System Test Report

AAS Digital Nameplate Generator

Customer: Rentschler & Holder

Company address: Rotebühlplatz 41, 70178 Stuttgart

Supplier: Team 2

|  |  |  |
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Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Comment |
| 1.0 | 06.05.2023 | Janin Ahlemeyer | Initialized the STR and created a first version |
| 2.0 | 10.05.2023 | Janin Ahlemeyer | Made final improvements |

Table of Contents

[1. Scope 4](#_Toc134650569)

[2. Reference Material 4](#_Toc134650570)

[3. Definitions and Acronyms 4](#_Toc134650571)

[4. Test Equipment 4](#_Toc134650572)

[5. Results of Testsuite <TS.INST: Access via Link> 5](#_Toc134650573)

[5.1. Results of <TC.INST.001.F>: Access front end on local machine 5](#_Toc134650574)

[6. Results of Testsuite <TS.CON: Connect to AAS-Server > 6](#_Toc134650575)

[6.1. Results of <TC.CON.001.F>: Connect to AAS-Server via search bar 6](#_Toc134650576)

[6.2. Results of <TC.CON.002.F>: Connect to suggested AAS-Server via search bar 8](#_Toc134650577)

[7. Results of Testsuite <TS.NAV: Navigation > 10](#_Toc134650578)

[7.1. Results of <TC.NAV.001.F >: Navigation bar 10](#_Toc134650579)

[7.2. Results of <TC.NAV.002.F >: Browser’s navigation buttons 12](#_Toc134650580)

[8. Results of Testsuite <TS.OV: Overview > 13](#_Toc134650581)

[8.1. Results of <TC.OV.001.F>: Choose asset of asset list 13](#_Toc134650582)

[9. Results of Testsuite <TS.NP: Nameplate> 16](#_Toc134650583)

[9.1. Results of <TC.NP.001.F>: Download nameplate in SVG 16](#_Toc134650584)

[9.2. Results of <TC.NP.002.F>: Download nameplate in PNG 17](#_Toc134650585)

[10. Results of Testsuite <TS.PERF: Performance> 19](#_Toc134650586)

[10.1. Results of <TC.PERF.001.F>: Performant under expected or peak loads 19](#_Toc134650587)

[11. Conclusion 21](#_Toc134650588)

# Scope

The System Test Report (STR) of the project “AAS Digital Nameplate Generator” contains the details and results of the test cases defined in the System Test Plan (STP). It contains the test cases combined with their actual results from executing the test plan.

# Reference Material

The sources cited below are utilized as a reference for this document.

* TINF21C\_STP\_Team\_2\_1v5
* IEEE Standard 829-1998, Standard for Software Test Documentation

# Definitions and Acronyms

**STP** System Test Plan

**SRS** Software Requirements Specification

**DNG** Digital Nameplate Generator

**TS** Test Suite

**TC** Testcase

**AAS** Asset Administration Shell

**STR** System Test Report

**API** Application programming interface

# Test Equipment

It mentions the available hardware and software for testing the application.

|  |  |  |
| --- | --- | --- |
| Testing Tools | | |
| No. | Resources | Descriptions |
| 01 | Computer | HP EliteBook 850 G7 Notebook  Operating system: Windows 10 Home 64 |
| 02 | Computer | MacBook Pro 13” Operating system: MacOS |
| 03 | Smartphone | Galaxy S20 Ultra 5G |

The following software are used in addition to client-specific software.

* Firefox 111.0
* Microsoft Edge 110.0
* Google Chrome 111.0
* Application Camera to scan the QR code
* Application Clock to measure time

# Results of Testsuite <TS.INST: Access via Link>

# Results of <TC.INST.001.F>: Access front end on local machine

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.INST.001.F> | | |
| Name: | | Access front end on local machine | | |
| Req. -ID: | | DNG.GUI.007 | | |
| Description: | | *The test case verifies the correct functionality of the hyperlink of the web application as well as the device’s configuration and internet connection. It verifies the forwarding from the project’s GitHub page. The test case verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses the test data from table TD.001 and TD.002.*  *The test set up consists of a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to project’s GitHub | | Display project’s GitHub page | Display project’s GitHub page |
| 2 | Click on the Link for the Digital Nameplate Generator in the  ReadMe file | | Display home page; no connection to the Internet or a misconfigured network lead to no access | Display home page; no connection to the Internet or a misconfigured network lead to no access |
|  | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.001 | | | | | | |
| Dataset | Device | IP address | | Default  gateway | Net mask | Expected result | Actual result |
| 01 | Windows | 192.168.0.254 | | 192.168.0.1 | 192.168.0.1 | PASS | PASS |
| 02 | Mac | 192.168.0.254 | | 192.168.0.1 | 192.168.0.1 | PASS | PASS |
| 03 | IPhone | 192.168.0.254 | | 192.168.0.1 | 192.168.0.1 | PASS | PASS |
| 04 | Windows | 192.168.0.254 | | 192.168.0.0 | 192.168.0.1 | FAIL | FAIL |
| 05 | Mac | 192.168.0.254 | | 192.168.0.0 | 192.168.0.1 | FAIL | FAIL |
| 06 | IPhone | 192.168.0.254 | | 192.168.0.0 | 192.168.0.1 | FAIL | FAIL |
|  | | | | | | | |
| Tester | | | Janin Ahlemeyer | | | | |
| Date | | | 03.05.2023 | | | | |
| Testcase Result | | | PASS | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | |  |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 03.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

# Results of Testsuite <TS.CON: Connect to AAS-Server>

# Results of <TC.CON.001.F>: Connect to AAS-Server via search bar

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.CON.001.F> | | |
| Name: | | Connect to AAS-Server via search bar | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.003; DNG.GUI.007 | | |
| Description: | | *The test case verifies the correct functionality of the search bar. It verifies the connection to AAS-Servers. Links missing https:\\ are not supported. The test case verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses the test data from table TD.002 and TD.003.*  *The test set up consists of a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to home page | | Display home page | Display home page |
| 2 | Click on search bar | | Search bar is selected. A drop-down list of search suggestions is opened. | Search bar is selected. A drop-down list of search suggestions is opened. |
| 3 | Enter a string into search bar | | For each character the suggestion of the drop-down list is filtered. | For each character the suggestion of the drop-down list is filtered. |
| 4 | Click on search button | | All assets from the server are loaded. The asset list is displayed; missing images are replaced with default image; invalid parameters produce the display of an error message. | All assets from the server are loaded. The asset list is displayed; missing images are replaced with default image; invalid parameters produce the display of an error message. |
|  | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | |  |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 03.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test data: | TD.003 | | | | |
| Dataset | AAS server link | | API | Expected result | Actual result |
| 01 | https://admin-shell-io.com/5001 | | V1 API | PASS | PASS |
| 02 | https://ccae4836-001e-48c2-a4f9-235554f9400b.ma.bw-cloud-instance.org/ | | V3 API | PASS | PASS |
| 03 | http://aas.murrelektronik.com:4001/aas | | V3 API | PASS | PASS |
| 04 | ccae4836-001e-48c2-a4f9-235554f9400b.ma.bw-cloud-instance.org/ | | V3 API | FAIL | FAIL |
|  | | | | | |
| Tester | | Janin Ahlemeyer | | | |
| Date | | 03.05.2023 | | | |
| Testcase Result | | PASS | | | |

# Results of <TC.CON.002.F>: Connect to suggested AAS-Server via search bar

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.CON.002.F> | | |
| Name: | | Connect to suggested AAS-Server via search bar | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.003; DNG.GUI.007 | | |
| Description: | | *The test case verifies the correct functionality of the search bar and its suggestions. It verifies the connection to AAS-Servers. The test case verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses the test data from table TD.002 and TD.003.*  *The test set up consists of a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to home page | | Display home page | Display home page |
| 2 | Click on search bar | | Search bar is selected. A drop-down list of search suggestions is opened. | Search bar is selected. A drop-down list of search suggestions is opened. |
| 3 | Enter a string into search bar | | For each character the suggestion of the drop-down list is filtered. | For each character the suggestion of the drop-down list is filtered. |
| 4 | Click on one of the suggested server addresses | | All assets from the server are loaded. The asset list is displayed; missing images are replaced with default image; invalid parameters produce the display of an error message. | All assets from the server are loaded. The asset list is displayed; missing images are replaced with default image; invalid parameters produce the display of an error message. |
|  | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | |  |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 03.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test data: | TD.003 | | | | |
| Dataset | AAS server link | | API | Expected result | Actual result |
| 01 | https://admin-shell-io.com/5001 | | V1 API | PASS | PASS |
| 02 | https://ccae4836-001e-48c2-a4f9-235554f9400b.ma.bw-cloud-instance.org/ | | V3 API | PASS | PASS |
| 03 | http://aas.murrelektronik.com:4001/aas | | V3 API | PASS | PASS |
| 04 | ccae4836-001e-48c2-a4f9-235554f9400b.ma.bw-cloud-instance.org/ | | V3 API | FAIL | FAIL |
|  | | | | | |
| Tester | | Janin Ahlemeyer | | | |
| Date | | 03.05.2023 | | | |
| Testcase Result | | PASS | | | |

# Results of Testsuite <TS.NAV: Navigation>

# Results of <TC.NAV.001.F>: Navigation bar

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.NAV.001.F> | | |
| Name: | | Navigation bar | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.004 | | |
| Description: | | *The test case verifies the correct forwarding of the navigation bar. It verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses test data from table TD.002.*  *The test set up consists of a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to home page | | Display home page | Display home page |
| 2 | Click on menu button | | Open menu | Open menu |
| 3 | Click on “About” row | | Forwarding to about page | Forwarding to about page |
| 4 | Click on menu button | | Open menu | Open menu |
| 5 | Click on “Home” row | | Forwarding to home page | Forwarding to home page |
| 6 | Click on menu button | | Open menu | Open menu |
| 7 | Click on “GitHub” row | | Forwarding to project’s GitHub page | Forwarding to project’s GitHub page |
|  | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | |  |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 04.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

# Results of <TC.NAV.002.F>: Browser’s navigation buttons

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.NAV.002.F> | | |
| Name: | | Browser’s navigation buttons | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.004 | | |
| Description: | | *The test case verifies the correct functionality of the browser’s navigation buttons. It verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses test data from table TD.002.*  *The test set up consists of a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to an asset view | | Display asset view | Display asset view |
| 2 | Click on back button | | Back to asset list | Back to asset list |
| 3 | Click on back button | | Back to home page | Back to home page |
| 4 | Click on “about” | | Display about page | Display about page |
| 5 | Click on back button | | Back to home page | Back to home page |
|  | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | |  |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 04.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

# Results of Testsuite <TS.OV: Overview>

# Results of <TC.OV.001.F>: Choose asset of asset list

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.OV.001.F> | | |
| Name: | | Choose asset of asset list | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.007 | | |
| Description: | | *The test case verifies the correct functionality of the asset list. It verifies that the images of the product and markings are adjusted. The test case verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses the test data from table TD.002, TD.004, TD.005 and TD.006.*  *The test set up consists of a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to asset list | | Display asset list | Display asset list |
| 3 | Click on search bar with search box text “Asset Name” | | Search bar is selected | Search bar is selected |
|  | Enter a string into search bar | | For each character the assets are filtered matching the string. | For each character the assets are filtered matching the string. |
| 2 | Hover on a table row | | Currently selected asset appears in another color. | Currently selected asset appears in another color. |
| 3 | Click on table row of specific asset | | The asset view of the specific asset is opened. Product image, nameplate and asset details are displayed; missing submodel details produce a corrupted overview | The asset view of the specific asset is opened. Product image, nameplate and asset details are displayed; missing submodel details produce a corrupted overview |
| 4 | Click on collapse item | | Further details of category are expanded | Further details of category are expanded |
|  | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | |  |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 04.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| Test data | TD.004 | | | | | |
| Dataset | Asset | | AAS server | Product  image | Expected result | Actual result |
| 01 | Norgren \_B84G\_4GK\_AP3\_RME | | Test server | Width: 400px  Height: 600px | PASS | PASS |
| 02 | TestAsset\_PINone\_MI\_None | | Test server | None | PASS | PASS |
| 03 | TestAsset\_PIBroken\_MI\_Broken | | Test server | Broken | PASS | PASS |
| 04 | TestAsset\_PiSmaller | | Test server | Smaller than max size | PASS | PASS |
| 05 | TestAsset\_PiBigger | | Test server | Bigger than max size | PASS | PASS |
| 06 | TestAsset\_Many | | Test server | More than one picture | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 04.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.005 | | | | | |
| Dataset | Asset | | Server | Marking image | Expected result | Actual result |
| 01 | Norgren \_B84G\_4GK\_AP3\_RME | | Test server | None | PASS | PASS |
| 02 | AAS\_Type\_VUVS-L25-M52-AD-G14-F8-1C1 | | Test server | One | PASS | PASS |
| 03 | AAS\_Demo\_CytroPac | | Test server | Many | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 04.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.006 | | | | | |
| Dataset | Asset | | Server | Nameplate | Expected result | Actual result |
| 01 | Norgren \_B84G\_4GK\_AP3\_RME | | Test server | Adequate | PASS | PASS |
| 02 | ExampleMotor | | Test server | None | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 04.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

# Results of Testsuite <TS.NP: Nameplate>

# Results of <TC.NP.001.F>: Download nameplate in SVG

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.NP.001.F> | | |
| Name: | | Download nameplate in SVG | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.002; DNG.GUI.005; DNG.GUI.006; DNG.GUI.007 | | |
| Description: | | *The test case verifies the correct functionality of downloading a nameplate in SVG format and scanning its QR code with a smartphone. It verifies the decryption of the complete nameplate submodel details as a string. The test case verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses the test data from table TD.002 and TD.006.*  *The test set up consists of a smartphone with scanning function and a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to asset view | | Asset view is displayed | Asset view is displayed |
| 2 | Click on “Download SVG” button | | Nameplate in SVG format is downloaded | Nameplate in SVG format is downloaded |
| 3 | Open the file | | Nameplate in SVG format is displayed | Nameplate in SVG format is displayed |
| 4 | Open scan application on device | | Camera to scan a QR-Code is opened | Camera to scan a QR-Code is opened |
| 5 | Scan QR code | | Response with a string containing all nameplate submodel information is displayed; failed scanning produces the display of an error message. | Response with a string containing all nameplate submodel information is displayed; failed scanning produces the display of an error message. |
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| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 06.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.006 | | | | | |
| Dataset | Asset | | Server | Nameplate | Expected result | Actual result |
| 01 | Norgren \_B84G\_4GK\_AP3\_RME | | Test server | Adequate | PASS | PASS |
| 02 | ExampleMotor | | Test server | None | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 06.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

# Results of <TC.NP.002.F>: Download nameplate in PNG

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.NP.002.F> | | |
| Name: | | Download nameplate in PNG | | |
| Req. -ID: | | DNG.GUI.001; DNG.GUI.002; DNG.GUI.005; DNG.GUI.006; DNG.GUI.007 | | |
| Description: | | *The test case verifies the correct functionality of downloading a nameplate inf PNG format and scanning its QR code with a smartphone. It verifies the decryption to the complete nameplate submodel details as a string. The test case verifies compatibility with relevant browsers, screen sizes and operating systems.*  *The test case uses the test data from table TD.002 and TD.006.*  *The test set up consists of a smartphone with scanning function and a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to asset view | | Asset view is displayed | Asset view is displayed |
| 2 | Click on “Download PNG” button | | Nameplate in PNG format is downloaded | Nameplate in PNG format is downloaded |
| 3 | Open the file | | Nameplate in PNG format is displayed | Nameplate in PNG format is displayed |
| 4 | Open scan application on device | | Camera to scan a QR-Code is opened | Camera to scan a QR-Code is opened |
| 5 | Scan QR code | | Response with a string containing all nameplate submodel information is displayed; failed scanning produces the display of an error message. | Response with a string containing all nameplate submodel information is displayed; failed scanning produces the display of an error message. |
|  | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.002 | | | | | |
| Dataset | Browser | | Screen size | Operating  system | Expected result | Actual result |
| 01 | Google Chrome 111.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 02 | Google Chrome 111.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 03 | Google Chrome 111.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 04 | Microsoft Edge 110.0 | | 1920 x 1080 | Windows 10 | PASS | PASS |
| 05 | Microsoft Edge 110.0 | | 3840 x 2160 | Windows 10 | PASS | PASS |
| 06 | Microsoft Edge 110.0 | | 3088 x 1440 | macOS | PASS | PASS |
| 07 | Firefox 111.0 | | 1920 x 1080 | macOS | PASS | PASS |
| 08 | Firefox 111.0 | | 3840 x 2160 | macOS | PASS | PASS |
| 09 | Firefox 111.0 | | 3088 x 1440 | Windows 10 | PASS | PASS |
| 10 | Safari 16.1 | | 1920 x 1080 | macOS | PASS | PASS |
| 11 | Safari 16.1 | | 2340 x 1080 | iOS | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 06.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| Test data: | TD.006 | | | | | |
| Dataset | Asset | | Server | Nameplate | Expected result | Actual result |
| 01 | Norgren \_B84G\_4GK\_AP3\_RME | | Test server | Adequate | PASS | PASS |
| 02 | ExampleMotor | | Test server | None | PASS | PASS |
|  | | | | | | |
| Tester | | Janin Ahlemeyer | | | | |
| Date | | 06.05.2023 | | | | |
| Testcase Result | | PASS | | | | |

# Results of Testsuite <TS.PERF: Performance>

# Results of <TC.PERF.001.F>: Performant under expected or peak loads

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | | | | |
| ID: | | <TC.PERF.001.F> | | |
| Name: | | Performant under expected or peak loads | | |
| Req. -ID: | | DNG.GUI.003; DNG.GUI.007; DNG.PERF.001 | | |
| Description: | | *The test case verifies fast website loads below seven seconds. It verifies the time fetching data from the server and displaying it.*  *The test case uses the test data from table TD.003.*  *The test set up consists of a timer and a computer, which is connected to the internet.* | | |
| Test steps | | | | |
| Step | Action | | Expected result | Actual result |
| 1 | Go to home page | | Display home page | Display home page |
| 2 | Click on search bar | | Search bar is selected. A drop-down list of search suggestions is opened. | Search bar is selected. A drop-down list of search suggestions is opened. |
| 3 | Enter a string into search bar | | For each character the suggestion of the drop-down list is filtered. | For each character the suggestion of the drop-down list is filtered. |
| 4 | Click on search button | | All assets from the server are loaded. The asset list is displayed; missing images are replaced with default image; invalid parameters produce the display of an error message. | All assets from the server are loaded. The asset list is displayed; missing images are replaced with default image; invalid parameters produce the display of an error message. |
| 5 | Click on one of the suggested server addresses and measure time | | All assets from the selected server are loaded below seven seconds. The asset list is displayed; invalid parameters produce the display of an error message. | All assets from the selected server are loaded below seven seconds. The asset list is displayed; invalid parameters produce the display of an error message. |
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| --- | --- | --- | --- | --- | --- |
| Test data: | TD.003 | | | | |
| Dataset | AAS server link | | API | Expected result | Actual result |
| 01 | https://admin-shell-io.com/5001 | | V1 API | PASS | PASS |
| 02 | https://ccae4836-001e-48c2-a4f9-235554f9400b.ma.bw-cloud-instance.org/ | | V3 API | PASS | PASS |
| 03 | http://aas.murrelektronik.com:4001/aas | | V3 API | PASS | PASS |
| 04 | ccae4836-001e-48c2-a4f9-235554f9400b.ma.bw-cloud-instance.org/ | | V3 API | FAIL | FAIL |
|  | | | | | |
| Tester | | Janin Ahlemeyer | | | |
| Date | | 06.05.2023 | | | |
| Testcase Result | | PASS | | | |

# Conclusion

Since every test case passed, the criteria that denote a successful completion of a test phase is met. Therefore, the test phase is completed without suspension. The main functionality to receive a nameplate with a scannable QR code of any asset from an AAS-Server is guaranteed.