Agenda Item	**:**	
Source	**:**	Samsung
Title	**:**	Proposed CRs for Measurements of RACH and CPCH in TDD/FDD
Document for	**:**	Discussion and approval

This contribution suggests three new measures, one is for the RACH, the others for the CPCH.

In the last meeting, the measurement procedure of the "Acknowledged Random Access (RA) tries value" is added in 25.433 for the RACH. However, there is no measure in 25.215 and 25.225. So, the new measure is needed in 25.215 and 25.225 for the consistency. This measure has the value of the RA tries that are acknowledged by the UTRAN.

Another measure is the "Access Attempts" for the CPCH. This measure has the value of the total access attempts per each access frame. Among the access attempts, there are two kinds of attempts to measure. One is the Access Preamble (AP), the other is the Collision Detection (CD) preamble. Since more than one UE can send the same AP, it is necessary to measure the number of the CD values to find out how many UE's want to CPCH. This measure will be used to decide the persistency value. The persistency value is very useful to control the access attempts. Furthermore, this measure is helpful to control UL interference by choosing the appropriate persistency values.

The final measure for CPCH is the "Number of PCPCH assignments". This measure is similar to "Acknowledged Random Access (RA) tries value" in RACH. It measures the total number of PCPCH assignments per each access frame. It will be used for knowing the how many UE's are assigned to use CPCH. So, it will be used for the load control by controlling the persistency value, too.

3GPP RAN WG1 Meeting #11
Seoul, Korea, 10 April – 13 April 2000

Document **R1-00-0573**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.225	CR	**020**		Current Version:	3.2.0	

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG - RAN #8	for approval	X		strategic		
list expected approval meeting # here ↑		for information			non-strategic		*(for SMG use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects:
(at least one should be marked with an X)

(U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐

Source:	Samsung		**Date:**	10-APR-2000

Subject:	Proposed CR for Measurements of RACH in TDD

Work item:	

Category:

(only one category shall be marked with an X)

				Release:	
F	Correction			Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:	

Clauses affected:	5.2 of TS25.225

Other specs affected:

Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:	

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5.2.10 RX Timing Deviation

Definition	'RX Timing Deviation' is the time difference $T_{RXdev} = T_{TS} - T_{RXpath}$ in chips, with T_{RXpath}: time of the reception in the Node B of the first significant uplink path to be used in the detection process T_{TS}: time of the beginning of the respective slot according to the Node B internal timing
Range/mapping	RX Timing Deviation is given with a resolution of 0.25 chip with the range [-256; 256) chips (11 bit). RX Timing Deviation cell shall be reported in the unit RX_TIME_DEV, where RX_TIME_DEV: $(N* 0.25 -256)$ chips $\leq$ RX Timing Deviation $< ((N+1)* 0.25 -256)$ chips With N= 0, 1, 2, ..., 2047

NOTE: This measurement can be used for timing advance calculation or location services.

5.2.11 RACH Acknowledged RA tries Value

Definition	The RACH acknowledged RA tries value is defined as the total number of acknowledged RA tries per one access frame.
Range/mapping	The RACH acknowledged RA tries value is given with the resolution of one acknowledgement with the range [0, …, 240] acknowledgements. The RACH acknowledged RA tries value shall be reported in the unit RACH_ACK_VALUE where: RACH_ACK_VALUE_00: RACH acknowledged RA tries = 0 ACKs RACH_ACK_VALUE_01: RACH acknowledged RA tries = 1 ACKs RACH_ACK_VALUE_02: RACH acknowledged RA tries = 2 ACKs … RACH_ACK_VALUE_237: RACH acknowledged RA tries = 237 ACKs RACH_ACK_VALUE_238: RACH acknowledged RA tries = 238 ACKs RACH_ACK_VALUE_239: RACH acknowledged RA tries = 239 ACKs RACH_ACK_VALUE_240: RACH acknowledged RA tries = 240 ACKs

CHANGE REQUEST

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25.215	CR	**054r1**	Current Version:	3.2.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ 　　　　　*↑ CR number as allocated by MCC support team*

For submission to:	**TSG - RAN #8**	for approval	**X**	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG　　*The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects:
(at least one should be marked with an X)
(U)SIM ☐　　ME **X**　　UTRAN / Radio **X**　　Core Network ☐

Source:	Samsung		**Date:**	10-APR-2000

Subject:	Proposed CR for Measurements of RACH and CPCH in FDD

Work item:	

Category:
(only one category shall be marked with an X)

				Release:		
F	Correction				Phase 2	
A	Corresponds to a correction in an earlier release	**X**			Release 96	
B	Addition of feature				Release 97	
C	Functional modification of feature				Release 98	
D	Editorial modification				Release 99	**X**
					Release 00	

Reason for change:	

Clauses affected:	5.2 of TS25.215

Other specs affected:

		→ List of CRs:	
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:	

<----------- double-click here for help and instructions on how to create a C

5.2.10 Propagation delay

Definition	Propagation delay is defined as one-way propagation delay as measured during PRACH access: Propagation delay = $(T_{RX} - T_{TX} - 2560)/2$, where: T_{TX} = The time of AICH access slot (n-2-AICH transmission timing), where $0 \leq$ (n-2-AICH Transmission Timing) ≤ 14 and AICH_Transmission_Timing can have values 0 or 1. T_{RX} = The time of reception of the beginning (the first significant path) of the PRACH message from the UE at PRACH access slot n. Note: The definition of "first significant path" needs further elaboration.
Range/mapping	The Propagation delay is given with the resolution of 3 chips with the range [0, …, 765] chips. The Propagation delay shall be reported in the unit PROP_DELAY where: PROP_DELAY_000: 0 chip $\leq$ Propagation delay < 3 chip PROP_DELAY_001: 3 chip $\leq$ Propagation delay < 6 chip PROP_DELAY_002: 6 chip $\leq$ Propagation delay < 9 chip ... PROP_DELAY_252: 756 chip $\leq$ Propagation delay < 759 chip PROP_DELAY_253: 759 chip $\leq$ Propagation delay < 762 chip PROP_DELAY_254: 762 chip $\leq$ Propagation delay < 765 chip PROP_DELAY_255: 765 chip $\leq$ Propagation delay

5.2.11 RACH Acknowledged RA tries Value

Definition	The RACH acknowledged RA tries value is defined as the total number of acknowledged RA tries per one access frame.
Range/mapping	The RACH acknowledged RA tries value is given with the resolution of one acknowledgement with the range [0, …, 240] acknowledgements. The RACH acknowledged RA tries value shall be reported in the unit RACH_ACK_VALUE where: RACH_ACK_VALUE_00: RACH acknowledged RA tries = 0 ACKs RACH_ACK_VALUE_01: RACH acknowledged RA tries = 1 ACKs RACH_ACK_VALUE_02: RACH acknowledged RA tries = 2 ACKs ... RACH_ACK_VALUE_237: RACH acknowledged RA tries = 237 ACKs RACH_ACK_VALUE_238: RACH acknowledged RA tries = 238 ACKs RACH_ACK_VALUE_239: RACH acknowledged RA tries = 239 ACKs RACH_ACK_VALUE_240: RACH acknowledged RA tries = 240 ACKs

5.2.12 CPCH Access Attempts

Definition	The CPCH access attempts is defined as the total number of received access preambles and collision detection preambles per one access slot frame.
Range/mapping	The CPCH access attempts is given with the resolution of one try with the range [0, …, 480] tries. The CPCH access attempts shall be reported in the unit CPCH_ACCESS_ATTEMPT where: CPCH_ACCESS_ATTEMPT_000: CPCH access attempt = 0 tries CPCH_ACCESS_ATTEMPT_001: CPCH access attempt = 1 tries CPCH_ACCESS_ATTEMPT_002: CPCH access attempt = 2 tries ... CPCH_ACCESS_ATTEMPT_477: CPCH access attempt = 477 tries CPCH_ACCESS_ATTEMPT_478: CPCH access attempt = 478 tries CPCH_ACCESS_ATTEMPT_479: CPCH access attempt = 479 tries CPCH_ACCESS_ATTEMPT_480: CPCH access attempt = 480 tries

5.2.13   Number of PCPCH assignments

Definition	The Number of PCPCH assignments is defined as the total number of PCPCH assignments per one access frame.
Range/mapping	The Number of PCPCH assignments is given with the resolution of one assignment with the range [0, …, 15] assignments. The Number of PCPCH assignments shall be reported in the unit PCPCH_ASSIGN where: PCPCH_ASSIGN_00: Number of PCPCH assignments = 0 assignments PCPCH_ASSIGN_01: Number of PCPCH assignments = 1 assignments PCPCH_ASSIGN_02: Number of PCPCH assignments = 2 assignments … PCPCH_ASSIGN_12: Number of PCPCH assignments = 12 assignments PCPCH_ASSIGN_13: Number of PCPCH assignments = 13 assignments PCPCH_ASSIGN_14: Number of PCPCH assignments = 14 assignments PCPCH_ASSIGN_15: Number of PCPCH assignments = 15 assignments

6   Measurements for UTRA FDD