
**186015082 ACQUITY UPLC I-Class BSM Plus
186015085 ACQUITY UPLC H-Class FTN-H Plus
186015088 ACQUITY UPLC I-Class FTN-I Plus
Manufacturing Readiness Qualification Plan**

For transfer to Contract Manufacturer: Venture, Singapore

QUALIFICATION PLAN APPROVAL
for 186015082 ACQUITY UPLC I-Class BSM Plus, 186015085 ACQUITY UPLC H-Class FTN-H
Plus and 186015088 ACQUITY UPLC I-Class FTN-I Plus

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Version History

Version	Date	Author	Change Description
00	06-Apr-2018	Denise Soter	Initial version

1. INTRODUCTION

This Qualification Plan describes the method of qualification of a Contract Manufacturer (Venture) specific to the build, test, and shipment of the 186015082 ACQUITY UPLC I-Class BSM Plus, 186015085 ACQUITY UPLC H-Class FTN-H Plus and 186015088 ACQUITY UPLC I-Class FTN-I Plus. The Qualification Package will comprise the evidence of the successful Qualification and approval for Manufacturing Readiness.

2. SCOPE

This plan is designed to capture the major activities and their timeframes for delivering product knowledge and documentation to the receiving production facility to successfully and efficiently build, test, and ship the 186015082 ACQUITY UPLC I-Class BSM Plus, 186015085 ACQUITY UPLC H-Class FTN-H Plus and 186015088 ACQUITY UPLC I-Class FTN-I Plus instruments.

The completion of this plan will create associated objective evidence such as: problem logs with follow up actions, training certificates for master trainers, test reports for product qualification, and performance analysis reports. Final signoff of the Qualification Report will allow Manufacturing Readiness approval for the instruments being produced at Venture.

3. REFERENCES

Document Number	Document Name
730000464SO	Contract Manufacturers for Instruments
186015082, 279003869	Assembly Procedures for 186015082 ACQUITY UPLC I-Class BSM Plus
735002010	Test Procedures for 186015082 ACQUITY UPLC I-Class BSM Plus (TE82943)
186015085, 279003866	Assembly Procedures for 186015085 ACQUITY UPLC H-Class FTN-H Plus
735002984	Test Procedures for 186015085 ACQUITY UPLC H-Class FTN-H Plus (TE83064)
186015088, 279003864	Assembly Procedures for 186015088 ACQUITY UPLC I-Class FTN-I Plus
735002984	Test Procedures for 186015088 ACQUITY UPLC I-Class FTN-I Plus (TE83064)
WAT046538	Electrical Safety Test Procedure
732000007	Venture Quality Plan
730001835	Test Equipment Qualification Procedure
735002132	Genealogy Data Entry, SigmaQuest

730000295MP	Quality System Document Control
WAT000050MP	Waters Record Retention Policy
730000483	Global WI/Operating Procedure Template

4. DEFINITIONS/ABBREVIATIONS

Term	Definition / Abbreviation
Contract Manufacturing Organization (CMO)	A supplier who manufactures products for Waters per Waters design and manufacturing instructions.
Dock-To-Stock (DTS)	Status granted to CMO after successful qualification of the transfer process and training which allows the CMO to ship directly to Waters distribution centers. Initial Dock-to-Stock criteria are set in the Manufacturing Readiness Qualification Plan.
Instrument	The product that is being manufactured, usually a 186-level product.
Manufacturing Readiness	Status granted to CMO after successful qualification of the transfer process and training stating the CMO is free to build instruments and ship to Waters Distribution Center under the guidance of WPPL Quality.
Qualification Data Package	A group of objective evidence which documents the qualification activities and includes at a minimum: problem logs and actions, training certificates, test reports from production, and performance comparison data.
SigmaSure / SigmaQuest	A software package and database used for storing and reporting product-specific test data generated by the production process.
Subassembly	A collection of parts and/or other subassemblies that form a functional assembly that is built and tested to that level as a component of the final instrument.
Device History File (DHR)	A compilation of records containing the production history of finished device.

5. PRODUCT DEFINITION

The ACQUITY UPLC I-Class BSM Plus instrument used in conjunction with an ACQUITY Plus system is used to degas and pump the solvent(s) through the system. The ACQUITY UPLC H-Class FTN-H Plus and ACQUITY UPLC I-Class FTN-I Plus instruments used in conjunction with an ACQUITY Plus system is used to aspirate and dispense samples.

6. PREREQUISITES

The Contract Manufacturer shall meet the requirements set forth in Procedure 730000464SO and the Venture Quality Plan (732000007).

7. QUALIFICATION OF PARTS IN THE LOCAL SUPPLY CHAIN

Piece parts specific to the ACQUITY UPLC I-Class BSM Plus, ACQUITY UPLC H-Class FTN-H Plus and ACQUITY UPLC I-Class FTN-I Plus have been categorized for localization and sourcing in the local supply chain of the Contract Manufacturer in advance of transfer. The localization codes for the unique components are in Appendix B of the Transfer Plans (QP 2018-06, QP 2018-07 and QP 2018-08). Localization categories will follow the guidelines in Waters' Quality Plan with Venture (732000007) and 730000464SO. First article inspection will be conducted and approved by Waters WPPL.

8. QUALIFICATION PERIOD

The qualification period in relation to the assembly and test of the ACQUITY UPLC I-Class BSM Plus, ACQUITY UPLC H-Class FTN-H Plus and ACQUITY UPLC I-Class FTN-I Plus instruments commence at the start of the consignment build at Venture in Singapore and ends with the achievement of Manufacturing Readiness status as described in Section 15.

9. PROBLEM FEEDBACK AND RESOLUTION

Regular Team meetings will be established during the transition period for Contract Manufacturer trainees to provide feedback relative to any issues or concerns pertaining to the ACQUITY UPLC I-Class BSM Plus, ACQUITY UPLC H-Class FTN-H Plus and ACQUITY UPLC I-Class FTN-I Plus instrument assembly and test processes. Issues raised will be recorded and tracked. Each issue will be assigned to a Waters Team member who will be responsible for reporting on the progress regularly until the issue is resolved.

10. DATA STORAGE STRATEGY

Data will be captured via SigmaQuest during the build of subassemblies (if applicable) and during the final test process during the training period, qualification period, and post Manufacturing Readiness approval. The data will be stored and accessible through the SigmaQuest Database with appropriate user login.

Following training, final test results sheets will be placed in the instrument DHRs and stored physically within the Contract Manufacturer's facility or according to local storage procedures.

Product DHRs will be generated for each instrument and maintained in accordance with Waters Record Retention Policy WAT000050MP as required.

11. TRAINING

No formal training is required by Waters for CMO personnel on the 186015082 ACQUITY UPLC I-Class BSM Plus because the CMO has built a similar model 186015000 ACQUITY UPLC I-Class BSM since MAR 2014 (Qty. 3,200+ to date), on the 186015085 ACQUITY UPLC H-Class FTN-H Plus because the CMO has built a similar model 186015017 ACQUITY UPLC Sample Manager FTN since MAR 2011 (Qty. 14,000+ to date) and on the 186015088 ACQUITY UPLC I-Class FTN-I Plus because the CMO has built a similar model 186015046 ACQUITY UPLC I-Class Sample Manager-FTN since NOV 2011 (Qty. 3,800+ to date).

The new models are very close in build configuration to the current model. Due to experience levels, it was deemed that a formal training program is not required. Training will be handled internally at the CMO from the use of the documentation for the new model as provided by Waters NPI.

No additional training is required for designated Waters and CMO personnel for Test Equipment installation and qualification because these instruments use existing Test Equipment at the CMO in Singapore.

12. PROCESS QUALIFICATION – CONSIGNMENT BUILD

The training and competency of the CMO will be verified through the NPI Consignment Build of approximately three (3) instruments which will be inspected and tested in Milford NPI Operations and then later during the Manufacturing Readiness Qual Build. If any instruments in the qualification lots are deemed unacceptable by Waters, a failure analysis must be completed with corrective actions implemented prior to re-submitting the lot for test.

13. PRODUCT QUALIFICATION WITH LOCAL SOURCE SUPPLY

During the start of transfer activities, the CMO will initiate its local supply chain. Following successful consignment build, a qualification build of five (5) instruments of each module will be built at the CMO using either locally sourced parts from Singapore or material supplied by Milford. The instrument builds will be audited by in-process and final inspections and testing per Waters Test procedures and will be performed by trained personnel on the existing test equipment at the CMO.

In addition, the trained CMO personnel will cross-train additional CMO personnel.

Waters WPPL will audit the build, test process, cross-training and First Article Approvals at the Contract Manufacturer's facility and issue Provisional Manufacturing Approval..

The Milford team is responsible for:

- A. Verification of the test programs of TE82943 and TE83064 with the associated equipment at the CMO which will be reviewed by Milford Test Engineering and approved by Milford Quality.
- B. Verification of the build and test of subassemblies and final units from the consignment build with the assistance of WPPL to ensure the associated processes are robust and conform to written procedures.
- C. With WPPL support, communicating to the project team any issues encountered during on-site process qualification and insuring timely implementation of corrective actions.
- D. Along with WPPL, supporting the audit of subassemblies and final product as required during the qualification period.
- E. In a joint effort with WPPL, verifying that a final check sheet is implemented to insure that workmanship issues are caught prior to product shipment.
- F. No verification of the tooling is required because no additional tooling is required.

If any issues are found, a Root Cause Analysis will be required and immediate corrective actions shall be put in place with preventative actions implemented prior to re-submitting the lots for test. Issues found during these audits with inconclusive corrective actions may force additional audits to be performed. Non-product specific issues (i.e. general workmanship issues) may cause corrective actions to be carried out per the Contract Manufacturer's Quality Plan. Any supporting documents for this will be attached to the end of the Qualification Data Package including copies of the final test records.

14. PRODUCT PERFORMANCE ANALYSIS

Instruments will be tested per Waters Test procedures 735002010 (TE82943), 735002984 (TE83064) and WAT046538. However, performance analysis will be conducted on Waters Test procedure 735002010 and 735002984 for final instrument test.

Data captured during the qualification period will be compared to historic data. The data should reflect the performance data from Waters for the instruments built in New Product Introduction and tested on the Production test equipment. The Product Assurance Engineer will identify any areas that cause concern. Significant variation from historic process control data may require investigation and corrective action prior to Manufacturing Readiness Qualification.

15. MANUFACTURING READINESS QUALIFICATION

Upon successful completion of the following events, the 186015082 ACQUITY UPLC I-Class BSM Plus, 186015085 ACQUITY UPLC H-Class FTN-H Plus and 186015088 ACQUITY UPLC I-Class FTN-I Plus, as assembled and tested at the CMO facility will be considered acceptable for Manufacturing Readiness status.

- I) Training (Section 11)
- II) Training Qualification (Section 12)
- III) Product Qualification with Local Source Supply (Section 13)
- IV) Product Performance Analysis (Section 14)

Success Criteria:

1. Trainees shall demonstrate their knowledge during qualification builds at the CMO site and shall demonstrate their ability to train their co-workers by the production of functional instruments.
2. The assembly and test process and procedures shall be in place and verified by the actual build and test process. It will be evident that all contract manufacturer personnel involved with the build and test of the product both understand, have access to, and use the assembly and test procedures.
3. Normal Sampling Level III, AQL 0.65 under ISO 2859 will be provided during the CMO on-site qualification build for independent on-site audit. Root Cause Analysis will be required on any issue found and immediate corrective actions shall be put in place. Issues found during these audits with inconclusive corrective actions may force additional audits to be performed or delay of transfer. Non-product specific issues (i.e. general workmanship issues) may cause corrective actions to be carried out per the Contract Manufacturer's Quality Plan.
4. Product Performance Analysis should show no significant difference in product performance on units built during the qualification period.

Declaration of Manufacturing Readiness:

The combined Milford and WPPL Project Team responsible for the product transfer will be responsible for determining that the above success criteria have been met. A 30-day (calendar) Provisional Form will be signed at this time by the Waters Team on site indicating Manufacturing Readiness for Venture. A final Qualification Report will be completed within 30 days summarizing the Qualification activities, any issues or deviations from the plan, and final status declaring that the Venture is able to manufacture ACQUITY UPLC I-Class BSM Plus, ACQUITY UPLC H-Class FTN-H Plus and ACQUITY UPLC I-Class FTN-I Plus instruments unaided and has reached Manufacturing Readiness.

16. DOCK-TO-STOCK

Following Manufacturing Readiness, the CMO will be able to commence manufacturing the 186015082 ACQUITY UPLC I-Class BSM Plus, 186015085 ACQUITY UPLC H-Class FTN-H Plus and 186015088 ACQUITY UPLC I-Class FTN-I Plus. At that time, WPPL will determine an appropriate inspection plan for the first quarter of production based on the instrument complexity, similarity to existing products at the CMO and the number of production units. Dock-to-Stock will be declared by Waters WPPL Quality for the 186015082 ACQUITY UPLC I-Class BSM Plus, 186015085 ACQUITY UPLC H-Class FTN-H Plus and 186015088 ACQUITY UPLC I-Class FTN-I Plus instruments based on acceptable results of the inspections. Unacceptable results will be reviewed and a new inspection plan will be implemented based on the results.

17. POST-TRANSFER TECHNICAL SUPPORT

Routine on-going technical and quality support will be provided as follows:

Initial contact point and coordination of resources – Supplier Quality Engineer/Manager (Waters Singapore, WPPL).

FAI, source inspection, instrument inspection for DTS – WPPL Supplier Quality Engineer

Test process issues –WPPL Production Test Engineer.

Build process issues–WPPL Production Manufacturing Engineer.

The appropriate Milford personnel will support WPPL as necessary.

18. APPENDICES

N/A