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# Operational Qualification Template

* 1. Objective

The objective of Operational Qualification (OQ) testing is to demonstrate that the solution is operable under normal expected conditions with acceptable and expected output results.

* 1. Scope

OQ testing involves using a Nymi solution to perform day-to-day activities that are defined in the Nymi Design/Configuration Specifications document.

* 1. Assumptions
		+ A reliable network connection exists between each component in the environment.
		+ The tester has access to Nymi Connected Worker Platform documentation.
	2. Exclusions

n/a

1. Acronyms and References
	1. Acronyms and Definitions

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| **Acronyms and Definitions** |
| AC | Acceptance Criteria |
| CFR | Code of Federal (US) Regulations |
| cGxP | Abbreviation which includes current Good Manufacturing, Clinical and Laboratory Practices |
| CS | Configuration Specification |
| CSV | Computer Systems Validation |
| DS | Design Specification |
| FS | Functional Specification |
| GUI | Graphical User Interface |
| IQ | Installation Qualification |
| LAN | Local Area Network |
| OQ | Operational Qualification |
| PQ | Performance Qualification |
| SOP | Standard Operating Procedure |
| URS | User Requirements Specification |

* 1. References

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| **References** |
| 21 CFR |  Part 11, Part 210 |
| GAMP5 | Guide for Validation of Automated Systems |
| URS | URS for Biometric MES System |
| FS | NYMI FS-001 |
| DS/CS | NYMI CS-001 |

1. Responsibilities
	1. System Owner

To provide all required documentation, create the performance qualification testing document, and to provide a functional test environment.

* 1. System Validation Tester

To perform the qualification testing and record the results in this document. Documenting any issues that are encountered.

1. System Description

Unless otherwise noted, NES and AD servers reside in the same domain as do the user terminals.

Each User terminal has one attached Nymi-supported NFC reader and one attached Bluegiga BLE adapter.

The configuration falls into GAMP5 Category 3.

1. Test Procedure
	1. General

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| **System Name:** | nes.domain.com |
| **Test Title** | Testing NES operations |
| **Purpose** | Validate that the NES is functional in the IT Infrastructure and that a user can enroll in the Nymi Band. |
| **Test Reference:** | OQ-001  | **Test Run #:** | 01  |
| **Tester name:** | Deb Claudio | **Execution Date:** | 10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-001, URS-002****Functional Specification: FS-CFG-001, FS-CFG-010** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Connect to the NES Administration console. | A secure NES Console webpage appears. | Enter the NES Console URL. NES Console appears successfully | Pass |
| 2 | Log into the NES Administration Console with an administrator account. | Log in succeeds. |  User successfully login to the NES Console |  Pass |
| 3 | Navigate to the About page and click View Full System Diagnostics. | The System Diagnostics page does not report errors. |  System Diagnostic ran successfully without any errors. |  Pass |

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| **System Name:** | nes.domain.com |
| **Test Title** | Testing operations in a multi-domain environment |
| **Purpose** | Validate that the NES is functional in a multidomain environment, users in different domains can enroll the Nymi Band to the same NES server, and NES administrators in different domains can manage NES. |
| **Test Reference:** | OQ-002 | **Test Run #:** | 01  |
| **Tester name:** | Deb Claudio | **Execution Date:** | 10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-003, URS-024, URS-039****Functional Specification: FS-CFG-03, FS-CFG-04, FS-APP-002****Configuration details:**  NES is installed in domain A. Users are in domain A, B, C. Domain A is a root domain and B is A's sub-domain. Domain C is the root domain of another forest. There is a two-way trust from A to C. |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Use a computer and user account on Domain A to enroll a Nymi Band to NES using Nymi Band Application. | Enrollment succeeds. | Enrollment succeeded. | Pass |
| 2 | Use a computer and user account on Domain B to enroll a Nymi Band to NES using Nymi Band Application. | Enrollment succeeds. | Enrollment succeeded. | Pass |
| 3 | Use a computer and user account on Domain C to enroll a Nymi Band to NES using Nymi Band Application. | Enrollment succeeds. | Enrollment succeeded. | Pass |
| 4 | Connect to the NES Administration console. | A secure NES Console webpage appears. | Page appeared. | Pass |
| 5 | Log into the NES Administration Console with an administrator account in Domain A. | Log in succeeds. |  Login succeeded. |  Pass |
| 6 | Search for Users in all three domains. | Each search result, returns a valid user in each domain. |  All search results displayed a valid user. |  Pass |
| 7 | Open Policies page to view policies. | Policies pages opens successfully. | Page opened successfully. | Pass |
| 8 | Open the default policy and edit and save the changes. | Policy save succeeds. | Policy saved successfully. | Pass |

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| **System Name:** |   Nes.domain.com |
| **Test Title** |  Testing that the solution supports multiple authentication methods |
| **Purpose** | Validate that Connected Worker Platform supports authentication by AD credentials and/or fingerprint verification. |
| **Test Reference:** | OQ-003 | **Test Run #:** | 01 |
| **Tester name:** | Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-030** **Functional Specification: FS-NB-015, FS-APP-001** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Instruct a user to use the Nymi Band Application to enroll a Nymi Band. | Enrollment succeeds. | Nymi Band displays a checkmark(successful authentication) and battery sign. | Pass |
| 2 | Instruct the user to remove the Nymi Band. | Nymi Band de-authentication succeeds. |  Nymi Band vibrates and displays the user label(name) and battery sign. |  Pass |
| 3 | Instruct the user to place the Nymi Band back on the same wrist that was used during the enrollment process. | Nymi Band prompts the user to authenticate.  |  Nymi Band displays a fingerprint sign prompting the user to authenticate. |  Pass |
| 4 | Instruct the user to place the finger that they used to enroll the Nymi Band on the fingerprint sensor for the amount of time indicated on the Nymi Band screen. | Nymi Band authentication succeeds. | Nymi Band displays a checkmark and battery sign. |  Pass |
| 5 | Instruct the user to remove the Nymi Band. | Nymi Band de authenticates. | Nymi Band vibrates and displays user label and battery sign on. | Pass |
| 6 | Instruct the user to log in to the Nymi Band application using their corporate credentials. | Login is successful. | Log in succeeds. | Pass |
| 7 | Instruct the user to click the Authenticate button. | Nymi Band authentication succeeds. | Nymi Band is authenticated and the band displays a checkmark and battery sign. | Pass |

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| **System Name:** |  Nes.domain.com |
| **Test Title** |  Testing solution interactions with Active Directory. |
| **Purpose** | Validate that Nymi Connected Worker Platform solution ensures that the Nymi Band user is valid in Active Directory. Usernames and passwords are not stored by NES. |
| **Test Reference:** | OQ-004 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-013** **Functional Specification: FS-NB-016** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Instruct a user to use the Nymi Band Application to enroll a Nymi Band. | Enrollment succeeds. | Nymi Band displays a checkmark (successful enrollment) and battery sign. | Pass |
| 2 | Instruct the IT admin to log in to a DC and disable the AD account for the user that is associated with the Nymi Band. | The account is disabled. | Disabling the user account succeeds. |  Pass |
| 3 | Instruct the user to remove the Nymi Band and put it back on. | Nymi Band is deauthenticated. | Nymi Band displays the user label and battery sign. | Pass |
| 4 | Instruct the IT admin to log into a workstation. | Login is successful. | Log in succeeds. | Pass |
| 5 | Instruct the user to log into the Nymi Band application on the workstation. | Log in fails with an error. | Log in fails. | Pass |
| 6 | Instruct the IT admin to re-enable the user’s AD account. | Account is enabled. |  Enabling the user account succeeds. | Pass |
| 7 | Instruct the user to log into the Nymi Band Application. | Login is successful in the Nymi Band Application.  | Nymi Band Application displays the Authenticate button. | Pass |
| 8 | Instruct the user to click the Authenticate button.  | Authentication succeeds. | Nymi Band is authenticated and displays a checkmark and battery sign. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing that the Nymi solution has an interface for enrollment. |
| **Purpose** | Validate that Nymi Band application provides users with an interface toassociate Nymi Bands with users. |
| **Test Reference:** | OQ-005 | **Test Run #:** | 01 |
| **Tester name:** | Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **URS tested: URS-026, URS-030, URS-039** **Functional specification: FS-NB-015, FS-APP-001, FS-PHY-007** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Locate the Nymi Band Application and follow the steps on the interface to enroll your Nymi Band.  | Enrollment is successful. |  Nymi Band displays a check mark(successful enrollment) and battery sign. | Pass |
| 2 | Take out the Nymi Band from the user’s wrist. | Nymi Band de-authentication succeeds. |  Nymi Band vibrates and displays the user label(name) and battery sign. |  Pass |
| 3 | Put the Nymi Band on your wrist. | Nymi Band prompts the user to authenticate. |  Nymi Band displays a fingerprint icon prompting the user to authenticate. |  Pass |
| 4 | Log in to the Nymi Band Application using the same credentials that you used when you enrolled your Nymi Band. | Log in succeeds. | Nymi Band Application displays the Authenticate button. | Pass |
| 5 | Authenticate the Nymi Band by pressing the “Authenticate” Button in the Nymi Band Application. | Authentication is successful. |  Nymi Band authentication succeeds. |  Pass |
| 6 | Take out the Nymi Band from the user’s wrist. | Nymi Band de-authentication succeeds. | Nymi Band vibrates and displays the user label with battery sign. | Pass |
| 7 | Put the Nymi Band on your wrist. | Nymi Band prompts the user to authenticate. | Nymi Band displays a fingerprint icon prompting the user to authenticate . | Pass |
| 8 | Put the finger that you used to enroll the Nymi Band on the fingerprint reader and follow the instructions to authenticate the Nymi Band. | Authentication is successful.  |  Nymi Band is authenticated with a successful fingerprint. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Test removal of biometric information from the Nymi Band. |
| **Purpose** | Validate that Nymi Connected Worker Platform provides users with the ability to removebiometric information Nymi Band. |
| **Test Reference:** | OQ-006 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: USR-012** **Functional specification: FS-NB-012** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Instruct a user to use the Nymi Band Application to enroll a Nymi Band. | Enrollment is successful.  | Nymi Band displays a checkmark and battery sign. | Pass |
| 2 | Instruct the user to remove the Nymi Band. | Nymi Band de-authentication succeeds. | Nymi Band vibrates and the band displays user label and battery sign .  |  Pass |
| 3 | Instruct the user to place the Nymi Band back on the same wrist that was used during the enrollment process. | Nymi Band prompts the user to authenticate. | Nymi Band displays a fingerprint icon prompting the user to authenticate. |  Pass |
| 4 | Instruct the user to place the finger that they used to enroll the Nymi Band on the fingerprint sensor for the amount of time indicated on the Nymi Band screen. | Nymi Band authentication succeeds. | Nymi Band is authenticated with a successful fingerprint. | Pass |
| 4 | Instruct the user to remove the Nymi Band. | Nymi Band de-authenticates. |  Nymi Band vibrates and displays the user label and battery sign. |  Pass |
| 5 | Instruct the user to plug the Nymi Band in to charge. | Nymi Band starts to charge. | Nymi Band screen displays the charging icon. | Pass |
| 7 | Instruct the user to hold the bottom button of the Nymi Band until the Deleting User Data appears. | Nymi Band data is successfully deleted. | Nymi Band screen displays “Deleting User Data”, boot sequence information and then displays No User and battery sign. | Pass |
| 8 | Instruct the user to put on the Nymi Band. | Nymi Band does not prompt the user to authenticate.  | Nymi Band displays the setup code. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing firmware updates |
| **Purpose** | Validate that firmware updates can be performed concurrently on up to 5 Nymi Bands and without Nymi assistance. |
| **Test Reference:** | OQ-007 | **Test Run #:** | 01 |
| **Tester name:** | Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-025, URS-009****Functional specification: FS-BAT-006, FS-BAT-005** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Obtain a USB charging hub that has at least 10 ports. | n/a | n/a | n/a |
| 2 | Plug 5 Nymi Bands and 5 Bluetooth adapters into the USB hub and ensure that the hub is plugged into a power supply. | Nymi Bands start to charge. |  Nymi Bands display the charging symbol. |  Pass |
| 3 | Place the hub within Bluetooth range of a computer that has the Nymi Band Application software installed and a Bluetooth adapter plugged into it. | n/a | n/a |  n/a |
| 4 | From a command prompt on the computer, type the command to start the firmware updater script. | The firmware updater script starts, and the Nymi Band displays a message to indicate that the update is in progress. | The firmware updater displays a status window for the firmware updates and the Nymi Bands screens display “STANDBY”. | Pass |
| 5 | While the Nymi Band is displays "STANDBY", take the Nymi Band off charge.  | Firmware update stops and Nymi Band does not display an error.  | Nymi Band does not display "STANDBY" or report an error. | Pass |
| 6 | Leave the Nymi Band off charge for 5 mins. | The firmware update does not start. | Nymi Band does not display "STANDBY". | Pass |
| 7 | Put the Nymi Band back on charge. | The update of the Nymi Band firmware starts again. | Nymi Band displays "STANDBY". |  |
| 8 | Monitor the Nymi Band display and the firmware updater status window. | Nymi Band firmware updates complete and the administrator is provided with visual indications.  |  Nymi Bands reboot as each update completes and the status window provides information about the number of completed Nymi Bands. |  Pass |
| 9 | In Windows Explorer, go to the Properties of the firmware updater script file.  | The properties of the file provide signing information. | Signing information appears on the Digital Signatures tab. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing Nymi Band cleaning |
| **Purpose** | Validate that the Nymi Band can be sanitized with an alcohol wipe or spray. |
| **Test Reference:** | OQ-008 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-008****Functional specification: FS-ENV-003** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Using a wipe that has been soaked in 70% isopropanol, wipe all surfaces of the Nymi Band’s bodyincluding:-Front surface (display, fingerprint sensor)-Back surface (ECG electrode, sensor glass)-Sides (button surfaces, USB port)-exposed strap surfaces | Nymi Band is cleaned, and the body of the Nymi Band is undamaged by cleaning. | Nymi Band displays battery symbol and the body appears unchanged. | Pass |
| 2 |  Wear the Nymi Band on your wrist and authenticate it using your fingerprint. | Nymi Band prompts the user to authenticate and then authentication is successful. | Nymi Band is authenticated following successful fingerprint. | Pass |
| 3 | Remove Nymi band off the wrist | Nymi Band de authenticates. | Nymi Band vibrates, deauthenticates and then displays user label and battery sign. | Pass |
| 4 | Repeat these 3 steps several times throughout the day. | Same results are expected. | All results remain the same. | Pass |
| 5 | Place the Nymi Band to charge. | Nymi Band starts to charge.  | Nymi Band displays a battery icon that is full or has a lightning bolt. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing Nymi solution auditing |
| **Purpose** | Validate that the system maintains an audit log ofNymi Band user assignments |
| **Test Reference:** | OQ-009 | **Test Run #:** | 01 |
| **Tester name:** | Deb Claudio | **Execution Date:** | 10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-027****Functional Specifications: FS-SAF-005** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Install an application that supports T-SQL queries, such as SSMS. | Installation completes without error. | Installation completes | Pass |
| 2 | Log in to the NES server with a user that has access to query the NES database. | Log in succeeds. |  Login succeeds | Pass |
| 3 | Open SSMS and connect to the database. | Connection completes without error. |  No errors | Pass |
| 4 | Query the database UserCore and NymiBand tables to gather information about the Nymi Band to user correlation.  | Summary output appears that provides the username that is associated with each Nymi Band. |  Summary provides sufficient details | Pass |

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| **System Name:** |  Nes.domain.com |
| **Test Title** |  Test the dissociation of a user from their Nymi Band. |
| **Purpose** | Validate that IT admin can dissociate a user from a Nymi Band. |
| **Test Reference:** | OQ-010 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** | 10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-019****Functional specification:** **FS-APP-002** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Instruct a user to use the Nymi Band Application to enroll a Nymi Band. | Enrollment successful with the nymi band. | Nymi band displays a checkmark and battery sign. | Pass |
| 2 | IT admin logs into the NES Administrator Console. | Log in succeeds. |  Login successful | Pass |
| 3 | IT admin searches for the username of the user. | Search results return the user  |  User is found | Pass |
| 4 | IT admin selects the user. | The User properties screen appears and the Nymi Band table displays information about the Nymi Band. | Properties populate | Pass |
| 4 | IT admin clicks Disconnect beside the Nymi Band entry in the Nymi Band table. | The Disconnect Nymi Band page appears. |  Page appears | Pass |
| 5 | IT admin clicks Disconnect. | The Edit User page appears and the Nymi Band table does not contain an entry for the Nymi Band. | Page is accurate | Pass |
| 7 | Instruct the user log in to the Nymi Band Application. | Nymi Band Application prompts the user for the setup code. | Setup code displays on Nymi Bad | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Test the installation of an NEA on a Windows 10 thin client. |
| **Purpose** | Validate that an NEA can be installed on a Windows 10 thin client. |
| **Test Reference:** | OQ-011 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-021****Functional specification:** **FS-RDP-005** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Follow the instructions in the Nymi Connected Worker Platform Deployment Guide to install the Nymi Agent application on the NES host. | Nymi Agent application installed successfully. | Installation succeeds. | Pass |
| 2 | Follow the instructions in the Nymi Connected Worker Platform Deployment Guide to install the Nymi Bluetooth Endpoint application on the Citrix or RDP client. | Installation completes successfully. |  Installation succeeds. |  Pass |
| 3 | Follow the instructions in the Nymi Connected Worker Platform Deployment Guide to create the nbe.toml file on the Citrix or RDP client. | nbe.toml file appears in the directory. |  File creation succeeds. | Pass |
| 4 | Follow the instructions in the Nymi Connected Worker Platform Deployment Guide to install the NEA. | Installation completes successfully. | Installation succeeds. | Pass |
| 5 | Put a Nymi Band on your wrist and authenticate it. | Nymi Band prompts the user to authenticate. | Authentication succeeds. | Pass |
| 6 | Start the NEA. | NEA prompts you for your username and password. | The Login screen appears. | Pass |
| 7 | Tap the Nymi Band against the NFC reader. | The NEA login completes successfully. | Login succeeds. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing the Nymi solution with thin clients with NEAs and MES applications. |
| **Purpose** | Validate that an NEA can be installed on a Windows 10 thin client and the Nymi Band can be used to perform authentication tasks. |
| **Test Reference:** | OQ-012 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-004, URS-006, URS-022, URS-023, URS-014, URS-015, URS-017****Functional specification:** **FS-RDP-005, FS-MES-001, FS-MES-006, FS-NB-019, FS-MES-001****Configuration information: Tester is wearing a class A/C, C or D PPE suit. The NFC reader is covered with 3 cm of plexiglass.** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Following the steps provided by the MES vendor to install the MES application. | Installation completes successfully. | Installation succeeds. | Pass |
| 2 | Follow the instructions in the Nymi Connected Worker Platform Administration Guide to enroll a Nymi Band. | Enrollment completes successfully. | Enrollment succeeds. | Pass |
| 3 | Open the MES application. | The application prompts you to login. | Login screen appears. | Pass |
| 4 | Tap the authenticated Nymi Band against a connected NFC reader. | The application log in completes successfully. | Log in succeeds. | Pass |
| 5 | Perform an authentication task in the MES application. | The MES application prompts you for your username and password. | Username and Password prompts appear. | Pass |
| 6 | Tap the authenticated Nymi Band against a connected NFC reader. | The authentication task in the MES application completes successfully. | MES records the authentication event. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing the secure Nymi Band association with user during enrollment |
| **Purpose** | Validate that the Nymi Band Application (NBA) requires the user to provide consent when enrolling a Nymi Band. |
| **Test Reference:** | OQ-013 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-042****Functional specification:** **FS-ENR-009****Configuration information: User is wearing a charged, un-enrolled Nymi Band.** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Instruct the user to open the Nymi Band Application | Nymi Band applications opens. | Nymi Band applications opens. | Pass |
| 2 | Instruct the user to tap the Nymi Band to the dongle | Prompt the user to login to the Nymi band application. | Username and Password prompts appear. | Pass |
| 3 | Instruct the user to login with their Active Directory username and password | The user entered the username and password to login. | The username and password were entered, and login is successful. | Pass |
| 4 | Instruct the user tap the Nymi Band to the dongle to accept request consent. | The user accepts the request consent that user is assigned to this band. | The user accepts the consent for band and user association. | Pass |
| 5 | Instruct the user to perform the fingerprint capture process and authentication training. | The fingerprint print capture and authentication training are successful for this user. | The fingerprint print capture and authentication training are successful for this user. | Pass |
| 6 | The Nymi Band pushed the certs to the band and band is updated | Enrollment is completed successfully. | Enrollment is completed and the user disconnects. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** |  Testing how to disable the haptic signals on the Nymi Band |
| **Purpose** | Validate the disabling of the haptic signals on a Nymi band. |
| **Test Reference:** | OQ-014 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-040****Functional specification:** **FS-ENV-005****Configuration information: User is wearing a charged, unenrolled Nymi Band** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Follow the Administration Guide and disable the haptic feedback on the Nymi band. | The haptic feedback is disabled in the policy. | The haptic feedback is disabled in the policy. | Pass |
| 2 | Follow the Administration Guide and enroll a Nymi Band. | Nymi Band is successfully enrolled without haptic feedback. | Nymi Band is successfully enrolled and does not vibrate upon completion of the enrollment. | Pass |
| 3 | Remove the Nymi band from user’s arm. | The Nymi band is removed from the user’s arm without haptic feedback. | The Nymi band is removed from the user’s arm and does not vibrate. | Pass |
| 4 | Place the Nymi Band to the user’s arm and authenticate | Nymi Band authenticated successfully without haptic feedback. | Nymi Band authenticated successfully without haptic feedback and does not vibrate. | Pass |

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| **System Name:** |  nes.domain.com |
| **Test Title** | Testing Nymi Band taps to perform e-signatures in a web-based MES from an iOS device |
| **Purpose** | Verify that users can use their Nymi Band to perform e-signatures in web application that they access from an iOS device. |
| **Test Reference:** | OQ-015 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** |  10-23-2023 |

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| **Test Protocol** |
| **URS tested: URS-041****Functional specification:** **FS-WEB-010****Configuration information: Web application is configured to use the Nymi Application.** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Following the steps provided by the MES vendor to install the MES web application. | Installation completed successfully. | Installation succeeds. | Pass |
| 2 | Follow the instructions in the Nymi Connected Worker Platform Administration Guide to enroll a Nymi Band. | Enrollment is completed successfully. | Enrollment succeeds. | Pass |
| 3 | Launch the MES web application. | The web application is opened.  | The web application is opened. | Pass |
| 4 | Tap the authenticated Nymi Band against the iOS device. | The e-signature is created successfully. | The e-signature is created successfully. | Pass |

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| --- | --- |
| **System Name:** |  nes.domain.com |
| **Test Title** | Testing Self- Service re-enrollment |
| **Purpose** | Verify that users can re-enroll their Nymi Band while maintaining organization level access control |
| **Test Reference:** | OQ-016 | **Test Run #:** | 01 |
| **Tester name:** |  Deb Claudio | **Execution Date:** | 06-03-2024 |

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| **Test Protocol** |
| **URS tested: URS-039, URS-043****Functional specification:** **FS-APP-003, FS-APP-004****Configuration information: Self – Serve enrollment is configured and usable** |
| **Step#** | **Procedure** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | As the Site – Admin or Supervisor, follow the instructions in the Nymi Connected Worker Platform Administration Guide activate the policy to enable self-service re-enrollment policy. | Self- Service re-enrollment is enabled in the policy. | Self- Service re-enrollment is enabled in the policy. | Pass |
| 2 | As the End User, follow the instructions in the Nymi Connected Worker Platform Administration Guide to enroll a Nymi Band. | Enrollment is completed successfully. | Enrollment succeeds. | Pass |
| 3 | Open the MES application. | The application prompts you to login. | Login screen appears. | Pass |
| 4 | Tap the authenticated Nymi Band against a connected NFC reader. | The application log in completes successfully. | Log in succeeds. | Pass |
| 5 | Perform an authentication task in the MES application. | The MES application prompts you for your username and password. | Username and Password prompts appear. | Pass |
| 6 | Tap the authenticated Nymi Band against a connected NFC reader. | The authentication task in the MES application completes successfully. | MES records the authentication event. | Pass |
| 7 | As the End User, follow the instructions in the Nymi Connected Worker Platform Administration Guide to delete the user on the Nymi Band. | User deletion is completed successfully on the Nymi Band. | User deletion is completed successfully on the Nymi Band. | Pass |
| 8 | As the End User, follow the instructions in the Nymi Connected Worker Platform Administration Guide to enroll a Nymi Band. | Enrollment is completed successfully. | Enrollment is completed successfully. | Pass |
| 9 | Open the MES application. | The application prompts you to login. | Login screen appears. | Pass |
| 10 | Tap the authenticated Nymi Band against a connected NFC reader. | The application log in completes successfully. | Log in succeeds. | Pass |
| 11 | Perform an authentication task in the MES application. | The MES application prompts you for your username and password. | Username and Password prompts appear. | Pass |
| 12 | Tap the authenticated Nymi Band against a connected NFC reader. | The authentication task in the MES application completes successfully. | MES records the authentication event. | Pass |
| 13 | As the End User, follow the instructions in the Nymi Connected Worker Platform Administration Guide to delete the user on the Nymi Band. | User deletion is completed successfully on the Nymi Band. | User deletion is completed successfully on the Nymi Band. | Pass |
| 14 | As the End User, follow the instructions in the Nymi Connected Worker Platform Administration Guide to enroll a Nymi Band. | Enrollment is completed successfully. | Enrollment is completed successfully. | Pass |
| 15 | Open the MES application. | The application prompts you to login. | Login screen appears. | Pass |
| 16 | Tap the authenticated Nymi Band against a connected NFC reader. | The application log in completes successfully. | Log in succeeds. | Pass |
| 17 | Perform an authentication task in the MES application. | The MES application prompts you for your username and password. | Username and Password prompts appear. | Pass |
| 18 | Tap the authenticated Nymi Band against a connected NFC reader. | The authentication task in the MES application completes successfully. | MES records the authentication event. | Pass |