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<th><strong>Project</strong></th>
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<tr>
<td><strong>Title</strong></td>
<td>SS - Initial Ranging</td>
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<td><strong>Re:</strong></td>
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<tr>
<td><strong>Abstract</strong></td>
<td>Replacement for Figures 80,81</td>
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<td><strong>Purpose</strong></td>
<td>Correct Figures 80,81</td>
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The BS assigns in the UL-MAP an Initial Maintenance region every 2 seconds maximum. The PHY characteristics are possibly the most robust.

The BS receives the message and performs timing, power, and frequency measurements to prepare the RNG-RSP.

Step 1
The BS sends the RNG-RSP with:
* CID=Temporary CID
* Uplink Channel ID
* Timing Adjust Information
* Power Adjust >> >>
* Ranging Status (=continue)
* Basic CID
* Primary Management CID
* Secondary Management CID
* SS MAC Address
and optional parameters:
* Downlink Frequency ID Override (Ranging Status=abort)
* Uplink Channel ID Override (Ranging Status=abort)
* Granted Downlink Burst type

The PHY mode which will be used from BS will be the requested from SS (field "Requested downlink burst type" of RNG-REQ message).

The BS receives the RNG-REQ message and recognizes which SS sent it from the Basic CID. Simultaneously it performs timing, power and frequency measurements for the specific SS. If not all OK go to Step 2.

If all OK the BS sends a RNG-RSP with Ranging Status=sucess (not continue)

SS

The SS has prepared the RNG-REQ message and searches for Initial Maintenance region. (max wait time=10 seconds)

The SS sends the RNG-REQ message with parameters:
* CID=Initialization CID=0000
* Downlink Channel ID
* Pending Till Complete=0
* Requested downlink burst type
* SS MAC Address
* Ranging Anomalies

The PHY mode used is based on the Initial Maintenance region.

The BS receives the message and performs timing, power, and frequency measurements to prepare the RNG-RSP.

Step 1
The SS searches for RNG-RSP messages assigning to him. (max wait time=200 ms).

In order to find that a RNG-RSP refers to him it uses the SS MAC Address field of the RNG-RSP message. When it finds the RNG-RSP it stores the <Basic, Primary, Secondary CID> for subsequent messages. Also it performs all the timing, frequency and power adjustments requested by the RNG-RSP.

Now the SS waits for Individual Station Maintenance region which is assigned to the <Basic CID> stored with the reception of the previous RNG-RSP.

Step 3
The SS when finds the Individual Station Maintenance region assigned to the <Basic CID> it sends RNG-REQ with:
* CID = Basic CID
* Dowlink Channel ID
* Pending Till Complete=0, when it has finished all the adjustments requested by the RNG-RSP
* SS MAC Address
* Ranging Anomalies

The SS receives the RNG-RSP(success) and finishes the Initial Ranging operation.
Step 2
At this case the BS sends RNG-RSP as in Step 1 with Ranging Status=continue

The SS at this step searches for RNG-RSP based to <Basic CID> and not based to SS MAC Address. When it receives the RNG-RSP and sees that <Ranging Status=continue> understands that it shall perform the adjustments commanded by the RNG-RSP message. After it waits for Individual Station Maintenance region assigned to <Basic CID> When it finds it go to Step 3.

The above figure would be a replacement for Figure 80 as it gives a lot of details about the Initial Ranging mechanism of a SS.

Following the proposed replacement for Figure 81:
UL-MAP with Maintenance opportunity

Timeout T2=10 secs (max)

Error
Re-initialize MAC

Send RNG-REQ (Initialization CID)

Wait for RNG-RSP

Timeout T3=200 msec (max)

Stop Timer T3

RNG-RSP reception (MAC Address)

Stop Timer T3

Error
Re-initialize MAC

Abort

Error
Re-initialize MAC

Continue

RNG-RSP
Continue, Success

Success

Initial Ranging successful

Stop T12

UL-MAP with Station Maintenance opportunity

Start Timer T12

Wait for Station Maintenance opportunity

Wait for Initial Maintenance opportunity

Start Timer T3

Wait for RNG-RSP

Stop T3

Wait for Initial Maintenance opportunity

Start Timer T3

Wait for RNG-RSP

Stop T3

Stop T12

Error
Re-initialize MAC

Send RNG-REQ (Basic CID)

Wait for RNG-RSP

Start Timer T3

Next page
The above SDL diagram describes with detail the SS Initial Ranging process. Also introduces a new Timer the T12 Timer. This Timer 12 must be inserted in the Table 67 with the name “T12” and Time Reference “Wait for unicast ranging opportunity during Initial Ranging”.

Also the above SDL diagram shows the time at which the various timers are created and destroyed during the Initial Ranging process.