This means that the BSC does not have any information about the interference level within each (unused) timeslot of the given BTS.

Such interference is typically created by surrounding cells at some distance, which use the same frequency (frequency reuse) as the current cell.

OpenBSC currently doesn’t use this information, but in an actual macro network deployment with high cell and frequency reuse density, the channel allocator in the BSC should prioritize assignment of new channels to those with the least interference.

### Related issues:
- Related to OsmoBSC - Feature #1866: Make use of RSL RF RESOURCE INDICATION (interference measurements) added
- Related to OsmoBTS - Bug #2735: Malformed RF RESource INDication added
- Related to OsmoBTS - Feature #3750: Extension of BTS_Tests.ttcn test coverage added
- Related to Cellular Network Infrastructure - Feature #4006: TRX protocol: wind of change added

### History

**#1 - 12/02/2016 05:01 PM - laforge**

- Spec Reference set to 3GPP TS 48.058 Ch. 6.1 and 8.6.1

**#2 - 12/02/2016 05:06 PM - laforge**

- Related to Feature #1866: Make use of RSL RF RESOURCE INDICATION (interference measurements) added

**#3 - 12/02/2016 05:08 PM - laforge**

- Related to Feature #1866: Make use of RSL RF RESOURCE INDICATION (interference measurements) added

**#4 - 03/10/2017 09:35 PM - laforge**

- Assignee set to dexter

**#5 - 12/11/2017 12:34 PM - pespin**

- Related to Bug #2735: Malformed RF RESource INDication added

**#6 - 05/17/2018 02:02 PM - laforge**

- Priority changed from Normal to Low

**#7 - 09/25/2018 07:11 PM - fixeria**

AFAIU, OsmoTRX actually does the noise measurements on UL:

https://git.osmocom.org/osmo-trx/tree/Transceiver52M/Transceiver.cpp#n929

but, as one can see, noise level is not being forwarded towards the BTS...

**#8 - 06/19/2019 10:54 AM - Hoernchen**

- Related to Feature #3750: Extension of BTS_Tests.ttcn test coverage added

**#9 - 06/19/2019 12:50 PM - Hoernchen**

- Related to Feature #4006: TRX protocol: wind of change added
let's implement tests within the scope of this issue, allows us to resolve #3750

From what I can see in Wireshark, my implementation seems to work:

https://gerrit.osmocom.org/c/osmo-bts/+/24612 Report interference levels in RSL RF RESource INDication [NEW]
https://gerrit.osmocom.org/c/osmo-bts/+/24613 osmo-bts-trx: report interference levels to the upper layers [NEW]

I also implemented a TTCN-3 test case:

https://gerrit.osmocom.org/c/osmo-tcn3-hacks/+24567 BTS: add a test case for RF RESource INDication [WIP]

However, I somehow need to make fake_trx.py send NOPE indications with a certain RSSI values. Currently this is not supported: we don't have NOPE indications in our virtual Um environment at all. I'll investigate the easiest way to implement this.

As I expected, periodic RF RESource INDications do break some test cases in ttcn3-bts-test. Here is a fix:

https://gerrit.osmocom.org/c/osmo-tcn3-hacks/+24623 BTS: ignore other RSL messages in function f_TC_paging() [NEW]

All changes are in Gerrit waiting for review:

https://gerrit.osmocom.org/q/topic:%22noise%22+(status:open%20OR%20status:merged)

All changes have been merged, including TTCN-3 test cases.