Common eNB configuration for RL25

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# Important information

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- This configuration template is used for R&D lab or field test purpose.

- This common configuration only provided configuration for FZHA with commonly used transmission mode

- Please use this as template in SEM to adapt to other RRU/configuration

- Please update or add other optional parameters based on test requirements.

- For swconfig.txt, the best rule is it should not be used. The files contained here is

-- providing common setting to enable debug flags;

-- and some workaround during development progress.

- For 3cell eNB,enableRP301Interface in TRSW SCF must be enabled.

###Information for 2 pipe FZNB/FZHB

-SCFC-1.xml

-- Please use SiteManager to update the RRU/RP3-01 link information automatically. You can use this common configuration as template.

-For common 200UE test,set these parameters as below:

-maxNumActUE: 200

-maxNumRrc: 200

-maxNumRrcEmergency: 200

-addAUeRrHo: 0

-addAUeTcHo: 0

-addEmergencySessions: 0

-With 1/7 frame config the max amount of UE’s per cell is 96 with current GMC

With 2/7 frame config the max amount of UE’s per cell is 48 with current GMC

It's mainly decided by the following parameters:

<p name="cellSrPeriod">20ms</p>

<p name="cqiPerNp">20ms</p>

<p name="nCqiRb">2</p>

<p name="n1PucchAn">36</p>

###Template differences and purposes

-Base1\_1cell

-- MUE is considered in this SCF. If peak Tput is tested,please change the related parameter according to requirement.

-Base2\_3Cells

-- Same as base1, but just an example configuration for 3 cells.

-Base3\_1cell

-- New added for LTE1070 4T4R configuration

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# Change history

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2012.11.21- v1.5

SCFC\_1:

Add one separate SCF file for LTE1070 4T4R configuration. The change compared to 8Pipe configuration is:

dlSectorBeamformingWeightMode: 8 pipe CMCC mode-> 4 pipe mode

vendor.xml:

Add two weightID for LTE1070 4T4R configuration according to RD suggestion:

<item>

<p name="imaginaryPartofWeight">0</p>

<p name="realPartofWeight">10000</p>

<p name="weightId">4</p>

</item>

<item>

<p name="imaginaryPartofWeight">0</p>

<p name="realPartofWeight">0</p>

<p name="weightId">5</p>

</item>

dlSectorBeamformingWeightModeId 1&2&3: Change the antenna weight configuration ,detailed, please see the VSF.

deploymentInformation: removed, does not exist any more

rlpDetMaxTUl: removed, does not exist any more

2012.11.07- V1.42

ulCombinationMode: MRC->IRC. Based on recent field test, IRC has better performance than MRC

ulpcUplevSch: -98->-96. Changed for cell2&3 to be consistent with cell1.

2012.10.23 - V1.41

Swconfig.txt:

0x19000C=1: removed, because LTE544-b3 is released

0x10079=500000: removed. No meaning if no BTSOM crash

2012.10.08 - V1.4

scfc\_1:

-t300/t301: 2000ms -> 300ms.If it’s too long, it may delay re-try mechanism and lead longer call setup duration

-maxCrRa4Dl:39 -> 18. Make MSG4 more robust and improve RRC setup successful rate.

2012.07.12 - v1.31

scfc\_1:

-nSrsRec: 1 -> 2.Align with PDDB default value

-actTmSwitch:true -> false. For 3cell configuration. Align with 1cell configuration

swconfig.txt:

0x19000C=1: modify the existence reason

2012.07.12 - v1.3

scfc\_1:

-maxNumActUE: 199->120

-maxNumQci1Drb: 64->16

-maxNumRrc: 199->140

-maxNumRrcEmergency: 200->150

-addAUeRrHo: 30->10

-addAUeTcHo: 40->15

-addEmergencySessions: 60->32

-addNumDrbRadioReasHo: 35->30

-addNumDrbTimeCriticalHo: 60->45

-addNumQci1DrbRadioReasHo: 15->16

-addNumQci1DrbTimeCriticalHo: 20->16. Most of the previous parameters are set to default value for general purpose

-remove the below item in RMOD MO to suitable for different site configuration

<item>

<p name="linkId">2</p>

<p name="positionInChain">1</p>

<p name="sModId">1</p>

</item>

<item>

<p name="linkId">5</p>

<p name="positionInChain">1</p>

<p name="sModId">1</p>

</item>

<item>

<p name="linkId">6</p>

<p name="positionInChain">1</p>

<p name="sModId">1</p>

</item>

-add MO PMRNL. The MO is related PMCounter setting and mandatory on creation

swconfig:

-add one flag to enable corefile autodump before P7 since PS\_67

0x10079=500000

2012.07.06 - v1.2

scfc\_1:

-inimcsUl: 4-> 5. To avoid MSG5 splition.

-nSrsDtx: 4->50. From LNT2.0\_9308\_088\_00,new SACK is used and the default value in PDDB is recommended to 50

- maxNumActUE: 240->199

maxNumQci1Drb: 100->64

maxNumRrc: 399->199

maxNumRrcEmergency: 400->200.The four parameter is restricted since LNT2.0\_9308\_088\_00 because of CN5160

2012.06.27 - v1.1

scfc\_1:

-Only two files are maintained from this release, one is 1cell configuration and another is 3cell.The default dlMimomode is TM3 and SRS is actived. actTmSwitch and actBfFallback is false by default

-maxNrSymPdcch: 3; change it according to special test case

-phichRes: N = 1/6;enough to support more than 8UE in one TTI

-srsBandwidth: 3hbw

-srsUePeriodicity: 10ms

-nSrsDtx: 1 -> 4; to reduce radio\_link\_failure\_srs\_on/off message to UEC and make eNB more stable

2012.06.08 - v1.01

vendor.xml:

rxCalSwitchingDuration:41408->64960

txCalSwitchingDuration:18480->18400; "cross symbol" feature work and make calibration more robustness.Note that it works from LNT2.0\_9308\_061\_01

2012.05.28 - v1.0

scfc\_1:

enableGrflShdn: enabled -> disabled; CN5170\_Postponing LTE914 LTE784 LTE533 to RL35,only diabled is allowed for RL25

vendor.xml:

- <p name="calibrationAntennaCarrier">3</p>: 3 -> 2; to make calibration stable for 4TX configuration

swconfig:

- delete the file swconfig\_disable DBG print.txt

- Add reason for the existence of 0x19000C=1

- Add one file cleaning all unnecessary RnD parameters, named swconfig.txt

The old file is named to swconfig\_DBG\_flag\_list.txt as reference to look up DBG flags

swconfig.txt is recommended during routine test.

2012.05.07 - v0.91

scfc\_1.xml: only 3cell BTS SCF is influenced

- the order of antlId 10&9 for LCR2 exchange: because of PR79332ESPE01

swconfig.txt&swconfig\_disable DBG print.txt

the index for ULPHY log print has some error:

-#ERadULPHY\_ChannelizerLog = RAD\_ULPHY(14): 14 -> 16

-#0x16000F=1 -> #0x160011=1

-0x160010=1 -> 0x160012=1

-#0x160011=1 -> #0x160013=1

-#ERadULPHY\_PucchRecieverLog = RAD\_ULPHY(18):18 -> 20

-#ERadULPHY\_SrsReceiverLog = RAD\_ULPHY(19):19 -> 21

-#ERadULPHY\_ResourceManLog = RAD\_ULPHY(20):20 ->22

-#ERadULPHY\_DecoderLog = RAD\_ULPHY(21): 21 -> 23

2012.05.04 - v0.9

swconfig\_disable DBG print.txt: the file is added to disable DBG level print for stability and MUE test. Compared with swconfig.txt, the following parameter is updated/added:

- 6: 5->0

- 0x1003F = 2

- 0x10040 = 2

scfc\_1.xml

- ppsTimingOffset: 0 -> -8800; to make RL25 BTS Timing align with PPS. Please note the change is effective with PS\_REL\_2011\_07\_07-52 and onwards

- deltaPucchShift: 2 -> 1; according to PHYUL simulation,no difference between 1 and 2.Besides,PUCCH capacity will be double by the change.

- inactivityTimer: 300 -> 10; according to Helmut's info, it is recommended by many operators.

- deltaPreMsg3: 1 -> 3; Same with RL15.

Notes: add one item in "important infomation" section to reminder tester enabling "enableRP301Interface" parameter for 3cell configuration

- For 3cell eNB,enableRP301Interface in TRSW SCF must be enabled.

2012.04.06 - v0.8

scfc\_1.xml

- t300: 200ms -> 2000ms; to decrease the call drop rate because of t300 expired during field test

- t301: 200ms -> 2000ms; to decrease the call drop rate because of t301 expired during field test

- ulpcIniPrePwr: -104 dBm -> -90 dBm; to increase preamble detection rate. Same with RL15 GMC

- prachPwrRamp: 2dB -> 4dB; to increase preamble detection rate. Same with RL15 GMC

- timeChInfoValid:200ms -> 2000ms; to avoid DL Bler with MUE TM500 under TM7 mode during lab test.

2012.03.22 - v0.7

SCFC-1.xml

- maxNumUeDl: 12 -> 8; 8 has been verified in the eNB load of time being.

- maxNumUeUl: 12 -> 8; 8 has been verified in the eNB load of time being.

- ulsSchedMethod: "channel unaware" -> "channel aware"; to be consistent with ulpcsrsen setting

- actDistributedSite: true -> false; Netact don't require site GPS position while set to false.

- srsOnTwoSymUpPts: false-> true; to be consistent with srsSubfrConf configuration. If srsSubfrConf=sc0,the parameter must be "true"

vendor.xml

- rxCalSwitchingDuration: 43008 -> 41408; to avoid ULPHY inter-symbol processing

- cqiAperPollT: 3-> 10; MAC team suggested low frequency polling period.

- remove duplicated dlInterferenceBFWeightSet

2012.02.17 - v0.6

SCFC-1.xml

phichRes: N = 1/6 -> N = 1, to match maxNumUeUl in MUE configuration; changed in MUE configuration only.

dlSectorBeamformingMode: sector Beamforming solution 1 -> Sector Beamforming with static weights, parameter changed since LNT2.0\_ENB\_9308\_018\_00

anrOmExtEnable: false -> true, change to consistent value with FDD GMC

nSrsDtx: 8 -> 1, change to PDDB default value.

deltaPreMsg3: 3 -> 1, change to consistent value with FDD GMC

dlPathlossChg: 6 db -> 3db, change to consistent value with FDD GMC

harqMaxTrUl: 4 -> 5, change to consistent value with FDD GMC

mimoClCqiThD: 90 -> 70, change to consistent value with FDD GMC

mimoClCqiThU: 110 -> 80, change to consistent value with FDD GMC

vendor.xml

- ulpcCchavgtcont: 20 -> 200, changed back to default value, after discussion with SFS team.

- ulpcCchavgtdisc: 50 -> 500, changed back to default value, after discussion with SFS team.

- ulpcSchavgtcont: 20 -> 200, changed back to default value, after discussion with SFS team.

- ulpcSchavgtdisc: 50 -> 500, changed back to default value, after discussion with SFS team.

2012.02.04 - v0.5

swconfig.txt

- removed 0x00120029=1, LTE654-c was RL15 feature, and is not valid in RL25 anymore.

- 250 = 2000000, limit the SOAPMessageTrace.xml file size to 2MB to avoid rootfs size limitation.

- 275 = 0, disabled BBC print by default. Also, refer 275 = 6 stated in previous section.

vendor.xml

- rxCalSwitchingDuration: 26480 -> 43008, workaround to overcome the inter-cell interference caused by insynchronous SFN problem.

- weightConfigurationParameters: changed whole set according to used antenna by CMCC.

- dlSectorBeamformingWeightModeId: changed the set for 0 (CMCC mode).

- ilMinDatvolUl: 560 -> 4000, improve the UL latency during FTP test.

- ulpcCchavgtcont: 200 -> 20, improve ULPC performance, suggested by MAC Yu Changsheng

- ulpcCchavgtdisc: 500 -> 50, improve ULPC performance, suggested by MAC Yu Changsheng

- ulpcSchavgtcont: 200 -> 20, improve ULPC performance, suggested by MAC Yu Changsheng

- ulpcSchavgtdisc: 500 -> 50, improve ULPC performance, suggested by MAC Yu Changsheng

- Many parameters were changed to default (or optimized) values, please check the comparison results for details.

-- Please pay attention to HO timers especially using ePC emulators.

SCFC-1.xml

- ulpcUplevSch: -98 ->-96, enlarged to support actModulationSchemeUL of 16QAMHighMCS.

- dlOlqcDeltaCqiMax: 30 -> 50, change to default value.

- actTmSwitch:

-- TM3 GMC: true-> false, to have TM8 enabled UE stick to TM3 mode in 8 pipe cell, otherwise it will be configured to TM8 by feature LTE1013-b.

-- other GMC: no change.

- cqiAperEnable: false -> true, in TM7 configuration. Already true in TM3 configuration.

- maxNumUeDl: 10 -> 12, to support MUE

- maxNumUeUl: 10 -> 12, to support MUE

- Added 2nd link into RMOD MO also for each sector, otherwise may affect RP3-01 link alarm.

- srsBandwidth: 0hbw -> 3hbw, allow more UEs by limiting SRS resources per UE, in MUE configuration only

- srsUePeriodicity: 5ms -> 10ms, allow more UEs by limiting SRS resources per UE, in MUE configuration only

- srsBwConf: 2bw -> 0bw, allow more UEs by limiting SRS resources per UE, in MUE configuration only

- srsHoppingBw 3hbw -> 0hbw, allow more UEs by limiting SRS resources per UE, in MUE configuration only

- srssrsPwrOffset/srsSimAckNack/srsSubfrConf -> changed to consistent values, but srs is not activated in TM3.

2011.12.07 - v0.4

SCFC-1.xml

- Changed harqMaxMsg3: 3 => 4, for slightly improvement of random access success ratio according to the review meeting.

- changed actTmSwitch: false => true, enable dynamic mode transmission for better performance in field. Should set to false for TM7 only performance tests.

- Changed riEnable in all TM7 GMC: false => true, set to true while enable actTmSwitch

2011.11.30 - v0.3

swconfig.txt

-fixed some errors of incorrect flag id format

-removed some FSME specific parameters

-added OPTIF rate 0x19000C

-changed debug print level 15=3

-commented FEAT\_DBG\_TestDedicated

-other format optimization

SCFC-1.xml

-different configuration of TM7-SU for performance, TM7-MU, TM3, and TM&-3 cells

-added some optional value for easy usage.

-optimized parameters for peak throughput, for ex. reduced maxNrSymPdcch

-tradeoff for single UE TM7 performance by adding more SRS resources.

-see diff\_SCFC\_TM3\_0.2-0.3.html for more details.

vendor.xml

-updated interference related parameters

-Adopted field dlOlqcDeltaCqiMin and dlOlqcDeltaCqiMax

2011.10.25 - v0.2

Updated below parameters according to PDDB FB1108.03

<p name="prio">5</p> <!--for qciTab4-->

<p name="maxNumRrc">399</p>

<p name="maxNumRrcEmergency">400</p>

2011.10.17 - v0.1

Initial version based on FB11.08.