# GTT NB IoT Standalone BER/BLER Add-on
## User Guide
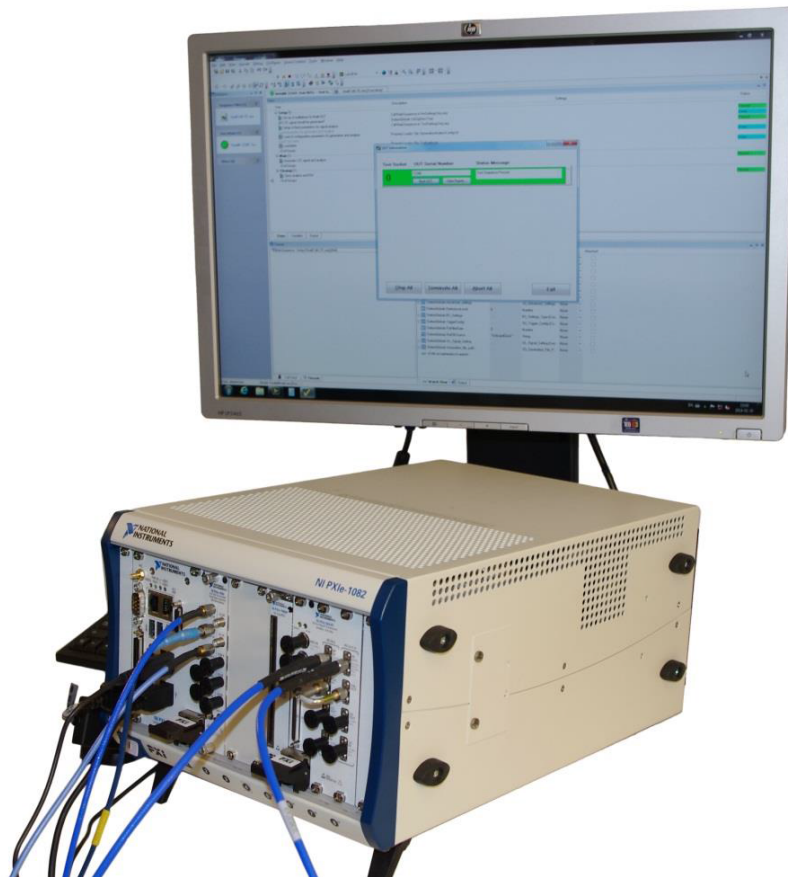
# 1 Introduction

The GTT NB-IoT StandAlone BER/BLER Add-on by Gefle Testteknik AB features demodulation of NB-IoT Standalone and Guardband signals to enable verification of RBS transmitter system performance using analysis of throughput in form of BER (Bit Error Rate) and BLER (Block Error rate). The high-level APIs makes custom sequences or fully customized soft front panels easy to make. This is an add-on extending the capabilities of the GTT NB-IoT StanadAlone Toolkit even further.

Out of the box the Add-on is capable of demodulation in the host computer.

# 2 System Requirements

See http://testteknik.se/content/product for a list of SW and HW requirements for the product.

| Description | Version |
|---|---|
| HW requirements: | |
| NI PXIe-1082 chassis (or similar) | |
| NI PXIe-8135 Controller (or similar) | |
| | |
| SW requirements: | |
| Windows 7, 10 (32- or 64 bit) | Note 1 |
| NI LabVIEW Full development system | 2014 |
| NI Spectral Measurements Toolkit | 2.7 |
| NI Modulation Toolkit | 4.4 |
| NI-RFSA | 14.1 |
| NI-RFSG | 14.0.1 |
| NI Third Party Licensing & Activation Toolkit | 2014 |
| VI Package Manager | 2017 |

| Notes | |
|---|---|
| Note 1 | 64-bit recommended. For other Windows versions, please contact sales@testteknik.se for latest status. |

# 3 Installation

Start LabVIEW and VIPM with administrator rights and start the installation of the "NB IoT Standalone BER/BLER" using VIPM 2017 or newer.

**Note**: The system supports Windows 10 & Windows 7, 64 bit. For other Windows versions please contact sales@testteknik.se for latest status.

## 3.1 To activate/deactivate a license

The distributed executables and the GTT LabVIEW libraries (*.lvlib) are licensed and have an evaluation period of 30 days and must then be activated for continued use. The license is locked to the computer that is used during installation.

We recommend using GTT licensing toolkit for activation of licenses. The built in activation tool in LabVIEW may also be used. Be aware that licenses activated in LabVIEW versions older than 2014 cannot be transferred at a later date, should it be needed.

To transfer a license it must first be deactivated on the system where it is currently active before activation on the new system. When restoring the computer from a backup image deactivation must be performed before deleting the old system.

A product can be manually activated (i.e. offline) by sending an email to sales@testteknik.se in the following format. NOTE that manually activated licenses cannot be deactivated or transferred:

Company Name:
User Name:
Executable User Code 1:
Executable User Code 2:
LabVIEW Library User Code 1:
LabVIEW Library User Code 2:


For further information refer to the preferred tool for activation.


# 4 HW Setup

Besides HW requirement for the GTT NB IoT StandAlone Toolkit this add-on does not require any specific hardware.


# 5 Example

The example code delivered with the add-on shows how to set up and perform a basic NB IoT Standalone or Guardband measurement. Refer to in code description for details.
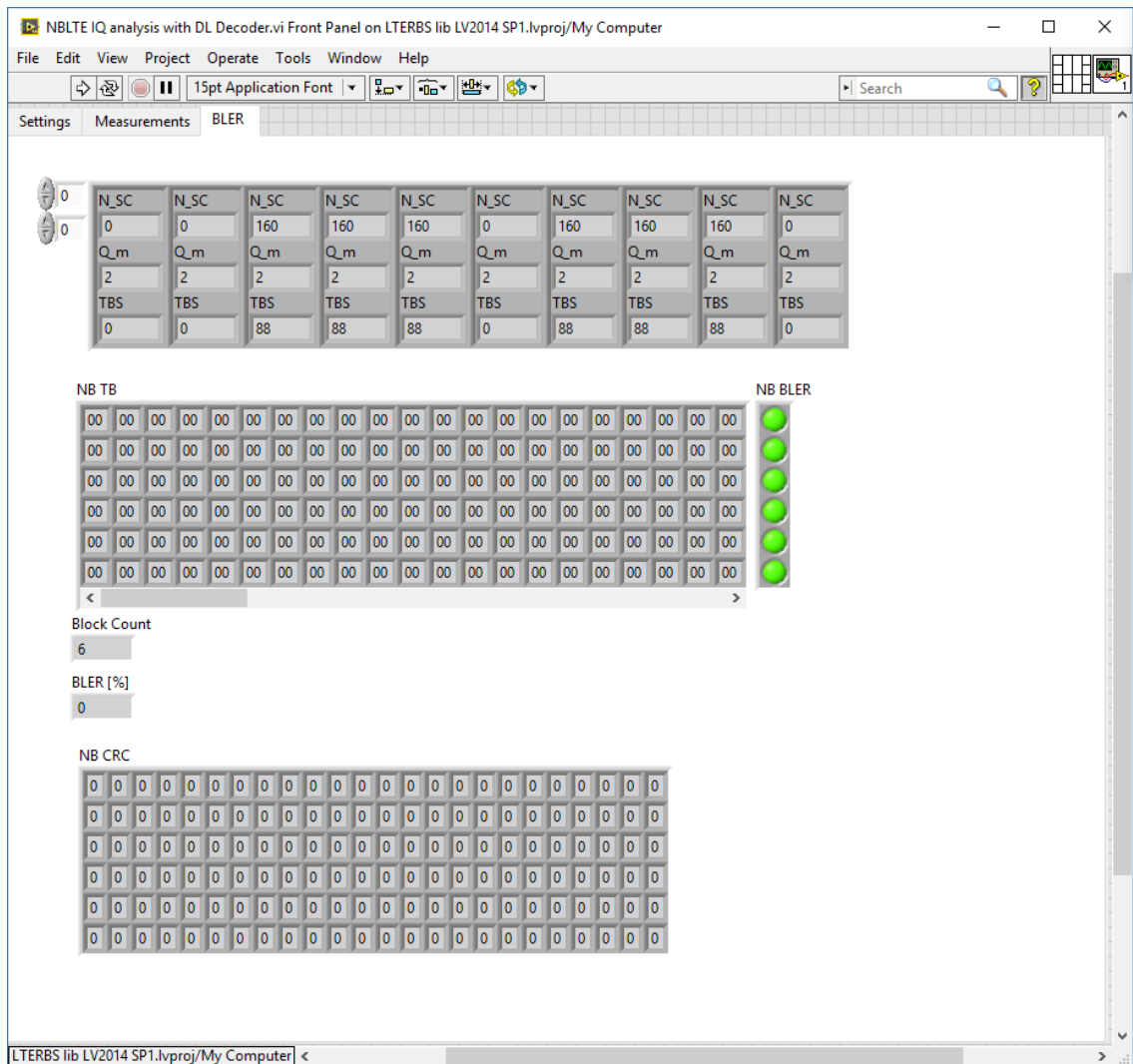
**Figure 1 NB IoT Standalone and Guardband decode**

# 6   User Interface

Refer to context help for details

# 7   Contact Information

http://testteknik.se/

Support contact:

support@testteknik.se

Sales contact:

sales@testteknik.se