

OsmoBTS - Feature #3750

Extension of BTS_Tests.ttcn test coverage

01/08/2019 07:58 PM - laforge

Status: Resolved	Start date: 01/08/2019
Priority: Normal	Due date:
Assignee:	% Done: 90%
Category:	
Target version:	
Spec Reference:	
Description	
Extension of the BTS Tests.ttcn test suite as well as its dependencies to extend the test coverage to cover the following scenarios, for which currently no automatic test coverage exists	
Related issues:	
Related to OsmoBTS - Bug #4008: Channel Activation starts SACCH too early in ...	New 05/19/2019
Related to OsmoBTS - Bug #4009: Channel Activation starts SACCH too early in ...	New 05/19/2019
Related to OsmoBTS - Bug #4011: BTS_Tests.ttcn coverage for SMSB/CBCH	Resolved 05/19/2019
Related to OsmoBTS - Bug #1622: OsmoBTS power control incompliant to TS 05.08...	Resolved 02/23/2016
Related to OsmoBTS - Bug #4023: Missing coverage of PCU interface in osmo-bts	Stalled 05/24/2019
Related to OsmoBTS - Bug #4031: OML part of BTS has no TTCN-3 tests	New 05/29/2019
Related to libosmocore - Bug #4035: LAPDm implementation truncates L3 message...	Resolved 06/01/2019
Related to OsmoBTS - Feature #1569: Report RF interference levels as part of ...	New 02/23/2016

History

#1 - 01/14/2019 03:27 PM - laforge

- Assignee set to sysmocom

#2 - 05/09/2019 09:50 PM - laforge

- Priority changed from Normal to Urgent

#3 - 05/19/2019 12:53 PM - laforge

- Checklist item [x] Error handling, such as discriminator error, type error, sequence error, duplicated IE set to Done

Tests related to error handling have been submitted in <https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+14086/> which triggered osmo-bts bug-fixes in <https://gerrit.osmocom.org/#/c/osmo-bts/+14083/>, <https://gerrit.osmocom.org/#/c/osmo-bts/+14084/> and <https://gerrit.osmocom.org/#/c/osmo-bts/+14085/>

Meanwhile, a related wireshark dissector bug has been discovered: https://bugs.wireshark.org/bugzilla/show_bug.cgi?id=15789

#4 - 05/19/2019 12:53 PM - laforge

- Status changed from New to In Progress

- % Done changed from 0 to 10

#5 - 05/19/2019 06:42 PM - laforge

- Checklist item [x] SACCH INFO as part of RSL CHAN ACT added

<https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+14089/> for SACH INFO as part of RSL CHAN ACT. Testcase immediately found an error in osmo-bts which is fixed in <https://gerrit.osmocom.org/#/c/osmo-bts/+14087/>

#6 - 05/19/2019 08:50 PM - laforge

- Related to Bug #4008: Channel Activation starts SACCH too early in Asynchronous Handover added

#7 - 05/19/2019 08:50 PM - laforge

- Related to Bug #4009: Channel Activation starts SACCH too early in Synchronous Handover added

#8 - 05/19/2019 08:51 PM - laforge

- Checklist item [] SACCH transmission rules in the context of special CHAN ACT (HO) added

Issues [#4008](#) + [#4009](#) were just uncovered by adding tests for the SACCH transmission rules in case of HO related CHAN ACT.

#9 - 05/19/2019 09:33 PM - laforge

- Related to Bug [#4011](#): BTS_Tests.ttcn coverage for SMSCB/CBCH added

#10 - 05/19/2019 10:18 PM - laforge

- Checklist item [x] SACCH transmission rules in the context of special CHAN ACT (HO) set to Done

- % Done changed from 10 to 20

tests for SACCH related transmission rules on hand-over related channel activation in <https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+14094>

#11 - 05/21/2019 04:23 PM - laforge

- Checklist item [x] Cell broadcast channel ("CBCH") LOAD INDICATION set to Done

#12 - 05/22/2019 02:28 PM - laforge

- Related to Bug [#1622](#): OsmoBTS power control incompliant to TS 05.08 and TS 08.58 added

#13 - 05/24/2019 05:12 PM - Hoernchen

- Checklist item [x] RSL channel activation with timing advance from initial activation onwards. set to Done

#14 - 05/24/2019 07:27 PM - laforge

- Checklist item [x] Common control channel ("CCCH") LOAD INDICATION for random access channel ("RACH") set to Done

- % Done changed from 20 to 50

<https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+14169> contains tests for RACH load indications. There were several fixes required in osmo-bts in order to make it pass: <https://gerrit.osmocom.org/14158>, <https://gerrit.osmocom.org/#/c/osmo-bts/+14159/> and <https://gerrit.osmocom.org/#/c/osmo-bts/+14160/>

The initial TA from RSL CHAN ACT has been implemented by @Hoernchen in <https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+14151/>

#15 - 05/24/2019 08:42 PM - laforge

- Related to Bug [#4023](#): Missing coverage of PCU interface in osmo-bts added

#16 - 05/24/2019 08:47 PM - laforge

- Checklist item deleted (TIME_IND from BTS → PCU)

Checklist item deleted (DATA_IND from BTS → PCU)

Checklist item deleted (PCU-originated DATA_REQ arrival on Um/MS side)

moving PCU related checklist items to [#4023](#)

#17 - 05/28/2019 11:04 AM - Hoernchen

- Checklist item [x] RSL MODE MODIFY with encryption parameter IE and/or multirate configuration IE. set to Done

Checklist item [x] RSL DEACTIVATE slow associated control channel ("SACCH") set to Done

#18 - 05/29/2019 02:16 PM - laforge

- Related to Bug [#4031](#): OML part of BTS has no TTCN-3 tests added

#19 - 06/01/2019 09:44 AM - laforge

- Related to Bug [#4035](#): LAPDm implementation truncates L3 messages at 200 bytes added

#20 - 06/11/2019 02:07 PM - laforge

- Checklist item [x] Handover Detection set to Done

- % Done changed from 50 to 70

handover detection has been implemented in

#21 - 06/12/2019 05:13 PM - Hoernchen

- Checklist item [x] Mobile station ("MS") Power Control set to Done
- % Done changed from 70 to 60

#22 - 06/13/2019 03:41 PM - laforge

- Assignee changed from sysmocom to Hoernchen
- Priority changed from Urgent to Normal

#23 - 06/19/2019 10:27 AM - Hoernchen

- Checklist item [x] Base station ("BS") Power Control set to Done

#24 - 06/19/2019 10:35 AM - Hoernchen

There is currently no reasonable way to test the RF RESOURCE INDICATION, osmo-bts does currently not use the parameters from TS 100 623 (9.4.24 Intave 9.4.25 Interference level Boundaries), and while osmo-trx can be polled for noise measurements those measurements are currently done by averaging 20 idle bursts, while intave is specified as average of # sacch frames (480ms), and even if all that was not the case it would still not be possible to test all of that without creating artificial noise to trigger a interference level change which in turn would trigger the sending of a RF RESOURCE INDICATION message.

#25 - 06/19/2019 10:54 AM - Hoernchen

- Related to Feature #1569: Report RF interference levels as part of RF RESOURCE INDICATION added

#26 - 11/16/2019 07:49 PM - fixeria

There is currently no reasonable way to test the RF RESOURCE INDICATION [...]

Please see <https:// Gerrit.osmocom.org/c/osmo-bts/+15989>. I believe this change would facilitate getting the actual (not averaged) interference levels. Since TRXDv1, OsmoTRX sends us IDLE indications (basically measurements during IDLE frames) and NOPE indications (when a burst was expected, but has not been received / detected).

[...] and even if all that was not the case it would still not be possible to test all of that without creating artificial noise to trigger a interference level change [...]

We can simulate pretty much everything with a virtual Um-interface - FakeTRX. The problem is that sending of IDLE / NOPE indications is still missing there :/ If I had time, I would implement this in a few days.

#27 - 01/08/2020 10:20 PM - laforge

- Status changed from In Progress to New
- Assignee deleted (Hoernchen)

#28 - 06/21/2020 03:14 PM - laforge

- Checklist item [x] Packet control unit ("PCU") interface set to Done
- % Done changed from 60 to 90

PCU socket is tested for most parts (and has a separate issue [#4023](#)).

So RF RESOURCE IND is the only untested message.

#29 - 06/21/2020 03:16 PM - laforge

- Status changed from New to Resolved

marking as resolved; RF_RES_IND tests should be implemented in [#1569](#)