

n-CORE[®]

RTLS test

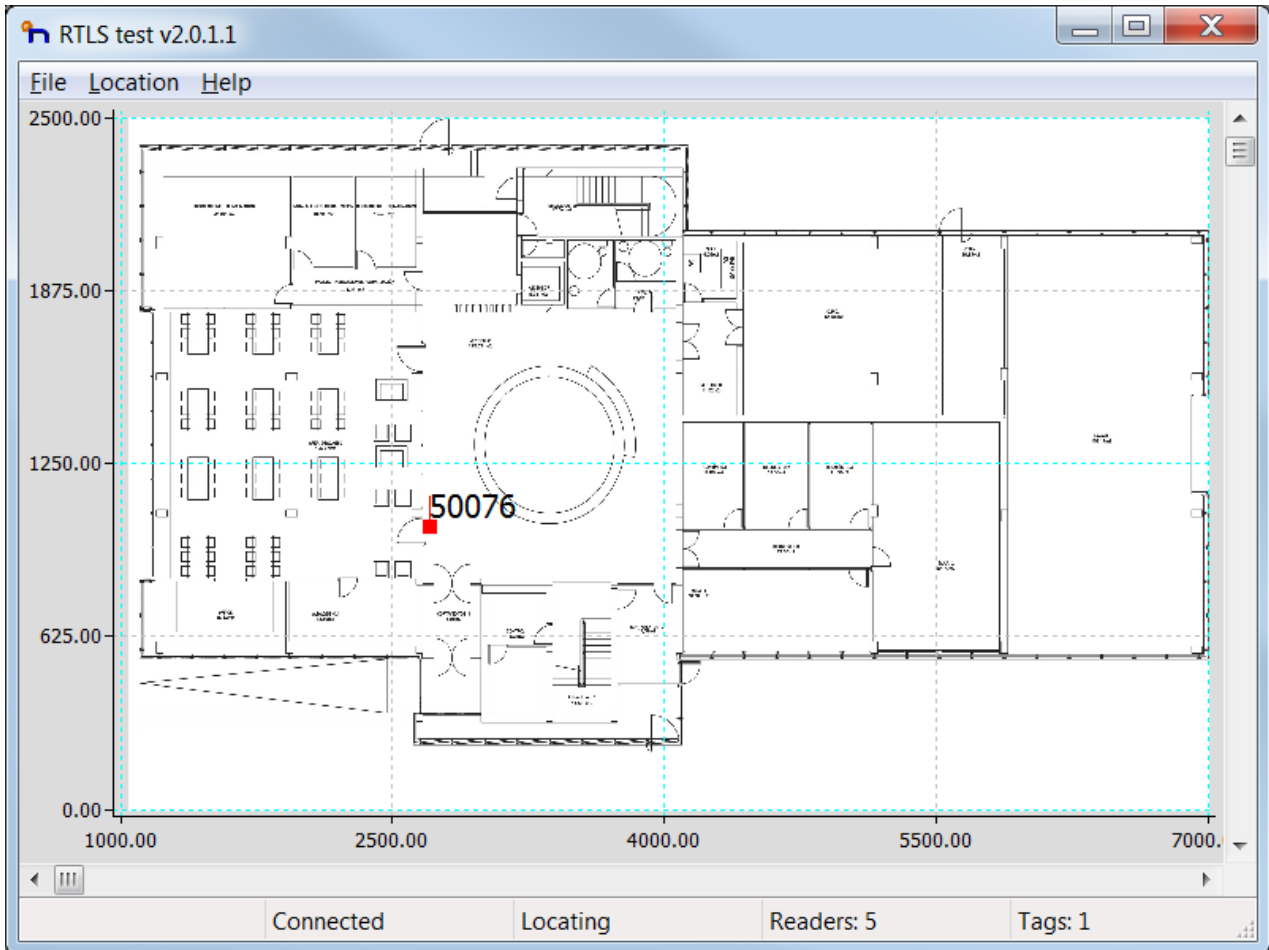
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1. Introduction

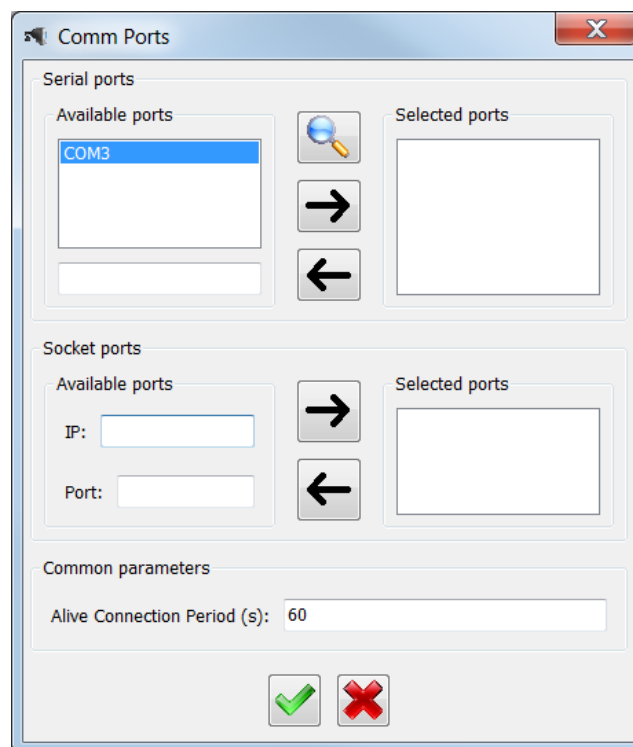
This document describes how to use the locating features of the n-Core® platform via the *RTLS test* application.

To make use of these features it is necessary to have an advanced user license (full) of the n-Core® platform.



2. RTLS test application

- i) Turn on all the n-Core Sirius devices newly configured and connect the Network Coordinator to the USB port of the PC.
- ii) Place the routers physically in the locating area.
- iii) Run the RTLS test application
 - In Windows, run "`\\samples\ncore++\rtlstest\bin\win32\rtlstest.exe`"
 - In Linux, run "`/samples/ncore++/rtlstest/bin/linux/rtlstest`"
 - Be sure that a copy of your n-Core license file ("`ncore.lic`") is placed in the current working directory.
- iv) Connect the application to the Network Coordinator: click the "File/Connect" command and select a set of Serial COM ports or TCP/IP sockets until the remote device.



- v) Set the locating parameters using the "Location/Parameters" command.
- **NOTE:** It is recommended not to change the default settings in the first test/run.

Location parameters

General Estimator Weighting Locater

Location Refresh Rate (ms) 1000

Input data mode Total merge update mode

✓ ✗

Location parameters

General Estimator Weighting Locater

Estimator type Mean Large Scale Path Loss

Reference Power(dBm) -9.00

RSSI Coefficient -1.00

LQI Coefficient 0.00

Offset 0.00

Received Power at initial distance (dBm) -72

Initial distance (cm) 400

Parameter n 2

Maximum Distance +∞

Cycles scale 60

Cycles 2

Min R2 0.90

Use prev entry if min R2 not achieved

n in the $d = d_o * [10^{(Pr(d) - Pr(d_o)) / n}]$

✓ ✗

Location parameters

General Estimator Weighting Locater

Weighting type Geometric

Worst distance input value Value (worst dist) 0.00

Cycles 3

Factor 1.10

Echelon 0.00

✓ ✗

Location parameters

General Estimator Weighting Locater

Locater type Simple Fuzzy

Spatial 2D

Distance Threshold +∞

Damping cycles 2

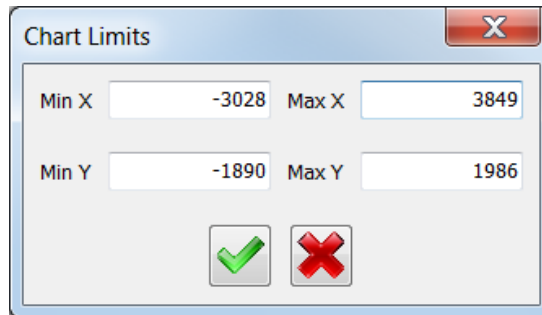
Factor (cm) 1.00

Parameter A 0.01

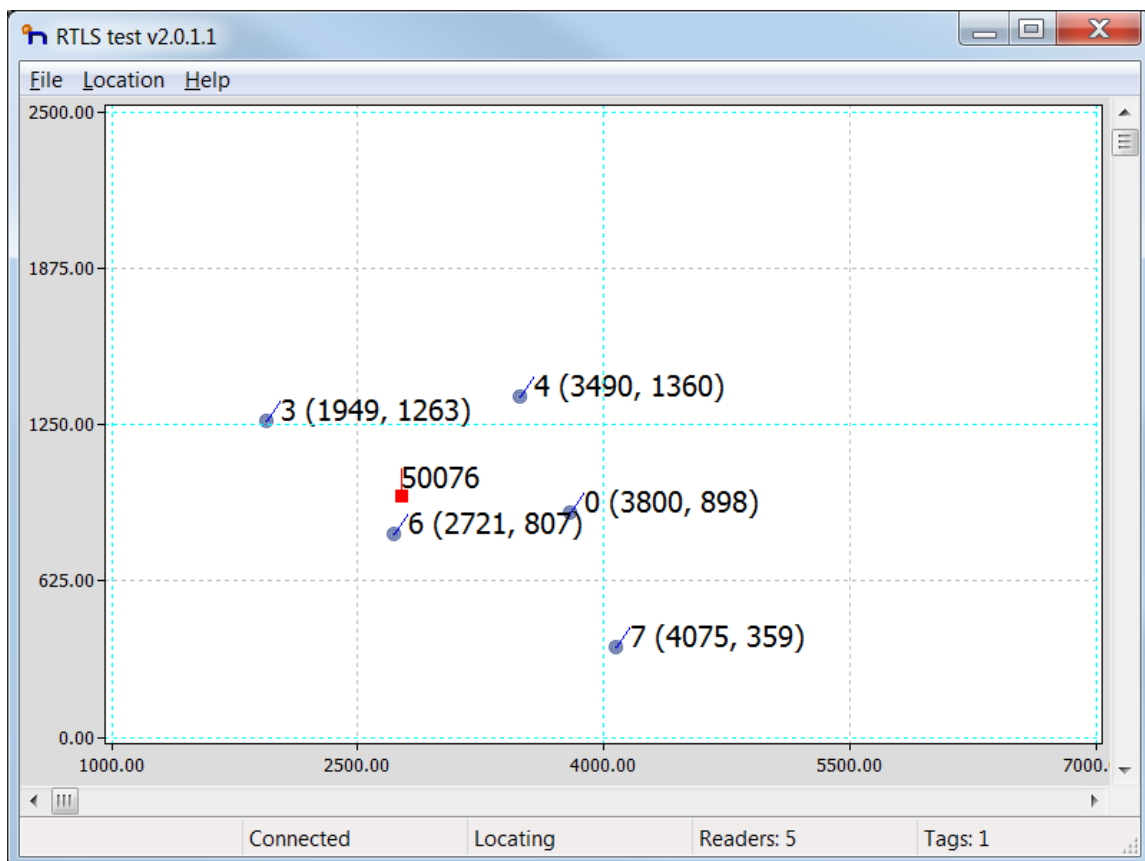
Parameter t 2.50

✓ ✗

- vi) Set the limits of the graph to display all nodes: run the "Location/Chart Limits" command and choose the values for X and Y.
- **NOTE:** The values must be greater than the maximum coordinates of the routers.



- vii) Select the "Location/Start" command to activate the locating engine.
- **NOTE:** The application shows the *Routers* (blue circles) and the *Tags* (red squares).



3. Additional information

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