Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms

Traceability Record

By

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**Dr. Chartchai Doungsa-ard**

# Document History

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| --- | --- | --- | --- | --- | --- | --- |
| **Document Name** | **Version** | **Status** | **Date** | **Viewable** | **Reviewer** | **Responsible** |
| **Documents** | | | | | | |
| **OEGP – Traceability Record v.0.1.docx** | **0.1**   * URS and SRS * URS and Class diagram * URS and Sequence diagram * URS and User interface * Class diagram and sequence diagram | Draft | July 4, 2014 | NS, PW, CD | NS, PW | NS, PW |
| **OEGP – Traceability Record v.1.0.docx** | **1.0**   * Class diagram and Unit Test Case | Release | July 7, 2014 | NS, PW, CD | NS, PW | NS, PW |

**[[1]](#footnote-1)**

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## Traceability Matrix between URS/SRS

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-01 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-02 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-03 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-04 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-05 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-06 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-07 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-08 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-09 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-10 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-11 | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-12 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SRS-13 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-14 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-15 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-16 |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-17 |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-18 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-19 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-20 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-21 |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-22 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-23 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-24 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-25 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-26 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-27 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-28 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-29 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-30 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-31 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-32 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-33 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-34 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-35 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-36 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-37 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-38 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-39 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-40 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-41 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-42 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-43 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-44 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-45 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-46 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-47 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-48 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-49 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-50 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-51 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-52 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-53 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-54 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-55 |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-56 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-57 |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-58 |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-59 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-60 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-61 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-62 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-63 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-64 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-65 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-66 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-67 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-68 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-69 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-70 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-71 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-72 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-73 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-74 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-75 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-76 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-77 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-78 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-79 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-80 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-81 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-82 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-83 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-84 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-85 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-86 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-87 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-88 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-89 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-90 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-91 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-92 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-93 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-94 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-95 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-96 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-97 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-98 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-99 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-100 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-101 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-102 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-103 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-104 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-105 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-106 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-107 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-108 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-109 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-110 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-111 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-112 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-113 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-114 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-115 |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-116 |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-117 |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-118 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-119 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-120 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-121 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-122 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-123 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-124 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-125 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-126 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-127 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-128 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-129 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-130 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-131 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-132 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-133 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-134 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-135 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-136 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-137 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-138 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-139 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-140 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-141 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-142 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-143 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-143 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-144 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-145 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-146 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-147 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-148 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-149 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-150 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-151 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-152 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-153 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-154 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |
| SRS-155 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |
| SRS-156 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-157 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SRS-158 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SRS-160 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SRS-161 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SRS-162 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-163 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-164 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-165 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-166 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-167 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-168 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-169 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SRS-170 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-171 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| SRS-172 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |
| SRS-173 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |
| SRS-174 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  | ✓ |  |  |  |  |  |  |
| SRS-175 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SRS-176 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SRS-177 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SRS-178 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SRS-179 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SRS-180 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SRS-181 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-182 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-183 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-184 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-185 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-186 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-187 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-188 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-189 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-190 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-191 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-192 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-193 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| SRS-194 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SRS-195 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-196 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |
| URS/SRS | URS-01 | URS-02 | URS-03 | URS-04 | URS-05 | URS-06 | URS-07 | URS-08 | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 | URS-24 | URS-25 |
| SRS-197 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |
| SRS-198 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-199 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SRS-200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SRS-201 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SRS-202 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SRS-203 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |
| SRS-204 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-205 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-206 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-207 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-208 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-209 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-210 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SRS-211 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SRS-212 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |

## Traceability Matrix between URS/Class diagrams

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ Class Diagram | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 |
| CD-01 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-02 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-03 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-04 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-05 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-06 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-07 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-08 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-09 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-10 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-11 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| CD-12 |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |
| CD-13 |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |
| CD-14 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |

## Traceability Matrix between URS/Sequence diagrams

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ Sequence Diagram | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 |
| SQD-09A | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09B | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09C | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09D | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09E | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09F | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09G | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09H | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09I | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09J | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09K | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10A |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10B |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10C |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10D |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10E |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10F |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10G |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10H |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10I |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URS/ Sequence Diagram | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 |
| SQD-10J |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10K |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11A |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11B |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11C |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11D |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11E |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11F |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11G |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11H |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11I |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11J |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11K |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-12 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SQD-13 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SQD-14 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SQD-15 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SQD-16 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SQD-17 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SQD-18 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SQD-19 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SQD-20 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SQD-21 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-22 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |

## Traceability Matrix between URS/User interface

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| URS/ User Interface | URS-09 | URS-10 | URS-11 | URS-12 | URS-13 | URS-14 | URS-15 | URS-16 | URS-17 | URS-18 | URS-19 | URS-20 | URS-21 | URS-22 | URS-23 |
| UI-01 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UI-02 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-03 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-04 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-05 |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-06 |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UI-07 |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |
| UI-08 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UI-09 |  |  |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ |  |  |  |  |
| UI-10 |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |
| UI-11 |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |
| UI-12 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UI-13 |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  |  |
| UI-14 |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |
| UI-15 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UI-16 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
| UI-17 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |

## Traceability Matrix between Class Diagram/Sequence diagrams

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Class Diagram/ Sequence Diagram | CD-01 | CD-02 | CD-03 | CD-04 | CD-05 | CD-06 | CD-07 | CD-08 | CD-09 | CD-10 | CD-11 | CD-12 | CD-13 | CD-14 |
| SQD-09A | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09B |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09C |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SQD-09D |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SQD-09E |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SQD-09F |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SQD-09G |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SQD-09H |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SQD-09I |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SQD-09J |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SQD-09K |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SQD-10A | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10B |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10C |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SQD-10D |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SQD-10E |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SQD-10F |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SQD-10G |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SQD-10H |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SQD-10I |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SQD-10J |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SQD-10K |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| Class Diagram/ Sequence Diagram | CD-01 | CD-02 | CD-03 | CD-04 | CD-05 | CD-06 | CD-07 | CD-08 | CD-09 | CD-10 | CD-11 | CD-12 | CD-13 | CD-14 |
| SQD-11A | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11B |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11C |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| SQD-11D |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| SQD-11E |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| SQD-11F |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| SQD-11G |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| SQD-11H |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| SQD-11I |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| SQD-11J |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| SQD-11K |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| SQD-12 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-13 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-14 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-15 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| SQD-16 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-17 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-18 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-19 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| SQD-20 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SQD-21 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SQD-22 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| SQD-23 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |

## Traceability Matrix between Class Diagram/ Unit Test Case

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Class diagram/ Unit Test Case | CD-01 | CD-02 | CD-03 | CD-04 | CD-05 | CD-06 | CD-07 | CD-08 | CD-09 | CD-10 | CD-11 | CD-12 | CD-13 | CD-14 |
| UTC-01 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-02 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-03 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-04 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-05 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-06 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-07 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-08 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-09 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-10 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-11 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-12 |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| UTC-13 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UTC-14 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UTC-15 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UTC-16 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UTC-17 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UTC-18 |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |
| UTC-19 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| UTC-20 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| UTC-21 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| UTC-22 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| UTC-23 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| Class diagram/ Unit Test Case | CD-01 | CD-02 | CD-03 | CD-04 | CD-05 | CD-06 | CD-07 | CD-08 | CD-09 | CD-10 | CD-11 | CD-12 | CD-13 | CD-14 |
| UTC-24 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |
| UTC-25 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UTC-26 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UTC-27 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UTC-28 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UTC-29 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UTC-30 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| UTC-31 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| UTC-32 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| UTC-33 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| UTC-34 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| UTC-35 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| UTC-36 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |
| UTC-37 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UTC-38 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UTC-39 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UTC-40 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UTC-41 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UTC-42 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |
| UTC-43 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UTC-44 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UTC-45 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UTC-46 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UTC-47 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UTC-48 |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| UTC-49 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| UTC-50 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| Class diagram/ Unit Test Case | CD-01 | CD-02 | CD-03 | CD-04 | CD-05 | CD-06 | CD-07 | CD-08 | CD-09 | CD-10 | CD-11 | CD-12 | CD-13 | CD-14 |
| UTC-51 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| UTC-52 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| UTC-53 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| UTC-54 |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |
| UTC-55 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| UTC-56 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| UTC-57 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| UTC-58 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| UTC-59 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| UTC-60 |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| UTC-61 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UTC-62 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UTC-63 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UTC-64 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UTC-65 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UTC-66 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |
| UTC-67 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UTC-68 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UTC-69 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UTC-70 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UTC-71 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UTC-72 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| UTC-73 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| UTC-74 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| UTC-75 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| UTC-76 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| Class diagram/ Unit Test Case | CD-01 | CD-02 | CD-03 | CD-04 | CD-05 | CD-06 | CD-07 | CD-08 | CD-09 | CD-10 | CD-11 | CD-12 | CD-13 | CD-14 |
| UTC-77 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| UTC-78 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| UTC-79 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| UTC-80 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| UTC-81 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| UTC-82 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |
| UTC-83 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |

1. NS – Narongrit Saisuwan , PW – Panupak Wichaidit , CD - Chartchai Doungsa-ard [↑](#footnote-ref-1)