

Agenda item:

Source: Adhoc 17 chair
Title: Adhoc 17 report to RAN WG1#9
Document for: Approval

Summary:

The resolution for the RTT, UE_RX-TX and SFN-SFN observed time difference were agreed to be 1/4 chip. The GPS measurement CR is proposed to be approved by the plenary in an updated version based on WG2 assumptions. An updated CR on Idle Period generation is proposed to be approved by the plenary. TA-IPDL needs further studies and is not included in the specification. The PE method needs further study and is not included in R99. Several LS to WG2, WG3 and WG4 will be presented for approval by the plenary.

Agenda for physical AH17:

1. Opening of meeting
2. Approval of agenda

Agenda was approved.

3. Input documents

The input documents are listed below.

4. LS from R2, R3

<Note: Both LS from WG2 did not have R1 Tdoc numbers. The WG2 approved version of R2-99j48 was not available during the AH17 meeting. The following Tdoc numbers were assigned after the AH17 meeting: R2-99j47 => R1-99k99; R2-99j48 => R1-99L00.>

R2-99j47: Lucent presented the LS from WG2. The GPS measurement would be optional. Lucent would like to mandate the listed GPS measurement for UEs supporting the GPS assisted method. Further discussion at agenda item 6. PE method see agenda item 9.

R2-99j48: Motorola presented the latest available version of this LS from WG2. Asks WG1 to study the performance benefit of TA-IPDL.

R1-99h92: Motorola presented the LS from WG3. No conclusion from WG3 on signalling impact by TA-IPDL.

5. RTT, UE_RX-TX measurement resolution (from AH16)

After a long discussion it was agreed to change the resolution of the three LCS related measurements to 1/4 chip: RTT, UE_RX-TX and SFN-SFN observed time difference between cells for LCS. Clearly the resolution does not necessarily define the measurement accuracy. However, a resolution of 1/4 chip was seen as more future proof. WG4 is responsible for the accuracy requirements. Ericsson will include this in CR007r2 to TS 25.215.

6. GPS assisted method

Lucent presented R1-99k55 (25.215_CR010r1). Nokia comments that T_GPS is not a signed value, that there is too much descriptive text in the CR and that the measurement on the serving cell should be sufficient as timing to other cells can be derived. There would be 50 bit for T_GPS and 12 bit for the SFN, so there could be a high signalling load if many cells are measured. There should be possibilities to reduce the signalling load.

Lucent pointed out that this measurement could be used to synthesize non-visible satellites. Ericsson states that this is a new positioning method not discussed in WG2 yet. The GPS measurement discussed in WG2 is about calibration using a measurement in the LMU or in the UE. Qualcomm states that the measurement could be seen as a tool to support different GPS based positioning methods. Lucent explained that the GPS pseudo-time could be a copy of the actual GPS time maintained by an UE internal clock which is synchronized when satellites are visible.

It was agreed that Lucent should revise the CR to be in line with the GPS assisted method discussed in WG2. The new method proposed by Lucent needs further study and Lucent should present the method in WG2. This will also be stated in a LS sent to WG2.

7. OTDOA-IPDL

R1-99k15 (CR to 25.215) was withdrawn because there were no simulation results available.

Nokia presented R1-99k71 describing the generation of the Idle Periods. The text proposal should be modified into a CR with the following changes: sector offset to be added in the figure; the Idle Period is either 5 or 10 CPICH symbols long, this should be reflected in the figure.

The parameters would be sent to the UE from higher layers, probably via the BCH. The text proposal describes the original IPDL method, the recent simulation results are based on the described method. The TA-IPDL method is not included in the text proposal, a different CR would be needed. No guard time is included in the proposed IP_length. France Telecom asked to inform WG4 about accuracy requirements. Nokia will draft a LS to WG4. Currently no actions for the UE during an Idle Period are specified.

The CR based on the text proposal is proposed to be approved by the plenary.

8. TA-IPDL

R1-99j09 presented by Motorola. There are three OTDOA options: no Idle Periods, IPDL and TA-IPDL. The accuracy performance of the options depends on the cell load. The simulation results differ to the results shown by Ericsson on the last meeting.

R1-99k26 presented by Ericsson. Motorola pointed out that TA-IPDL is not seen as a replacement of IPDL but rather as an optional enhancement.

R1-99j69 presented by Samsung. For structure B (optional) the additional code would be reserved for burst mode, but could also be used as a traffic channel. Nokia states that there would be problems for a UE using the code reserved for burst mode but not supporting TA-IPDL. France Telecom states that UEs could have problems if they do cell search (for SHO) during TA-IPDL due to increased CPICH power. Samsung states that the UE should not search during TA-IPDL and this problem does not arise with structure B. The simulation used 4 bit AD resolution. The use of AGC in the simulations could not be clarified.

It was agreed that further study is needed to agree on possible accuracy performance gains of TA-IPDL (possibly with burst pilot) before this method can be proposed from WG1. A LS will be sent to WG2 informing them on the conclusion. Another LS is sent to WG3 asking them to study the signalling impact of TA-IPDL.

9. PE method

R1-99k10 presented by Panasonic. Instead of the BCCH the reference should be a physical channel. Ericsson proposes to use the CPICH instead of the SSC in order to get a transparent use with IPDL. There is no signalling support in R99 for the proposed PE method.

It was agreed that further study is needed and that the proposed PE method is not included in R99. This information will be included in the CR to WG2.

10. Conclusions

- The resolution for the RTT, UE_RX-TX and SFN-SFN observed time difference were agreed to be 1/4 chip.
- The GPS measurement CR is proposed to be approved by the plenary in an updated version based on WG2 assumptions.
- An updated CR on Idle Period generation is proposed to be approved by the plenary.
- TA-IPDL needs further studies and is not included in the specification.
- The PE method needs further study and is not included in R99.
- Several LS to WG2, WG3 and WG4 will be presented for approval by the plenary.

Input Documents:

Tdoc	Title	Source	Status	Comment
R1-99h92	Reply to "Liaison on LCS to WG3"	WG3	acknowledged	
R1-99j09	Comparison of TA-IPDL and IPDL Positioning Techniques Using Common Simulation Parameters	Motorola	discussed	
R1-99j67	Simulation Results of Burst Pilot for LCS	Samsung	discussed	
R1-99k10	Measurements to support PE based positioning (CR 25.215-019)	Panasonic	CR not proposed for approval	
R1-99k26	Comments on TA-IPDL	Ericsson	discussed	
R1-99k55	Revised CR25.214-010 (Rev1) to 25.215: GPS measurement	Lucent	updated version for approval in plenary	updated CR 25.214-010r2
R1-99k71	Text Proposal for IPDL	Nokia, Ericsson	new CR for approval in plenary	new CR 25.214-036
R1-99k99	Liaison on LCS (in response to liaison from WG1)	WG2	LS answer to WG2	
R1-99L00	Draft Liaison to WG1 on LCS method TA-IPDL performance	WG2	LS answer to WG2	

Output Documents:

Tdoc	Title	Source
R1-99k16	CR25.214-036: Inclusion of idle periods for the IPDL LCS	Nokia, Ericsson
R1-99k92	AH17 report	AH17 chair
R1-99k94	LS to WG2 on TS25.305	AH17
R1-99k95	LS to WG4 on accuracy requirements	AH17
R1-99k96	LS to WG3 on TA-IPDL signalling impact	AH17
R1-99L01	CR25.215-007r2: Ranges and resolution of timing measurements	Ericsson
R1-99L09	CR25.214-10r2: UE GPS timing of Cell Frames for LCS	Lucent
R1-99L11	LS to WG2 answer to R2-99j48	AH17
R1-99L24	LS to WG2 answer to R2-99j47	AH17