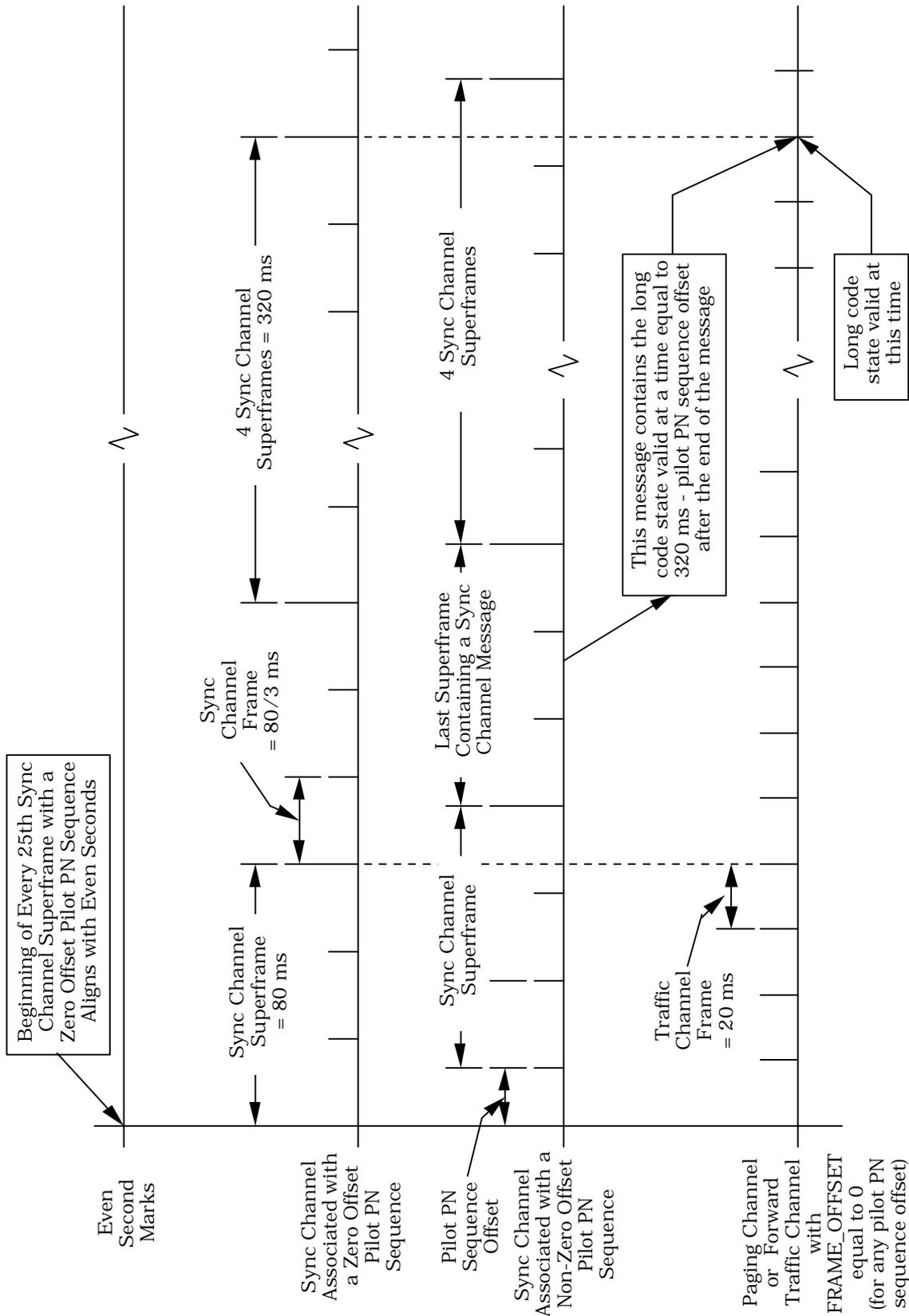


Figure 1. Forward CDMA Channel Pilot PN Sequence Offset

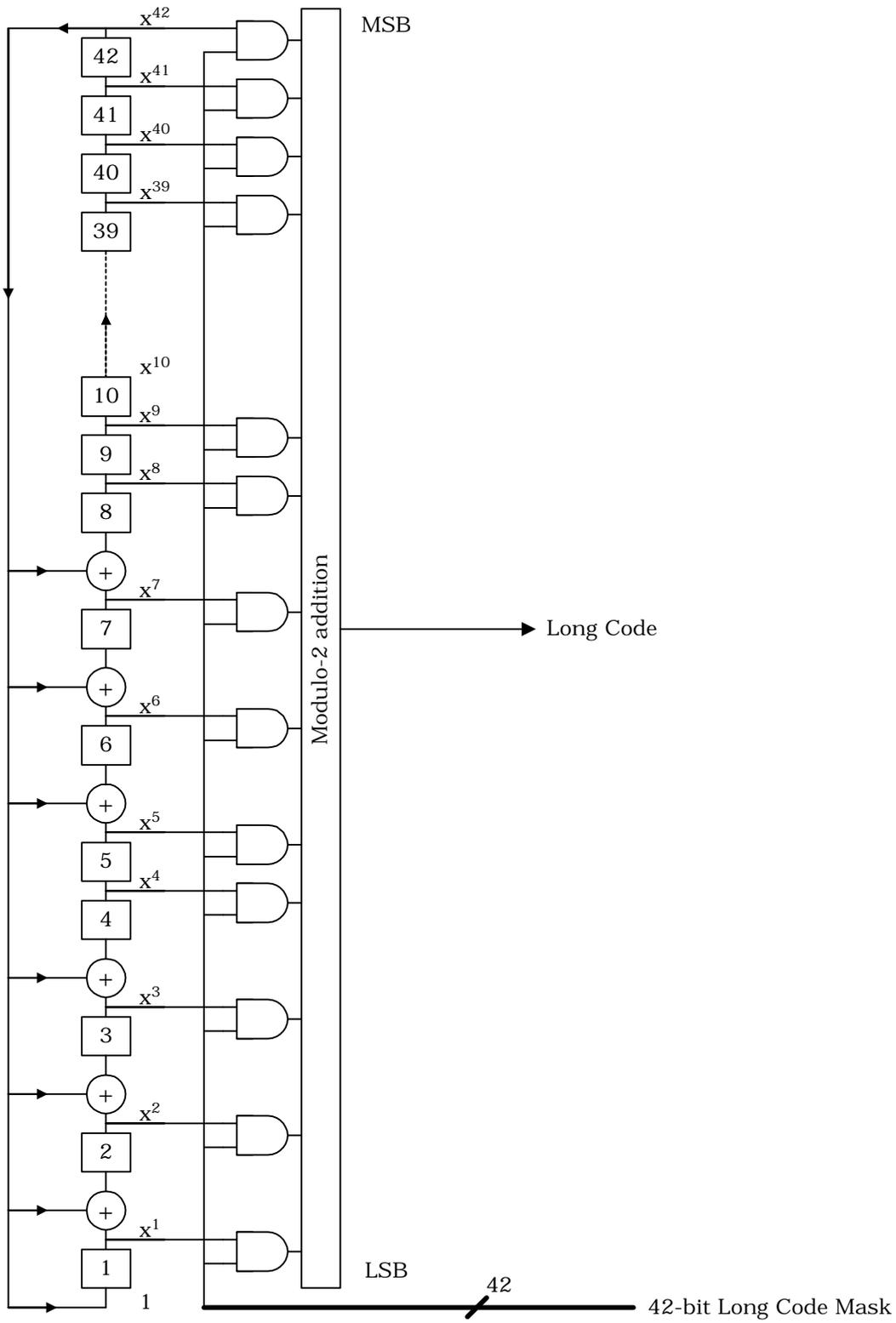


Figure 2. Long Code Generator