

MOTOROLA™
PROVEN*

**Tested, warranted and supported by the
supplier to Motorola compatibility standards*

Motorola Application Certification Program

For J2ME™ Applications

Developer Guide

Version 1.0.2



Test Program Executed by Product *Quality Partners, Inc.*

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1. Introduction

Welcome to the Motorola Application Certification Program for J2ME™ applications running on Motorola J2ME handsets. Motorola created this program as a way for ISVs (Independent Software Vendors) to test their applications against a set of criteria across a wide variety of Motorola J2ME-enabled handsets.

The purpose of this Developer Guide is to provide the Motorola J2ME developer community with detailed information about the compatibility process and the specific tests that will be run once you submit your J2ME application for compatibility testing. All tests executed as part of the compatibility program are fully documented in this Developer Guide. This Guide also provides detailed descriptions and test tips to assist you with your pre-testing, prior to application submission for the logo.

Product Quality Partners, Inc. is an independent software testing company chosen by Motorola to execute the Motorola Compatibility Program. This program has been customized and designed in partnership between Motorola Inc. and Product Quality Partners, Inc. All program specifics including processes, test design and program designs have been approved and are enforced by Motorola, Inc.

We look forward to contributing to your J2ME application's success and working with you as part of the Motorola Compatibility Program.

*Motorola is a trademark of Motorola, Inc.
J2ME is a trademark of Sun Microsystems, Inc*



2. What is the Motorola Compatibility Program?

The Motorola Compatibility Program is designed to allow ISVs (Independent Software Vendors) to develop J2ME applications that have a high quality standard of operation for end users, to the extent possible. The “Motorola Proven Logo” signifies that your J2ME application has passed a set of compatibility tests as defined by Motorola, Inc. The logo is not a Full Product Quality Assurance guarantee from Product Quality Partners, Inc.

Note: Quality Partners has no control over whether Motorola will issue a “Motorola Proven Logo”. Motorola has reserved the right to refuse participation by any Vendor in the use of any trademark, licensing or compatibility program regardless of the test results determined by Quality Partners; or terminate the testing without prior notification. Motorola will consider reimbursing the submission cost accordingly.

Benefits

The following are some of the benefits of the program as defined by Motorola:

- Valuable testing and results information for the Developer who may not otherwise obtain the feedback.
- Increase the quality level of the Developer's application.
- Improved customer experience with the Developer's application and the Motorola J2ME enabled devices.
- License to use the “Motorola Proven” Logo.

For information regarding the Motorola Developer Program, please visit:

<http://kb.motorola.metrowerks.com/motorola/pcsHome.do>



3. Getting started – Scheduling and Submission

To achieve compatibility for J2ME Applications running on Motorola J2ME handsets, you must schedule your test and submit your package to Product Quality Partners/Motorola Compatibility lab. **In order to maximize your chances for a successful test result, you are required to run all tests prior to submission.**

Be sure to register as a member to the Motorola Developer Program prior to scheduling your submission. If you are not already a member, please visit the Motorola Developer Program web site at: <http://kb.motorola.metrowerks.com/motorola/pcsHome.do>.

To schedule your test, call the Product Quality Partners Motorola Compatibility Lab at (925) 485-6172 or send an email to motorola@qpqa.com. You will receive confirmation the same working day for all calls, emails, and submission items received by 3:00 P.M. Pacific Time.

To facilitate in the test process and provide the developer as much necessary time to continue working with their application, software and documentation must be submitted electronically to motorola@qpqa.com. The software and documentation must be sent in the same format that it will be distributed to the public. Typically all electronic components of the submission package are zipped up into a single file for submission.

Requirements for submission of your test package:

- ✓ Select the product(s) you would like your application certified for from the Motorola Developer Program Certification web site at:
<http://kb.motorola.metrowerks.com/motorola/certificationDetails.do>
- ✓ Schedule testing by contacting the QP Motorola Compatibility Lab at (925) 485-6172, or by sending an email to motorola@qpqa.com.
- ✓ A pre-tested candidate of your application by FTP or email.
- ✓ A copy of your J2ME application documentation, i.e. User's Guide/Manual, product description, or specification.
- ✓ If your application is network enabled, access to data feeds is required. The test account information must already be set up prior to submission and the relevant information (user id and password) must be provided.
- ✓ If your application uses icons, provide these icons in a separate file in addition to being included in the application .jar file. (optional)
- ✓ The completed Developer Questionnaire (See Section 11)
- ✓ The signed Quality Partners Vendor Software Testing Agreement faxed to +1 925-484-1773.
Testing agreements are to be returned only once. Additional compatibility testing will only require the product addendum to be signed
- ✓ Any Exception requests, if applicable (described in Section 8 of this document).



- ✓ Payment for the Compatibility testing. See pricing section to determine fee.

For ISV's located in the U.S., please submit payment by check. Make checks payable to:

Product Quality Partners, Inc.
Motorola Compatibility Test Lab
450 Main Street – 2nd Floor
Pleasanton, CA 94566
United States of America
Phone: +1 925-485-6172

For ISV's located outside the U.S., please submit payment by check or wire transfer.

Wire Information:

Bank of America
National Trust & Savings Assn.
337 Main St.
Pleasanton, CA 94566
United States of America
+1 925-833-9588

Payee name: Product Quality Partners, Inc.
Account number: 02359-02322

NOTE: All wire transfers must include an additional \$20 U.S. bank service charge, \$25 if from outside the US.

Late or No Show Submission Penalty Fee

Quality Partners requests confirmation from the Developer that their J2ME application will be submitted to the Motorola Compatibility Test Lab within two weeks of the scheduled test date. If Quality Partners is not notified within the appropriate time period, a late or no show submission penalty fee may be applied and due upon submission.

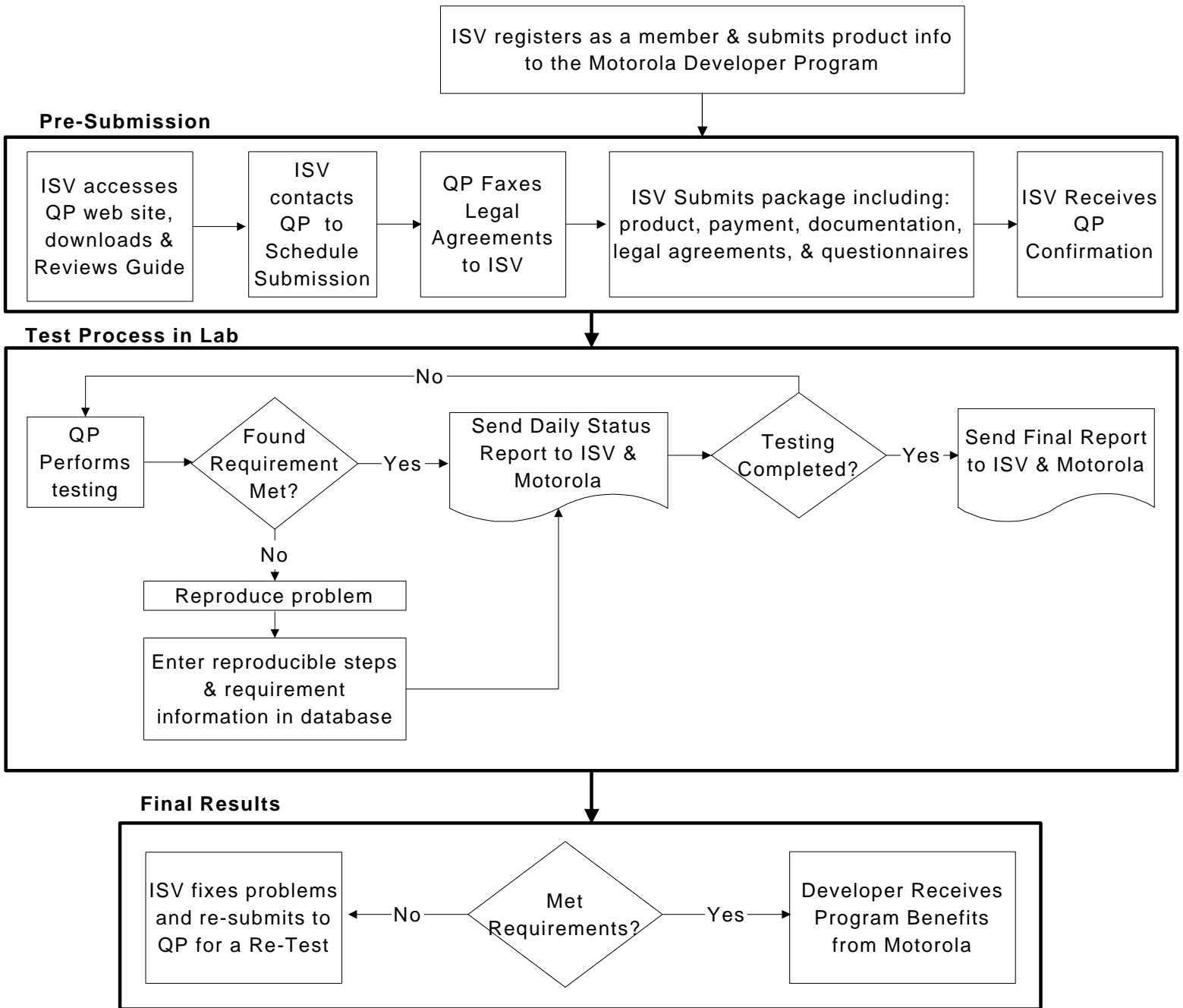


4. Process after Submission

1. Once your package is received, a receipt confirmation notice is sent via e-mail to the contact person specified in the Developer Questionnaire. This notice will include login details for an online defect database that can be used to view information on any test failures as they are found.
2. Daily status emails will be sent to you and Motorola indicating the progress of your testing. Information will include tests completed to date, tests remaining, problems found, and any open issues. Note: Detailed problem information to assist engineering with duplication of the problem will be available via the online defect database.
3. An electronic final test results report will be made available to Motorola and to you within three (3) business days per application and one (1) additional day for each additional device family supported, following the receipt of a complete submission package.
4. Once your J2ME application has met all of the compatibility requirements, Motorola will contact you regarding use of the “Motorola Proven Logo”.
5. If your J2ME application does not meet compatibility, the areas must be fixed and resubmitted for retest. Please contact the QP Motorola Compatibility Test lab to reschedule your application. The new version must contain bug fixes only (no changes to the feature set) to be eligible for the retest fee. If there are new or extracted features, a full test fee must be applied.
6. If there are areas that do not meet compatibility and are considered either part of your design or out of your control to fix, then the test may be eligible for a waiver. Please see the section titled “Special Test Exceptions or Waivers” for full details.

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Process Flowchart





5. Pricing

Submission Cost:

Type of Application	Pricing
Single Local Application	\$ 1400
Additional Charge for Network Enabled Application (per application, per device family)	+ \$100
Additional Charge for each additional device family	+ \$410
Additional Charge for each additional MIDlet Suite Application	+\$1160

Re-test Cost:

FIRST Re-test	Pricing
Single Local Application	\$ 1500
Additional Charge for Network Enabled Application* (per application, per device family)	+ \$100
Additional Charge for each additional device family	+ \$410
Additional Charge for each additional MIDlet Suite Application that did not meet compatibility requirements [†]	+\$1160
Additional Charge for each additional MIDlet Suite Application that passed in previous submissions [†]	+ \$410
SECOND Re-test & Thereafter	
Single Local Application	\$ 1700
Additional Charge for Network Enabled Application* (per application, per device family)	+ \$100
Additional Charge for each additional device family	+ \$410
Additional Charge for each additional MIDlet Suite Application that did not meet compatibility requirements [†]	+\$1160
Additional Charge for each additional MIDlet Suite Application that passed in previous submissions [†]	+ \$410

Explanation of Pricing Structure

Examples:

A network application costs \$1500
\$1400 (Single App) + \$100 (Network App charge)

A network application that supports two device families would cost \$2010
\$1400 (Single App) + \$410 (Add'l device family) + \$200 (Network App charge for 2 device families)

A MIDlet suite containing 2 local applications would cost \$2560
\$1400 (Single App) + \$1160 (Add'l App charge)

Network Enabled Applications

For Network Enabled applications, the fee listed above is in addition to the Single (Local) Application fee. This Network Enabled charge applies to each standalone application or each MIDlet Suite application.

* For re-tests, the fee is only applicable if the application does not meet one or more of the tests in the Network Requirements section of the guide.



Additional Device Families

Devices will be categorized into the following “families”:

- “V6x” = V60i, V66i
- Accompli 388
- T280i
- T720

If an application supports more than one family of devices, one family will be considered the base models in which the full suite of tests will be performed. Testing will be spread across all supported models within the same family. Each additional device family requires a subset of the tests performed. If the ISV provides a distinct set of .JAR and .JAD application files for **each** family, all sets of application files **must** be submitted simultaneously in order to take advantage of the lower additional device family charge. Any files sent on a later date for that the same application will be considered a separate submission and the full submission charges will apply.

Suite Applications

Where a submission is for a MIDlet suite, the Single Local Application price covers one application, plus a price for each application thereafter within the MIDlet suite. Note that this fee does not include the additional charge for network enabled applications.

Please note: that if an ISV intends to release applications from a MIDlet suite also as separate applications, both the suite and standalone versions of the application must be submitted simultaneously to qualify for a single submission/charge. In this case, the majority of the testing will be performed on the application as a standalone entity, and the remainder of the testing will be performed on the application as part of a suite.

Note that if suite and standalone versions of the application are submitted separately on different dates (i.e. an application is tested as part of a MIDlet suite and the ISV decides to separate the application at a later date, or vice-versa), the separated application will be considered as a separate submission with the associated cost.

† For retests, only the applications within the suite that did not meet compatibility requirements during the previous submission are required to go through an entire re-test. Applications within the suite that have passed all compatibility requirements during the previous submission are subject to a spot check.

Note: Dollar amounts refer to US Dollars.

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6. Top Ten Common Problems



Have you checked for these?

Below are the top ten most common problems found when executing the tests. These problems are based on actual ISV results throughout the program to date.

1. Documentation is not accurate and consistent with the functionality of the software (See test case J2ME_DOC_1).
2. Soft button labels are not consistent with the handset (J2ME_UI_2).
3. Text is truncated in the application (J2ME_UI_14).
4. Not all submissions have a unique build/version number present in the .jad file. The file size in the .jad file doesn't match the size of the .jar file. Applications within suites don't contain the version number within the application. (J2ME_GEN_3).
5. In a zero memory condition, the application does not respond gracefully (J2ME_DATA_3).
6. Screen content is not readable to the naked eye, for example overlapping text or graphics (J2ME_UI_12).
7. The application does not end and resume properly from suspend mode. After resuming from suspend mode, the application does not function properly (J2ME_STRESS_4).
8. The application does not handle data records correctly (J2ME_DATA_1).
9. After several interruptions from incoming events, the application does not continue to function properly. (J2ME_STRESS_2).
10. Inappropriate behavior occurs during normal operation of the application. E.g. unclear error messages or fatal exception messages (J2ME_DATA_5).

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7. Test Information

The purpose of this section is to provide a description of the tests that will be executed by Quality Partners as part of the Motorola Compatibility Program for J2ME applications running on Motorola handsets. All tests that will be executed as part of the Compatibility Program are included and documented below.

Executing these tests prior to submitting your package for testing will greatly increase your chances for a successful result.

The tests are designed to allow the user to be able to learn and use the J2ME application as fast and easy as possible. Therefore, the applications must not only have a consistent look and feel, but common functionality (i.e. system keys). The tests are organized in the following sections:

- General Product Requirements:
- Application Launch Requirements
- Functionality and Compatibility Requirements
- User Interface Requirements
- Persistent Storage Requirements
- Stress & Error Handling Requirements
- Documentation Requirements
- Touch Screen Requirements (applicable only to applications running on touch screen devices)
- Network Requirements (applicable only to network enabled applications)

Important Note regarding network enabled applications: at this time, testing is performed on the Cingular network covering the California/San Francisco Bay Area. Thus a “Compatibility Met” status does NOT guarantee that the J2ME application will adhere to the same standards on International networks, other network carriers, or special packet data network configurations.

Please note that the test cases in this document are subject to change at any time based on business and technology requirements. To maximize the changes of your application meeting compatibility, please ensure you have the most current version of this document. If you would like to be notified of any changes to the test kit, please send an email to motorola@qpqa.com

Multiple Device Platforms

Devices will be categorized into the following “families”:

“V6x” = V60i, V66i

Accompli 388

T280i

T720

If an application supports more than one family of devices with a **single** set of .JAR and .JAD files, OR **all** sets of .JAR and .JAD files for **each** device family is submitted **simultaneously**, one family will be considered the base models in which the full suite of tests will be performed. Testing will be spread across all supported models within the same family. Each additional device family will require a subset of the tests performed.

If the ISV submits sets of .JAR and .JAD application files for each device family at different dates, each set of files will be considered a separate submission with the associated cost.



MIDlet Suites

Applications may come in the form as a standalone application (single MIDlet) or a MIDlet suite (multiple MIDlets). Since a MIDlet suite may contain applications that are very different from each other, a full suite of tests will be performed on each MIDlet.

If a developer intends to release applications from a MIDlet suite also as separate applications, it is advantageous that both the suite and standalone versions of the application are submitted simultaneously. See Pricing section 5 for details. In this case, the majority of the testing can be performed on the application as a standalone entity, and the remainder of the testing performed on the application as part of a suite.



General Product Requirements

The following test requirements apply to all products.

Test Identifier	J2ME_GEN_1
Summary	The application must not contain inappropriate or offensive graphics or text.
Description	This test will verify that no inappropriate or offensive graphics or text is present in the application. The application must not include any material or information that is fraudulent, deceptive, misleading, obscene, pornographic, defamatory, trade libelous, libelous, slanderous, unlawfully harassing or injurious, excessively violent, in violation of personal or property rights, regulation or law, or otherwise unfit for publication in QP's, Motorola or Metrowerks' sole discretion.

Test Identifier	J2ME_GEN_2
Summary	Verify the .jad file attributes are consistent with the MIDP specification.
Description	The .jad file and manifest file must contain the required attributes per the MIDP specification. The MIDlet-Vendor, MIDlet-Name, and MIDlet-Version attributes of the manifest.mf file included in the meta-inf directory of the JAR must be consistent with the company name, application name, and version listed in the Application checklist. This test will also verify that the correct build number is present in the JAD file, and also in the JAR manifest. The file size of the JAR file, in bytes, must be correctly listed in the Application Checklist. *Note: For the A388 devices the .Jad file is not necessary.

Test Identifier	J2ME_GEN_3
Summary	Every application must have a unique build/version number.
Description	All full submissions for compatibility testing must have an individual build/version number, present in the .jad file.

Test Identifier	J2ME_GEN_4
Summary	Applications within suites must contain the version number within the application.
Description	This test will verify that individual applications within a MIDlet suite contain a separate version number accessible by the user within the application. This can be done either in a splash screen or the about menu option.

Test Identifier	J2ME_GEN_5
Summary	The .jar file must be no larger than 50k in size
Description	This test will verify that the .jar file is no larger than 50 kilobytes in size. *Note: The A388 device may support .jar files larger than 50k.

Test Identifier	J2ME_GEN_6
Summary	A feature list and/or user manual must be submitted.
Description	This test will verify that a feature list and/or user manual is submitted with the application.

Test Identifier	J2ME_GEN_7
Summary	The developer must be at least an online member of the Motorola Developer Program.
Description	The test will verify with Motorola that the developer is a registered member of the Motorola Developer Program.

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Test Identifier	J2ME_GEN_8
Summary	A valid login credentials or sample data files must be submitted where appropriate.
Description	When submitting the application for compatibility, if a user ID and password is needed for the application to correctly function, these must be provided. Where the application relies on sample data, this must also be provided.

Application Launch Requirements

Test Identifier	J2ME_LAUNCH_1
Summary	The application must install via over the air server.
Description	The test verifies that application installs correctly via an over the air server.

Test Identifier	J2ME_LAUNCH_2
Summary	The Application must launch successfully.
Description	The test will verify that the application launches successfully.

Test Identifier	J2ME_LAUNCH_3
Summary	Main entry screen must display the application name or an appropriate screen title.
Description	The test will launch the application and verify that the first screen has an appropriate title displayed at the top of the screen. E.g. if the application name is “AppDemo”, the text “Application Demo” would be appropriate in the title bar. Also, the context of the current screen is appropriate (i.e. Menu).

Test Identifier	J2ME_LAUNCH_4
Summary	An applications title screen should be displayed for at least 2 seconds.

Test Identifier	J2ME_LAUNCH_5
Summary	The splash screen must deploy only upon launch of the application.
Description	This test will verify that the splash screen deploys only upon launch of the application. The splash screen must not deploy during normal usage of the application. A splash screen is a static screen with no moving text/images and no user interaction. Content from the splash screen may appear elsewhere within the application, however the content must not behave in the same way as a splash screen, i.e. user interaction must be possible.

Test Identifier	J2ME_LAUNCH_6
Summary	The splash screen must not display for longer than 3 seconds.
Description	Where an application displays a splash screen upon launch, the splash screen must not display for more than 3 seconds. If the splash screen requires more than 3 seconds, a notification must display. (e.g. progress bar displays.)

Test Identifier	J2ME_LAUNCH_7
Summary	Verify the application’s entry point is consistent upon launch.
Description	Unless specified otherwise in the user documentation, regardless of how the application is launched, it must launch with the same main entry point and the main screen is displayed if applicable.

Test Identifier	J2ME_LAUNCH_8
Summary	Verify application launch icons do not duplicate standard Motorola icons.
Description	If the application implements launch icons, the test will verify that the icons do not use any of the standard Motorola handset icons.

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Test Identifier	J2ME_LAUNCH_9
Summary	All icons must be clear, visible and appropriate.
Description	If an application uses icons, they must be clear, visible and appropriate.

Functionality and Compatibility Requirements

Test Identifier	J2ME_FUNCT_1
Summary	A high level cursory pass of the basic functionality will be performed to ensure the application functions properly.
Description	This test will verify that the major functionality of the application performs as expected. The test will also verify that the application responds as expected to data entry and/or navigational keys. The test verifies the application does not crash at any point during the test cycle. This test will include a pass through the major functionality of the application. The user documentation will be used as a high level guide of the applications functionality.

Test Identifier	J2ME_FUNCT_2
Summary	Verify the application gives visible feedback indicating that it is not frozen.
Description	This test will verify that before the application launches, it must post a warning message or a progress bar for the user if the application does not launch within 6 seconds from pressing "Run". This includes initial launch and splash screen. The application must also display the splash or title screen, within 6 seconds. A delay-warning message, or a progress bar, must display if the application requires more time or user interface is needed. If user intervention is required, the application must display a message to prompt user to do so. The user must be given visible feedback indicating that the application is not frozen.

Test Identifier	J2ME_FUNCT_3
Summary	A MIDLET launched from within another MIDLET will launch properly.
Description	The test will verify that when a MIDLET is launched from within another MIDLET, it will launch and perform as expected.

Test Identifier	J2ME_FUNCT_4
Summary	Verify the application functions correctly on all Motorola models supported by the application
Description	The models listed in the user documentation will be used to determine the supported models: Motorola T720 Motorola T280i Motorola V60i Motorola V66i Motorola A388 See the introduction to the Test information for more information on which tests will be conducted on each handset.

Test Identifier	J2ME_FUNCT_5
Summary	Verify the application performs as expected when network data services are not available.
Description	For this test, the network data services will be disabled. The application must perform as expected. If the application is network enabled, appropriate error messages must be displayed when the application attempts to send data. A local application must not be dependent on network data services.



User Interface Requirements

Test Identifier	J2ME_UI_1
Summary	Verify application icons do not duplicate standard Motorola icons.
Description	If the application implements icons within the application, the test will verify that the icons do not use any of the standard Motorola handset icons.

Test Identifier	J2ME_UI_2
Summary	The display of the soft button labels must be consistent with the handset.
Description	The capitalization of the soft button labels must be consistent with the handset. (e.g. where the handset uses all upper case for soft buttons, the application must also use all upper case.

Test Identifier	J2ME_UI_3
Summary	Verify that the usage of navigation keys or touch screen buttons are consistent throughout the application.
Description	The application must use the navigation keys or touch screen buttons in a consistent manner throughout the application. (e.g. If "SELECT" is used for right soft button in one screen, it must be used through the right button throughout the application.)

Test Identifier	J2ME_UI_4
Summary	SEND and END keys must never be used for navigation.
Description	The navigation keys must never be used for navigation within the application. The SEND and END keys are reserved for system functionality.

Test Identifier	J2ME_UI_5
Summary	Applications must use the Up/Down navigation key, or the 2 and 8 keys for up/down movement respectively.
Description	Where applications use movement keys, the application should use the handset's up/down navigation key or the 2 and 8 key for the up/down movement.

Test Identifier	J2ME_UI_6
Summary	Applications must use the Left/Right navigation key, or the 4 and 6 keys for left/right movement respectively.
Description	Where applications use movement keys, the application should use the handset's left/right navigation key or the 4 and 6 key for the left/right movement.

Test Identifier	J2ME_UI_7
Summary	The application should allow the user to set their own key configurations (recommended).
Description	This test will verify that the application allows the user to set their own key configurations. This does not include reconfiguring the soft key buttons. Note, this test is not a requirement and will not count against achieving compatibility.

Test Identifier	J2ME_UI_8
Summary	The application must allow the user to reset the application to the default settings.
Description	Where an application allows configurable user settings. The application must allow these settings to be reset to the default.

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Test Identifier	J2ME_UI_9
Summary	The user must be able to exit gracefully from the application at any point.
Description	This test will verify that the user will be able to exit from the application gracefully at any point during the course of the application.

Test Identifier	J2ME_UI_10
Summary	Lists, checkboxes, menu items and other selectable items must instigate a valid action or actions (no orphans).

Test Identifier	J2ME_UI_11
Summary	Graphics must be designed to maximize display use (recommended).
Description	Note, this test is not a requirement and will not count against achieving compatibility.

Test Identifier	J2ME_UI_12
Summary	All screen content is readable to the naked eye.
Description	The test verifies that all screen content is readable. All text must be readable to the naked eye (i.e. 20x20 vision) regardless of the chosen font or color scheme. Care must be taken to avoid visually confusing selection, scrolling, and text highlighting. All elements must provide appropriate contrast for readability. The test will also verify that all bitmaps are drawn, refreshed, and displayed properly.

Test Identifier	J2ME_UI_13
Summary	Graphics should be scaled appropriately to the target device's display size. (recommended)
Description	Where an application uses graphics, the graphics should fill the device screen. The graphics should not cover part of the screen, or overlap beyond the screen. Note, this test is not a requirement and will not count against achieving compatibility.

Test Identifier	J2ME_UI_14
Summary	Verify that text is not truncated in the application.
Description	The test verifies that all text and/or numeric messages in dialog boxes and in the main application, including soft button indicators and field labels, are not truncated. Abbreviated text is not considered truncation and must be sensible and unique.

Test Identifier	J2ME_UI_15
Summary	Error messages must be clearly understandable.
Description	Any error messages in the application must be clearly understandable. Error messages, must clearly explain to the user the nature of the problem, and indicate what action needs to be taken (where appropriate).

Test Identifier	J2ME_UI_16
Summary	Verify that the application does not cause any unnecessary screen repaint.
Description	The test will verify each of the 3 types of screen problems: flickering, corrupted screen, and bleed through. Tests will include launching and exiting from every screen, verifying that navigation to and from doesn't cause any screen problems. The test will verify that the screen is properly refreshed after dismissing any dialog, edit box, or interruption display while user interface is in progress.

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Test Identifier	J2ME_UI_17
Summary	Expiration and/or registration notification messages must not post more than once.
Description	If a shareware, demonstration, trial, or lite version of the application is installed in which an expiration and/or registration message automatically posts, verify the notification only appears once throughout the “life” of the application. The notification must not display at any other time while the application remains installed on the handset. The test will also verify that once the application has expired or the user has registered, the expiration and/or registration message does not post at any time during the test cycle. This message may give the user an option to enter an activation code at this point. If the developer wishes to track the number of remaining or used sessions or days and provide this information for the user, the application may display this information in an “About” dialog, or in a specific user selected menu option.

Test Identifier	J2ME_UI_18
Summary	Menu and selection items must be clearly understandable.
Description	Where the application uses menu or selection items. The function of the selections and menu items must be clearly understandable to the user.

Persistent Storage Requirements

Test Identifier	J2ME_DATA_1
Summary	Verify the application is able to create, erase and sort data records correctly.
Description	Where an application allows the creation, erasing or sorting of data records, this test will verify the application handles these record level operations correctly. If the application is unable to create, erase or sort data records, an appropriate message must be displayed.

Test Identifier	J2ME_DATA_2
Summary	All applications within a MIDlet suite share data properly.
Description	The test verifies that all applications within the same MIDlet suite properly store and share data records. Data from one application within the MIDlet suite must not corrupt data in any other application

Test Identifier	J2ME_DATA_3
Summary	In a zero memory condition, verify that the application responds gracefully.
Description	The test will force storage full and/or zero available memory condition, then verify that an error message posts when new data is entered. The application must not overwrite restricted areas of memory, or areas allocated to other applications. For applications that do not allow saving of data, the application must launch under a zero memory condition. The application must perform gracefully and continue to function once memory has been freed up. For network enabled applications, a data packet will be sent to the application. The test will verify that the data is sent and received correctly. The test will also verify that no database corruption has occurred. The application must also recover and operate as normal.

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Test Identifier	J2ME_DATA_4
Summary	When the user is creating new data, the application must ask the user to save data before exiting
Description	For any edit box where data has been entered, the application must ask the user to save the data if the application is going to delete the data before exiting except if the “End” key is pressed. If the application uses a save function, the test will verify that after a power loss or an incoming event any data saved using the save function is preserved.

Test Identifier	J2ME_DATA_5
Summary	Verify that no data is corrupted during the normal operation of the application.
Description	The test will verify that no data corruption occurs during the normal operation of the application, or at any time during the test cycle.

Stress & Error Handling Requirements

Test Identifier	J2ME_STRESS_1
Summary	Verify that the application behaves correctly when 20 or more records are added within the application.
Description	If the application allows records to be added, this test will add 20 or more records within the application. The application must perform gracefully. The application must not crash, cause the handset to reset or corrupt data or to display noticeable reduction in performance.

Test Identifier	J2ME_STRESS_2
Summary	Verify the application responds appropriately to incoming events.
Description	The test will verify that the application responds appropriately to the following incoming events: <ul style="list-style-type: none"> • SMS messages • Incoming Voice call • Phone event warning (e.g. battery low) • Closing the shell (on clam shell style devices) • Attaching the handset cable.

Test Identifier	J2ME_STRESS_3
Summary	Application must preserve data when the application is resumed after receipt of incoming phone calls.
Description	For any edit box where data has been entered, the application must preserve the current data when an incoming phone call or SMS notification occurs. The test will verify that once the message box is dismissed and the application is resumed that no data loss has occurred. Any data entered prior to the incoming message must be present on the screen and the application must allow this data to be saved (where saving is possible). As part of this test, the functionality will be checked from within every screen of the application.

Test Identifier	J2ME_STRESS_4
Summary	Verify the application’s entry point is consistent after resuming from a paused state.
Description	Where the application is resumed from a paused state, the application must return to the same screen from which it was paused. (i.e. with Phone calls, SMS messages.)

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Test Identifier	J2ME_STRESS_5
Summary	Verify the screen is repainted correctly after resuming from a paused state
Description	The test will pause the application, and then resume the application. When resuming, the application screen must be repainted correctly.

Documentation Requirements

Test Identifier	J2ME_DOC_1
Summary	Documentation or on line help must be accurate and consistent in functionality with the software and handset. Bitmaps or/and screen shots must also be accurate and consistent with the software.
Description	When documentation is available, the test will use the Table of Contents from the Application's User's Manual or on line help as a guide for testing. All major functions of the application will be tested against how the document describes the feature to work. Help screens within the application are also considered part of the documentation and must be accurate and consistent with the functionality of the application. The test will use the application's User's Manual as a guide to ensure the software screen shots are also consistent with the software. If the documentation is not the final version, the developer must inform QP. Documentation must use the correct terminology for components of the device as defined in the User's Manual. Documentation must also describe how to exit the application and must include the application's contact/technical support information

Touch Screen Requirements

Note: The following test cases apply to touch screen devices only.

Test Identifier	J2ME_TOUCH_1
Summary	Verify that the supported Pointer Events functions are consistent with the OS.
Description	The test case will verify that the touch screen buttons functions are consistent with the OS and with the MIDP specifications. For example: -When tapping on the button, the button must change color to indicate that it has been selected. -When tapping then releasing the touch button, the button must activate the corresponding functionality. - When tapping a button, then dragging the stylus away from the button, prior to lifting the stylus, the function must not be activated.

Test Identifier	J2ME_TOUCH_2
Summary	Verify command with the highest priority must be assigned to the right touch button.
Description	The command with the greater impact on the application (i.e. Quit or Exit) must be assigned to the right touch button; the next highest priority (i.e. Pause) command must be assigned to the left touch button.



Network Requirements

Note: this section is not applicable for local applications that do not support network capabilities.

Test Identifier	J2ME_NETWORK_1
Summary	Verify the application sends and receives data packets properly.
Description	The test will verify that the application resolves and establishes a successful connection using IP addresses and domain names as supported. The test will also verify that all data sent by the application is sent and retrieved properly. The test will verify that all data intended for the application is received properly and its integrity remains intact. This test will also verify that the maximum amount of data for a message can be sent and received correctly.

Test Identifier	J2ME_NETWORK_2
Summary	Verify proper handling of error conditions and messages during data transfer.
Description	The test will verify that error messages display properly with the application running, and that the application properly regains control after dismissing an error message. The test will also verify that when a data packet, that is part of a message, is sent and does not reach its destination, no data corruption will occur to the entire message. Error conditions may include inaccessible handsets, low or no network coverage, etc. If the developer chooses to automatically resend the data packet(s), the application must alert the user that the data is being resent. An appropriate error message should display if the DNS is not available. Note: The DNS availability depends on the carrier.

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8. Special Test Exceptions/Waivers

On occasion there are situations that may warrant a test waiver. For example, a waiver may be granted if the design of an application prohibits a developer from conforming to one of the tests listed in the compatibility requirements, although the application itself operates without error.

After reviewing the Developer's Guide, if you feel that your application will not meet a portion of the test criteria, you should request a test waiver upon submission. QP will immediately submit a waiver request to Motorola for approval.

If you were unaware of a particular waiver candidate at time of submission, a column for tracking exceptions will be included in the test final results report. Each case will be handled separately. All potential waivers will be communicated to Motorola in the final result report with information explaining the rationale of the problem.

Motorola will approve or deny the waiver within three (3) working business days, when the QP will contact the developer of the result.

If the waiver is approved, QP will record the information in the final test report. If all other tests have passed, the application will be granted compatibility. If the waiver has been denied, a retest of the application will be necessary to fix the problem as documented in the failed test report.

Problems that cannot be reproduced by QP are NOT recorded as failures. It will be noted in the test results report but will not affect the test status. If QP can reproduce the problem consistently, but the application developer cannot, QP will work with the developer to help isolate the condition for reproducibility. Problems not reproducible at the developer's site will be escalated to Motorola for decision handling through the test report.

The test report of applications with an approved waiver will show the status of the applicable tests as "Waived", not "Passed".

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9. Software Revision Handling

Device Software Revision

The “Motorola Proven Logo” only applies to the application for the device models and version of operating software that the application was tested on. The actual device models and version of operating software that the application was tested on will be listed in the Final Compatibility report.

If your application has received the “Motorola Proven Logo” and changes are made to the Motorola device operating system software that cause your application to not meet one or more of the compatibility requirements, Motorola will offer to pay for the retest of the application. The submission must occur within 30 days following the release of the operating system software.

Note that this only applies to the same version of the application that previously received the logo. New versions of the application must go through the standard compatibility test procedures.

ISV Product Revision

The “Motorola Proven Logo” only applies to the ISV’s product version that has passed the Quality Partners Motorola Compatibility Program, and for which Motorola has authorized the use of the “Motorola Proven Logo”.

If a new version of the ISV’s product becomes available, for example, which includes major feature changes or additions, the product must be resubmitted for a full test and pass the compatibility tests for the use of the “Motorola Proven Logo”. If a new version of the ISV’s product becomes available, which does not include major feature changes or additions, a re-test will be necessary to continue the use of the “Motorola Proven Logo”, unless Motorola waives the need for a retest.

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10. Contact Information

We welcome your comments, feedback, or questions regarding this document. To contact us, please send an email to motorola@qpqa.com or call us at +1 (925) 485-6172.



11. *Developer Questionnaire*

The purpose of this section is to gather general information about your company. We will add your information to our database so that you will automatically receive general updates regarding the program.

Fields indicated with an asterisk* do not have to be completed if you have already filled out this information in the MDP online Application Module Submission Form. If you have submitted for certification via Motorola's web site, please enter the tracking number that Motorola has provided.

Contact Information

Company name	
Address*	
City, State/Province, ZIP/Postal Code, Country*	
Main phone # and ext. (including Country Code first)	
Fax # (including Country Code first)	
Company website URL	
Contact person(s) for test results	
Title and direct phone # (including Country Code first)	
Email address	

Product Information

J2ME Application or Suite Name	
Is the application part of a MIDlet Suite?	
J2ME Application version(s). For Suite, list all application names and version numbers contained within the Suite	
Is the application(s) network enabled?	
For Suite, list all applications that are network enabled	
Motorola J2ME enabled devices supported	V60i V66i A388 T280i T720

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File size of the .jar file for download to the handset (in kilobytes):	
Is the J2ME application shareware, or subject to expiration or limiting of functionality based on registration? If yes, what are the expiration conditions (e.g. based on number of sessions, or number of days since installation)?	
How is your product currently being tested?	