User Guide

Freescale MQX™ RTOS

Support User's Guide



How to Reach Us:

Home Page: freescale.com

Web Support:

freescale.com/support

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Revision History

Revision	Date	Changes		
1.0	1-August- 2013	Initial release.		

1 Freescale MQX RTOS Support Overview

1.1 Audience

This guide is for anyone who is either evaluating MQX RTOS for use and wants to learn about the available support options or is planning to purchase, or has purchased an MQX Level 2 Support package.

1.2 Subject Matter

This Support User's Guide defines the technical support services available from Freescale for Freescale MQX RTOS. It also provides instructions on how to purchase, activate, and gain access to support services. This document is the official source of information for Freescale MQX support packages.

1.3 Technical Support Services

MQX RTOS technical support services provided by Freescale help users solve specific technical problems related to MQX RTOS development projects and provide MQX RTOS-based product maintenance activities.

Technical support services are not consulting or training services. No major customizations, intellectual property development, or other professional engineering services are considered to be technical support services.

1.4 Supported Software

Support is provided for the following Freescale MQX software:

- Freescale MQX Real-Time Operating System (RTOS)
- Freescale MQX Real-Time TCP/IP Communication Suite (RTCS) IP Networking Protocol Suite
- Freescale MQX File System (MFS)
- Freescale MQX USB Host / Device Protocol Stack (USB)
- Freescale MQX Command Line Interface (Shell)
- Freescale MQX Flash File System (FFS)
- Freescale MQX Multicore Communication (MMC)

Support is provided exclusively for Freescale MQX software downloaded directly from Freescale websites and is subject to Freescale MQX Support Services Agreement.

Note

MQX-Lite is only eligible for Level 1 support at this time.

1.5 Supported Software Release Versions

Support is available for all Freescale MQX release versions, including current and prior versions.

Freescale encourages periodic upgrading to the latest releases (free of charge) to take advantage of potential bug fixes and enhancements. However, if you do not plan to upgrade to the latest MQX version, you can still receive technical support.

Please note that support for older versions may require additional support time.

1.6 Freescale MQX RTOS Support Reference Documents

Freescale MQX RTOS Fact Sheet

Freescale MQX RTOS Support User's Guide (this document)

Freescale MQX Support Services Agreement

Freescale MQX Software License Agreement

1.7 Freescale MQX Support Model

Freescale MQX support is structured in a two-tier system with Level 1 and Level 2 support teams. The expertise of each team increases at each level.

Level 1 Overview

Level-1 engineers are technical support professionals. While Level 1 is accessible to customers free of charge, it provides support limited to minimally-modified Freescale MQX software running on Freescale evaluation hardware only. To interact with Level 1 support, use the MQX online community and service requests.

Level 2 Overview

Level-2 engineers are senior technical support professionals with advanced MQX software development experience. Level 2 supports MQX software customizations and troubleshooting of issues related to customer development projects. Level 2 is accessible directly by purchasing an MQX Level 2 support package.

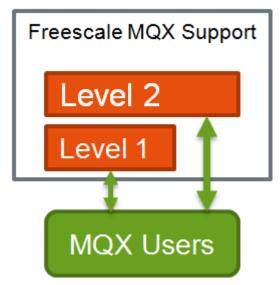


Figure 1. Freescale MQX Support Structure

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1.8 Freescale MQX Support Packages Overview

Table 1. MQX Support Packages Overview

	Level 1	Level 2		Engineering Services
Plan Overview	Basic	Standard	Premium	
Releases Available	Approx. once a Quarter	Approx. once a Quarter	Early ¹	
Access to MQX Online Community	Yes	Yes	Yes	
Service Requests (SW running on FSL Eval HW only)	Yes	Yes	Yes	
Report bugs for fix in quarterly releases	Yes	Yes	Yes	
Private Support Portal	-	Yes	Yes	
Access to Beta Releases 1	-	-	Yes	Software development
Hot Fixes ²	-	Yes	Yes	services. On-site support/training. Cost
Initial Response Time ³	-	2 Business days	1 Business Day	based on project
Max Hours of Support Engineer's Time 4	-	20 hours	100 hours	definition.
Web Conferencing to debug issue ⁵	-	4 hours	10 hours	
Phone Support ⁵	-	Yes	Yes	
Hands-on Support of Customer-Provided Hardware (shipped to Freescale Support)	-	-	Yes	
Support Plan Term	Unlimited	6 Months	12 Months	
Price	Free	\$3,000	\$12,000	
Part Number	-	DL-MQXLVL2-S	DL-MQXLVL2-P	

¹ Access to Beta releases weeks or months before quarterly releases are typically available

1.9 On-Site Training and Support

On-Site MQX Training and Support is available for purchase.

Contact your local Freescale representatives or the MQX Level 2 Support manager at mqxL2mgr@freescale.com for more details.

² Access to bug fixes on issues you report immediately when available

³ Amount of time needed to receive acknowledgement of the support request

⁴ Any time support engineer spends including the time for preparing bug fixes.

⁵ Hours counted in the Support Engineers Time

1.10 Professional Engineering Services Overview

Freescale and our partners offer hardware and software engineering services to assist with development projects. These engineering services are not a part of the typical technical support services available through MQX Level 2 support packages. Engineering services include, but are not limited to, the creation of custom board support packages for customer hardware, driver updates for new peripherals, creation of custom boot loaders, application development, integration with third party packages, and porting of legacy application code to MQX. These services are priced based on the project definition.

Contact your local Freescale representatives or the MQX Level 2 Support manager at mqxL2mgr@freescale.com for more details.

2 Freescale MQX Level 1 Support (Free)

Freescale MQX Level 1 support is designed to help MQX users get started with MQX RTOS.

What do you get with MQX Level 1 Support?

- Free access to code examples, application notes, and online video training available at freescale.com/mqx.
- Moderated online community (see details below).
- Free software releases, approximately every quarter, with Board Support Packages (BSPs) for Freescale evaluation hardware, which are available at freescale.com/mgx.
- Free support for minimally-modified Freescale MQX software running on Freescale evaluation hardware only.

How do you get MQX Level 1 Support?

- Free with download of MQX RTOS
- Support provided via:
 - Freescale MQX Online community
 - Service Requests
- Response times may vary depending on volume of support activity.

Who provides MQX Level 1 Support?

Freescale Technical Support Professionals who have expertise with Freescale MQX software including demos, examples, board support packages, libraries, common questions, and common issues.

2.1 Freescale MQX Online Community

Free help is available on the Freescale MQX Online Community. Freescale MQX Level 1 support engineers moderate the community. Crowd-sourcing is a very effective way to find solutions and get answers to common problems and questions.

Freescale highly encourages MQX users to contribute and collaborate with the MQX online community.

Freescale MQX Community web link: community.freescale.com/community/mgx

2.2 Service Requests

In some cases, such as reporting bugs or troubleshooting setup issues, you may prefer to submit a service request to Freescale MQX Level 1 support. The submitted service request is assigned a ticket number for tracking purposes.

Reporting bugs for possible fix in quarterly releases

Bug fixes and feature requests are implemented on, approximately, a quarterly basis. However, no guarantee is provided that a specific fix or request will be made. Fixes are implemented based on severity and priority. Report bugs and feature requests by entering service requests.

For increased probability of a bug fix, please provide a simple software example that demonstrates the bug on a Freescale evaluation board.

Service requests can be entered at: freescale.com/support

3 Freescale MQX Level 2 Support

MQX Level 2 Support provides commercial-level support for MQX RTOS development projects.

What do you get with MQX Level 2 Support?

All the benefits of Level 1 Support plus the following:

- Support for software customizations and software running on custom hardware
- Help to troubleshoot MQX RTOS porting to hardware
- Faster and more direct access to senior support engineers
- Higher priority for answering questions and bug fixes
- More ways to communicate with support private portal, phone, web conferencing
- Early access to software releases and bug fixes

How do you get MQX Level 2 Support?

- Available for purchase via the instructions in Chapter 4 "<u>Freescale MQX Level 2 Support Instructions</u>".
- Support provided via:
 - MQX Level 2 support staff (private portal, telephone, and web conferencing)

Who provides MQX Level 2 Support?

Level-2 engineers are senior technical support professionals with advanced MQX software development experience.

When is Level 2 Support a good idea?

Either when you are in development of an MQX RTOS-based project and need quick answers to complex questions, or when you are troubleshooting challenging issues.

When should you consider purchasing MQX Level 2 Support?

MQX Level 2 Support is recommended for purchase at the start of your development project.

What plan is right for my project, Standard or Premium?

When choosing a package, consider the benefits of each package and the number of support hours.

- Level 2 Standard is well suited for support needs such as the following:
 - Projects with mostly derivative technology (i.e. mostly familiar hardware/software)
 - Questions about hardware and software setup changes
 - Application development guidance
 - BSP porting help porting to MCU sub-family members or to your hardware
 - Code size optimizations
 - Configuration choices
 - Software integration
 - Questions and troubleshooting issues such as task timing and interrupt priorities

- Level 2 Premium support is recommended for support needs such as the following:
 - Projects which incorporate new technology (i.e. new hardware/software)
 - o More questions of greater complexity on anything mentioned above
 - Difficult to isolate problems requiring system diagnosis
 - Questions and troubleshooting issues such as hardware and software integration, memory leaks, timing issues, and networking problems
 - Help to tune performance and make typical customizations and optimizations
 - o Projects with important timelines requiring fast and efficient support

3.1 Scope of Support Package

3.1.1 Per Project Only

A support package must be purchased for each unique customer project. "Customer Project" means a specific customer product using Freescale MQX in connection with a specified processor. If the Customer Project is a module that embeds into other products, it will be considered a single project if the same hardware and software is used within the modules.

3.1.2 Customer Contacts

No more than two individuals are allowed to make contact with the Level 2 support team. This keeps communication more efficient.

3.1.3 Support Package Terms

The Level 2 Standard package is a 6 month plan.

The Level 2 Premium package is a 12 month plan.

3.2 Details of Benefits

3.2.1 Releases

General Releases

General Releases are available approximately every quarter at freescale.com/mqx.

Beta Releases

Access to some Beta releases is available to MQX Level 2 customers potentially weeks or months before general releases are typically available. Beta releases are accessible via a special Freescale extranet website with managed access. Level 2 customers receive instructions to access the extranet website.

3.2.2 Private Support Portal

Each MQX Level 2 customer gets a unique secure private support portal to post questions, get answers, exchange files, and track interaction with the Level 2 Support team.

The private portals are built using the same technology as Freescale communities, and offer many of the same abilities as community pages. However, access to each portal is limited to two customer contacts, Freescale MQX Level 2 staff, and a limited number of other Freescale support staff.

Posting to the private portal is the primary method of initiating contact with MQX Level 2 Support.

See <u>How to gain access to your private support portal</u> for instructions to access the private portal website.

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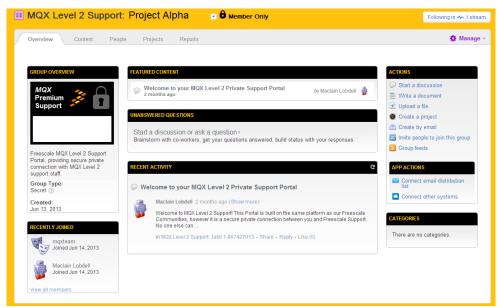


Figure 2. MQX Level 2 Private Portal (AKA Private Community)

3.2.3 Telephone Communication

A telephone hot line is not provided by the MQX Level 2 support. However, telephone conversations are encouraged if questions and issues can be more efficiently discussed over the telephone. A special conference call line with special access pin number is available to facilitate telephone calls. To ask your MQX Level 2 support staff to schedule a call with you, post to the private portal.

3.2.4 Types of resolutions

Hot Fixes

Hot fixes are quick-turnaround releases for specific components of the Supported Software. A Hot Fix release addresses specific errors in the Supported Software to remove any encountered blocking issues. A Hot Fix will only be provided to those specific customers who have encountered the error. Hot Fix releases will be sufficiently tested to ensure that the error is corrected, but may not undergo the complete test suite to which a full release is subjected.

Patches

Patches contain a collection of Hot Fixes. Patches may be occasionally provided to all Level 2 support customers to address various issues before a full release is available. Like Hot Fixes, patches will be sufficiently tested to ensure that errors are corrected, but may not undergo the complete test suite to which a full release is subjected.

Releases

Full release of all files with a collection of features, enhancements, improvements, and fixes.

3.2.5 Reporting Issues

Provide detailed information when reporting issues including your assessment of the severity level - critical, high, medium, or low. Bug fixes are serviced on a priority basis which is determined by the Freescale MQX team.

3.2.6 Response Times

First Response

Freescale will provide an acknowledgment that the support request is received in the following time frames:

Level 2 Standard - 2 Business days.

Level 2 Premium - 1 Business day.

Note

Support team hours of operation are between 8am to 5pm Eastern Standard Time (EST).

Assessment Response

Depending on the severity and complexity of the issues, an assessment will be provided within 3-6 business days.

Error Resolution

Because of the variety of potential errors, no guarantee can be made if and when an error can be resolved.

3.2.7 Maximum Hours of Support Engineer's Time

The number of hours that the Level 2 support staff is available to work on questions and issues is capped to the following levels. See <u>Freescale MQX Level 2 Support FAQ</u> for a detailed explanation of Support Engineers' Time.

Level 2 Standard

- Maximum of 20 hours of total support
- Up to 4 hours of web based debugging support

Level 2 Premium

- Maximum of 100 hours of total support
- Up to 10 hours of web based debugging support

Support hours used will be communicated via your private support portal. Contact your MQX Level 2 staff to determine what actions can be taken if the support hours are nearing their maximum levels and further support is necessary.

3.2.8 Web Conferencing to debug issue

Depending on the type of an issue, your MQX Level 2 support team may recommend a web conferencing session to facilitate debugging. With your permission, an engineer will connect with your computer remotely to view the development environment and step through the code or perform other diagnostic techniques.

3.2.9 Hands-on Support of Customer-Provided Hardware sent to Freescale Support (Premium Package Only)

We recommend that you try to duplicate issues you encounter on Freescale evaluation hardware. This allows Freescale engineers to quickly recreate and troubleshoot the issue. However, for challenging issues that can only be replicated on your custom hardware, you may send your hardware to the MQX Level 2 Support team to analyze. Contact the MQX Level 2 Support team for the address and instructions.

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3.3 Special Situations

3.3.1 Proprietary Hardware and Software

Any materials forwarded to Freescale for evaluation under a Level 2 support package that are identified as customer confidential will be treated accordingly under the provisions in the Freescale MQX Support Services Agreement.

3.3.2 Contacting MQX Level 2 Support Manager

The MQX Level 2 Support operations are overseen by a business manager. You can contact the manager directly at mqxL2mgr@freescale.com. Submit comments and suggestions to the manager.

3.3.3 Surveys

You may be asked to fill out a short survey to help Freescale improve our services.

4 Freescale MQX Level 2 Support Instructions

4.1 How to Buy Support

- 1. Log in to <u>freescale.com/</u>. Create an account if you do not have one yet.
- 2. If you have not already done so, download the latest Freescale MQX release. Go to freescale.com/mgx, click download, and locate the latest release installer.

Note

You must download the latest MQX release, even if you are seeking support for an older release.

- 3. Locate the record of the download at the Freescale Software Licensing page.
 - i) Go to freescale.com/.
 - ii) Select My Freescale in the top right corner.
 - iii) Select Software Licensing under Secure Applications.
 - iv) Look for the record of your download in the **Enablement Software** area.

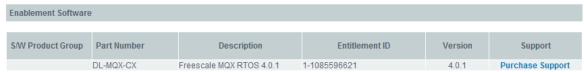


Figure 3. Purchase Support from MQX Download Record

4. Select **Purchase Support** and follow on-screen instructions to choose your support package.



Figure 4. Select Package Choice

5. Click Buy Direct to process your payment.

What happens next?

You must register to activate your support package and start receiving support.

4.2 How to Activate

4.2.1 Register your Support Package

- 1. Log in to <u>freescale.com/</u>.
- 2. Select **My Freescale** in the top right corner.
- 3. Select View My Orders under Orders.
- 4. Click the Order ID of your support purchase.

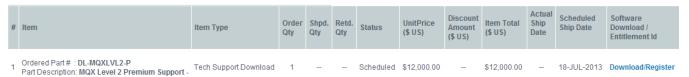


Figure 5. Find Support Purchase Record

5. On the Order Details page, click Download/Register.

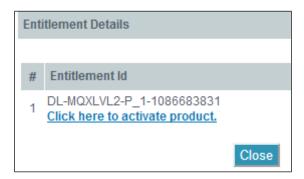


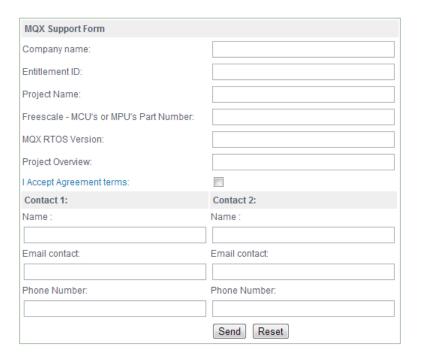
Figure 6. Entitlement ID of Support Purchase

6. A window will appear with your Support Entitlement ID. Select **Click here to activate product**.



Figure 7. Register Entitlement ID to Activate Support

- 7. The Register Product page will open with your support entitlement ID pre-entered.
- 8. Fill out the online form to submit your project details. These are necessary to set up your private portal.



9. Click **Continue Activation >>**. Your registration is now complete.

4.3 How to gain access to your private support portal

Within 2 business days of activating your support, you will receive an email that looks similar to the figure below.

In this email:

- 1) Click the first link to validate your email address.
- 2) Click the last link to gain access to your private portal.

Note: Private portals used for MQX Level 2 support are built by using the same technology as Freescale Communities. They are secure and private, secret, groups with restricted access.

MacL has invited you to join the group: TechCo - Project Alpha
From: Freescale Community [admin@community.freescale.com]
To: joecustomer@techco.com

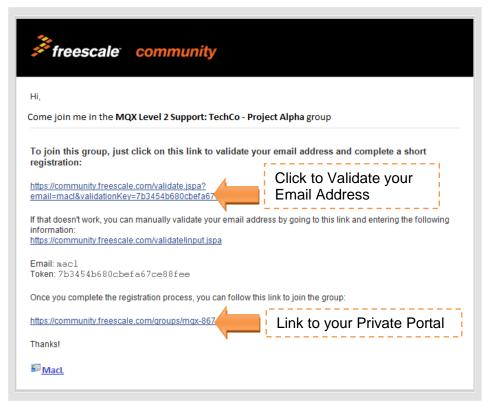


Figure 8. Email with Private Portal Access Details

4.3.1 Finding your private portal page

After you validate your email address and join the private group, bookmark the private group page for later access.

You can also use these steps to find your page:

- 1. Log into community.freescale.com
- 2. Click **Places** on the top bar
- 3. Click **Group Member** on the left bar
- 4. Find your private group

4.4 How to post a question

Click Start a discussion or ask a question.

5 Freescale MQX Level 2 Support FAQ

Q: When is the best time to purchase my MQX Level 2 Support package?

A: The best time to purchase your support contract is *before* you start your project. Don't wait until you encounter a problem to enroll in the program. Get assurance that your issues and questions will be resolved under your schedule constraints.

Q: When should I activate my support package?

A: Freescale recommends you purchase and activate your support package whenever you start your MQX RTOS-based development project. However, you can wait to activate later. Note that it takes a few days to set up support systems after your support package is activated.

Q: Can I purchase a package any time?

A· Yes

Q: Can I upgrade my package from Standard to Premium?

A: Not at this time. Please contact the MQX Level 2 Support Manager for options.

Q: Can I get support for any MQX version?

A: Support is available for the current major release and one previous major release. Major releases are designated by the first revision number after the decimal - examples 4.1.x, 4.0.x. Contact the MQX Level 2 Support Manager for options if you do not plan to upgrade MQX from an older version.

Q: I downloaded MQX 4.0.1 earlier this year. Why doesn't it show up in the My Freescale > Software Licensing page?

A: On August 16, 2013, Freescale updated its IT system to record Freescale MQX downloads in My Freescale > Software Licensing page allowing the purchase of support. This feature is not available for downloads prior to August 16, 2013.

Q: If I downloaded MQX before August 16, 2013 do I have to download it again to purchase support?

A: Yes, any MQX download before that time is not recorded in the My Freescale > Software Licensing page. Therefore, you have to download it again to purchase support.

Q: Can I get MQX Level 2 Support for MQX Lite?

A: Not at this time. MQX-Lite is only eligible for Level 1 support.

Q: How many times can a support contract be renewed?

A: Contracts can be renewed as many times as you like.

Q: Are support contracts available for longer than 1-year terms?

A: No. Plans are available in 6 and 12 month terms, but can be renewed to continue support.

Q: Our Application crashes after a number of hours or days. Which level of support do I need?

A: Typically, this is a time consuming diagnosis and the problem could occur because of a memory leak, exhausted resources, or other potential issues. Premium Support package is recommended to diagnose and solve the problem.

Q: What is the definition of a Support Engineer's Time?

A: Engineer's Support Time is any time that the support engineer spends including the time fixing bugs found in MQX. If the bug fix is not urgent or critical, it can be submitted to the Freescale MQX development team to be evaluated and possibly fixed in quarterly releases, free of charge, without the use of Support Engineer's Time. See the question about analyzing and fixing bugs.

Q: Does the time, which is spent analyzing or fixing a bug found in MQX, count towards Support Engineer's Time?

A: Yes, if a quick MQX software update is requested. Bugs which are reproducible on Freescale hardware can be submitted to the Freescale MQX Level 1 support to be evaluated and possibly fixed in quarterly releases, free of charge, without incurring MQX Level 2 Support Engineer's Time. However, if help is required to isolate an issue or identify a bug, or the bug fix found in Freescale MQX is required more urgently, then Level 2 Support engineer's involvement is required.

Q: Can I send over my software to the MQX Level 2 support team?

A: Yes. Contact the MQX Level 2 Support team for details. See confidentiality details in the *Freescale MQX Support Service Agreement*.

Q: Can I send over my hardware to the MQX Level 2 support team?

A: Yes. This is reserved for the Premium Support package only. Contact the MQX Level 2 Support team for details and see confidentiality details in the *Freescale MQX Support Service Agreement*.