Open Issues and/or Actions

No open issues.

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# DOCUMENT INTRODUCTION

## Purpose

This document describes the test cases (test scenarios) to be used for the verification of BlueLib, demonstrating it meets the requirements, see ref. [SwRS], of BlueLib.

## CDP2 Overall Connectivity architecture

Below picture shows the overall connectivity architecture and components. The components inside the blue box are described in this document.



Figure 1 - CDP2 Overall Connectivity architecture

## Scope

This document applies to BlueLib (Android and iOS), to be used in connected digital propositions.

## References

| **Reference** | **Identification** | **Title / additional remarks** |
| --- | --- | --- |
| [SwRS] | BLL000001 | Requirements, BlueLib |
| [SwTM] | BLL000007 | RequirementsTraceability Matrix, BlueLib |
| [TPCml] | CML000003 | Test Protocol CommLib |

## Terminology & Abbreviations

| **Terminology & Abbreviations** | **Description/Definition** |
| --- | --- |
| BLE | Bluetooth Low Energy |
| Gherkin | Gherkin is a Business Readable, Domain Specific Language that lets you describe software’s behavior without detailing how that behavior is implemented. It is used to specify test scenarios that can be interpreted by tools like: cucumber and SpecFlow. Reference: The Cucumber Book (ISBN 978-1-93435-680-7) |
| TC | Test Case |

# Test Method

The test scenarios are written in the [Gherkin] design specification language. The [Gherkin] design specification language provides human-readable scenarios and steps (Given, When, Then) that could be executed either manually or automatically. The test scenarios shall verify that the requirements are met and shall be understandable by non-technical business owners.

A test scenario is part of a [Gherkin] feature file.  
A feature file contains one or more scenarios.

A requirement Id specified in the requirements document [SwRS] is tested on its key elements by one or more scenarios.

# Sampling Method

Not applicable. For the software tests no sampling method is applied.

# Test Set-up

Manual test cases require:

* Android and iOS phones
* Test Apps
* BLE Reference Node
* Product Stub running on a Windows machine

The following Test Apps are used to verify CommLib and BlueLib:

* Commlib-demoapp (Android)
* Commlib-demoapp (iOS)

Firmware revisions for Reference Nodes:

* BLE Reference Node firmware: 2017.5.0

BLE test scenarios must be executed with multiple Android phones from multiple manufacturers and a variation in Android releases.

# Test Conditions

The test conditions are fully contained inside the [Gherkin] test scenarios themselves.

For BLE test scenarios it is important that the physical distance between the phone and the BLE Reference Node is 50 cm. Changing the physical distance may impact the test results.

# Test Cases

No specific test cases have been defined for BlueLib. BlueLib is implicitly verified by BLE test cases defined for CommLib [TPCml].

The requirements traceability matrix [SwTM] shows what requirement is verified by what test case (scenario).

## Manual Test Cases

|  |  |  |
| --- | --- | --- |
| Test Case ID | Test Case Title | Steps |

## Automated Sanity Test Cases

This section contains automated test cases. These test cases are to be executed on real phones.

|  |  |  |
| --- | --- | --- |
| Test Case ID | Test Case Title | Steps |
| 99222 | Scenario: Get value from Time Port | Step 1. Background: Given distance between device and appliance is 50 cm |
|  |  | Step 2. Background: And The environment is logged |
|  |  | Step 3. Background: And bluetooth is turned on |
|  |  | Step 4. Background: And an appliance with cppId "22:22:22:CC:6C:57" is discovered and selected |
|  |  | Step 5. Background: And stay connected is disabled |
|  |  | Step 6. When device requests time value from time port |
|  |  | Step 7. Then time value is received without errors |
| 99223 | Scenario: Receive value from Time Port subscription | Step 1. Background: Given distance between device and appliance is 50 cm |
|  |  | Step 2. Background: And The environment is logged |
|  |  | Step 3. Background: And bluetooth is turned on |
|  |  | Step 4. Background: And an appliance with cppId "22:22:22:CC:6C:57" is discovered and selected |
|  |  | Step 5. Background: And stay connected is disabled |
|  |  | Step 6. When device subscribes on time port |
|  |  | Step 7. Then time value is received 5 times without errors |

# Test Instructions

Not applicable. The test instructions are part of the steps of the test scenarios themselves.

# Revision History

| **Version** | **Date** | **Author** | **Description of Change** | **Reason for Change** |
| --- | --- | --- | --- | --- |
| 0.1 | 2017-May-01 | Gerard Arts | Initial draft | Creation |
| 1.0 | 2017-May-03 | Gerard Arts | Approver updated | Ready for Review |
| 1.1 | 2017-May-05 | Gerard Arts | Review remarks implemented | Review remarks implemented |
| 2.0 | 2017-May-10 | Gerard Arts | Version changed | For approval |
| 2.1 | 2017-Nov-23 | Gerard Arts | Picture in section 1.2 replaced and footer removed | Update for release 2017.5.0 |
| 3.0 | 2017-Nov-24 | Gerard Arts | Nicky van Meir’s and Bas Flaton’s review remarks implemented | Release 2017.5.0 |
| 3.1 | 2017-Nov-27 | Gerard Arts | Sanity Tests added | Ready for Review (release 2017.5.0) |
| 4.0 | 2017-Nov-28 | Gerard Arts | Version changed | Release 2017.5.0 |

# Approval

| **Name** | **Role / Function** | **Date** (YYYY-MON-DD) | **Signature** |
| --- | --- | --- | --- |
| Thijs Winter | Domain lead Connectivity | See Windchill | See Windchill |