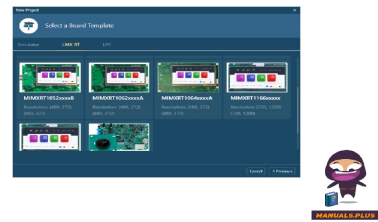



## NXP LPC55S28 GUI Guider



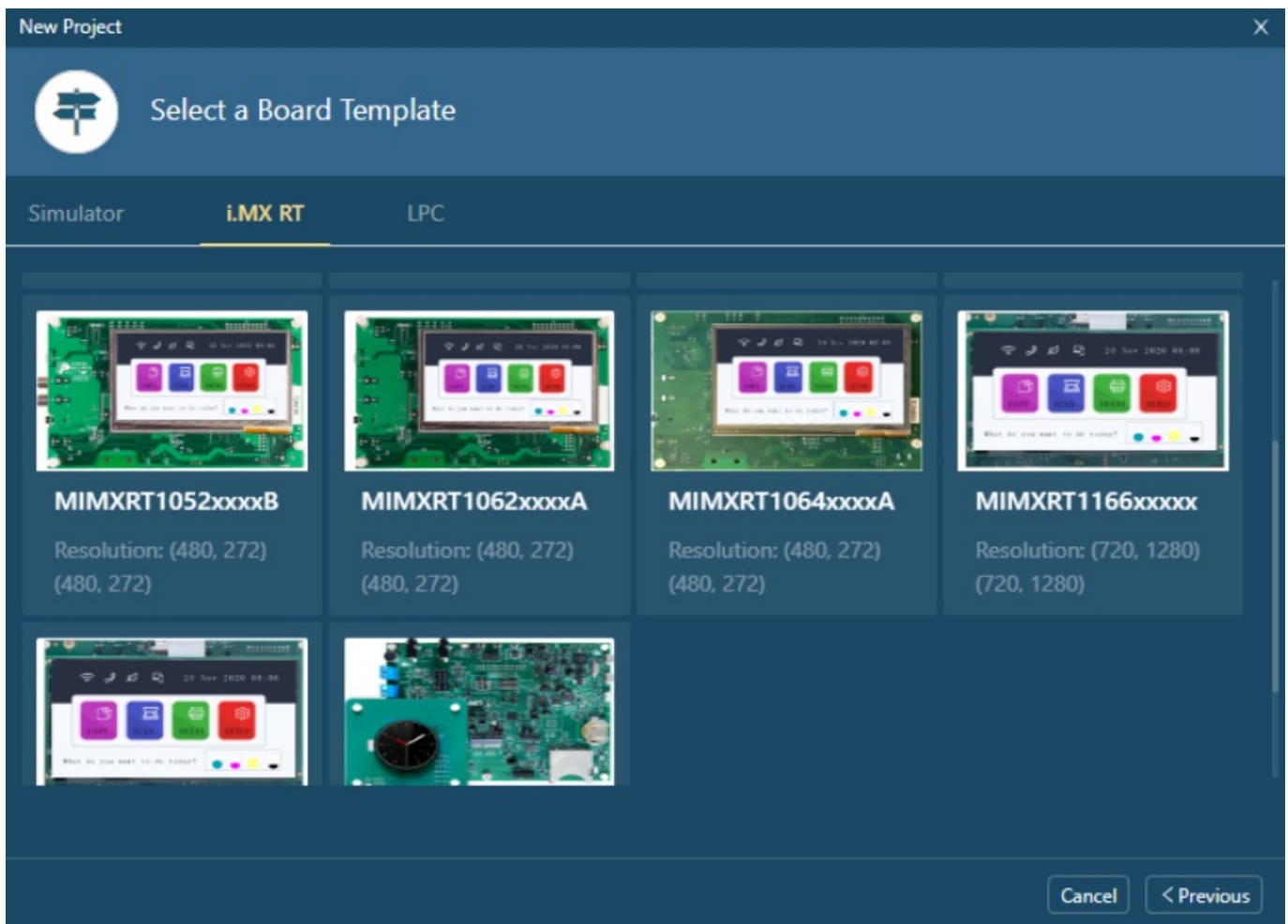
# NXP LPC55S28 GUI Guider User Guide

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## Product Information

### Specifications

- **Product Name:** GUI Guider
- **Version:** 1.7.1
- **Developer:** NXP Semiconductors
- **Supported Platforms:** NXP general purpose and crossover MCUs

### Frequently Asked Questions

- **Q:** Is GUI Guider compatible with all NXP MCUs?
  - **A:** GUI Guider is free to use with NXP general purpose and crossover MCUs. It may not be compatible with all NXP MCUs, so it's recommended to check the specific MCU compatibility list.
- **Q:** Can I customize the widgets and styles in GUI Guider?
  - **A:** Yes, GUI Guider allows users to customize widgets, animations, and styles to create unique graphical user interfaces tailored to their applications.

### Document Information

Information	Content
Keywords	GUI_GUIDER_RN, IDE, GUI, MCU, MPU, LVGL, RTOS, Yocto Linux. QNX, FreeMASTE R
Abstract	This document describes the released version of GUI Guider along with the features, bug fixes, and known issues.

## Overview

GUI Guider is a user-friendly graphical user interface development tool from NXP that enables the rapid development of high-quality displays with the [open-source LVGL graphics library](#). The drag-and-drop GUI Guider editor makes it easy to utilize the many features of LVGL, such as widgets, animations, and styles, to create a GUI with minimal or no coding at all. With the click of a button, you can run your application in a simulated environment or export it to a target project. Generated code from GUI Guider can easily be added to an MCUXpresso IDE project, accelerating the development process and allowing you to add an embedded user interface to your application seamlessly.

GUI Guider is free to use with the NXP general purpose and crossover MCUs, and includes built in project templates for several supported platforms.

### V1.7.1 GA

#### V1.7.1 GA (Released on 29 March 2024)

##### *New features (Released on 29 March 2024)*

- UI development tool
  - Video converter
  - Display widget coordinate and size
  - Support button text format
  - Template download status prompt
  - Display SDK and toolchain version
  - Separate generate code, build, run simulator
  - Multiple widgets selection in widget tree
  - Menu of shortcut key
  - Dither mode of gradient background color
  - Support LVGL symbols
  - Pass guider\_ui structure as userdata of event callback function
  - Multi-language demo
  - Digital cluster reference design
- Performance
  - Optimized performance for screen transition
- Bug fix
  - **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
    - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on the display. When exporting the project and deploying it by MCUXpresso IDE,

there is no GUI display on the panel.

## Known issues

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the application is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.

## V1.7.0 GA

***V1.7.0 GA (Released on 31 January 2024)***

### **New features (Released on 31 January 2024)**

- UI development tool
  - Double-click project file to open the GUI Guider
  - Change display type in project settings
  - Move keyboard setting to project settings
  - New widgets demo
  - Categorize demo and reference design
  - Added view menu
  - Prompt during “Run Target” if no device is connected
  - Incremental build for simulator
  - More attributes, style, event, and action
  - More shortcut keys
  - Optimized redundant code
  - GUI Guider survey
- FreeMASTER Integration
  - WYSIWYG debug GUI design
  - Widgets and variables binding
  - Variable reading and writing
  - Remote debug in simulator
- Library
  - LVGL v8.3.10
  - Animation image/3D image: color format setting
- Toolchain
  - MCUX IDE 11.9.0
  - MCUX SDK 2.15.000
  - ARMGCC 12.3.1

- IAR 9.50.1
- Keil MDK 5.38
- Zephyr 3.5
- RT-Thread 5.0.2
- Yocto SDK 6.1-mickledore.
- Targets
  - LPC55S36
  - MCX-N947-FRDMX + X-LCD-PAR-S035 panel
- Bug fix
  - **LGLGUIB-3546:** Undo does not work properly when multiple elements are selected
    - Undo does not work properly when multiple elements are selected and moved (only some of them return to the previous position when pressing undo). The workaround is to do undo for each element.
  - **LGLGUIB-3549:** The GIF image stops animating
    - When using an Aimg widget to display a GIF image, the animation stops after one round image iteration on the target board when using an ARMGCC build. The workaround is to use MCUXpresso IDE, IAR, or Keil IDE.
  - **LGLGUIB-3831:** The text in the label widget is not displayed correctly
    - The text in the label widget is not displayed correctly in the simulator and board LCD.

## Known issues

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the application is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
  - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on the display. When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.

## V1.6.1 GA

***V1.6.1 GA (Released on 28 September 2023)***

### **New features (Released on 28 September 2023)**

- UI development tool
  - New template layout in new project wizard

- Adding sub-menu for menu widget
- Double-click widget to edit text: button, label, and text area
- New release notification mechanism
- Supports changing editor shape
- More attributes and styles
- More animation setting parameters
- Sets background images of different states of the switch widget
- Adds indicator part for meter widget
- New widget demo: canvas
- New reference design: smart watch
- Updated default line style
- Selectable zoom options
- QNX support for i.MX93
- More shortcut keys
- Improved UX of number and text input
- Optimized structure of user guide
- Performance
  - SRAM frame buffer for i.MX RT1040 EVK and i.MX RT1064 EVK
  - Performance optimized templates
- Widgets
  - Text area: one line and password mode
  - Enhanced canvas: draw multiple widgets
- Targets
  - i.MX RT1060 EVKC
  - i.MX RT1170 EVKB: RPI Panel
- Bug fix
  - LGLGUIB-3545: Simulators do not work properly for the smart appliance demo

The smart appliance demo does not work in the Micro-Python simulator. The workaround is to use a C simulator.

## Known issues

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the application is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
  - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on the display.

- When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.
- **LGLGUIB-3546:** Undo does not work properly when multiple elements are selected
  - Undo does not work properly when multiple elements are selected and moved (only some of them return to the previous position when pressing undo). The workaround is to do undo for each element.
- **LGLGUIB-3549:** The GIF image stops animating
  - When using Aimg widget to display a GIF image, the animation stops after one round image iteration on the target board when using an ARMGCC build. The workaround is to use MCUXpresso IDE, IAR, or Keil IDE.

## V1.6.0 GA

***V1.6.0 GA (Released on 31 July 2023)***

### **New features (Released on 31 July 2023)**

- UI development tool
  - Cloud templates
  - Predefined style
  - Allow same widget name in different screens
  - 1 bit and 8 bits color depth
  - Enable and disable flags
  - More attributes, styles, and events, for example, gesture
  - Set background image for widgets
  - New widget demo: Lottie, menu, carousel
  - New reference designs: smart appliance, smart label
  - Improved widget demo: SDcardStorage
  - Selected screen as startup screen
  - Code editor of custom source files
  - Widget can be larger than screen
  - Add custom code after setup\_screen
  - Unified format of board name
  - Remove Java dependency
  - Online documents
- Library
  - LVGL v8.3.5
  - Barcode widget
- Benchmark optimization
  - SRAM frame buffer support for MCX-N9-BRK and i.MX RT1050
  - Improved installation speed
  - Optimized speed of code generation
- Toolchain
  - MCUX IDE 11.8.0
  - MCUX SDK 2.14.0
  - ARMGCC 12.2

- IAR 9.40.1
- Keil MDK 5.38
- Target
  - MCX-N5xx-EVK
  - RW6102
  - KW45
  - i.MX93(A core)
- Host
  - ARM64 Mac
- Bug fix
  - **LGLGUIB-3334:** Cannot use same widget name in different screens
    - The same widget name cannot be used in different screen. For example, btn\_1 is used as name of a button in screen 1, btn\_1 should be used as name of button in screen 2.
  - **LGLGUIB-3335:** When undoing screen copy, the source screen is overridden
    - When copying a screen, then undo the copy operation, the original screen is overridden.
  - **LGLGUIB-3351:** Unable to change the name of tab titles
    - We are not able to change the tab titles. The tab title uses corresponding variable name which cannot include spaces and has some other constraints.

### ***Known issues***

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the application is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
  - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on display. When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.
- **LGLGUIB-3545:** Simulators do not work properly for the smart appliance demo Smart appliance demo does not work in MicroPython simulator. The workaround is to use C simulator.
- **LGLGUIB-3546:** Undo does not work properly when multiple elements are selected Undo does not work properly when multiple elements are selected and moved (only some of them return to the previous position when pressing undo). The workaround is to do undo for each element.
- **LGLGUIB-3549:** The GIF image stops animating
  - When using Aimg widget to display a GIF image, the animation stops after one round images iteration on target board when using ARMGCC build. The workaround is to use MCUXpresso IDE, IAR, or Keil IDE.



## ***V1.5.1 GA (Released on 31 March 2023)***

### **New features (Released on 31 March 2023)**

- UI development tool
  - Multi-instance
  - Event setting for image and textarea
  - Enable runtime memory monitor
  - Widget visibility setting
  - Move widgets between screens
  - Container inside tabview and tileview
  - Custom options for lv\_conf.h
  - Improved prompt of “Run Simulator” / “Run Target”
  - Progress bar of “export project”
  - Save custom color
  - Add widgets by mouse click in expand mode
  - Horizontal/vertical widgets distribution
  - More shortcut functions in mouse right-click
  - Support direct project deletion
  - Flexible resource tree window
  - New demos: air conditioner and progress bar
  - Improved existent demos
  - Supplement entry arrow for subitems
- Benchmark optimization
  - i.MX RT595: defaults to SRAM frame buffer
  - Reduce redundant code of GUI application
- Toolchain
  - MCUX IDE 11.7.1
  - MCUX SDK 2.13.1
- Target
  - i.MX RT1060 EVKB
  - i.MX RT595: SRAM frame buffer
  - i.MX RT1170: 24b color depth
- Host OS
  - – Ubuntu 22.04
- Bug fix
  - **LGLGUIB-2517:** The image position is not displayed correctly in the simulator
    - Set the image to one position. It shows a little deviation in the simulator. The position is correct when running on the development board.

### ***Known issues***

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS

- An error message appears on the log window when “Run Target” is completed on macOS, even if the APP is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
  - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on display. When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.

## V1.5.0 GA

***V1.5.0 GA (Released on 18 January 2023)***

### **New features (Released on 18 January 2023)**

- UI development tool
  - Image converter and binary merger
  - Resource manager: image, font, video, and lottie json
  - Shortcut of bringing widget to top or bottom
  - Display base template in project information window
  - Store image binary in QSPI flash
  - Single keyboard instance
  - Prompt of project backup before upgrade
  - Widget actions on-screen load
  - Screen events setting
  - Display GUI Guider version
  - Memory size optimization for multi-pages application
  - Display icon and line in resource tree
  - Flexible widgets window
  - Resize window by mouse dragging
  - Comments in lv\_conf.h
- Library
  - LVGL v8.3.2
  - Video widget (selected platforms)
  - Lottie widget (selected platforms)
  - QR code
  - Text progress bar
- Toolchain
  - MCUX IDE 11.7.0
  - MCUX SDK 2.13.0
- Target

- MCX-N947-BRK
- i.MX RT1170EVKB
- LPC5506
- i.MX RT1060: SRAM frame buffer
- Bug fix
  - **LGLGUIB-2522:** Must reset the platform manually after running Target with Keil
    - When creating an example (printer) of GUI Guider, which selects RT1060-EVK board and RK043FN02H panel, execute “RUN” > Target “Keil”. The log window shows “undefined”, so the board must be reset manually to run the example.
  - **LGLGUIB-2720:** The behavior of Carousel widget in MicroPython simulator is incorrect
    - When adding an image button in the carousel and clicking the widget, the status of the image button is displayed abnormally.

### ***Known Issues***

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the APP is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2517:** The image position is not displayed correctly in the simulator
  - Set the image to one position. It shows a little deviation in the simulator. The position is correct when running on the development board.
- **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
  - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on display. When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.

## **V1.4.1 GA**

### ***V1.4.1 GA (Released on 30 September 2022)***

#### **New features (Released on 30 September 2022)**

- UI development tool
  - Non-deformation screen preview
  - Display size of imported image
  - Description, type, and doc link in attribute window
  - Move editor’s position with mouse
  - Pixel scale in editor window

- Demo of runtime image (SD) decode: i.MX RT1064, LPC54S018M
- Demo of video (SD) play: i.MX RT1050
- Improved name, default value, and prompt for attributes
- Submenu of license
- Prompt of code override
- Auto focus on new widget in editor
- Improved mouse-based image rotation feature
- Auto-detect for custom.c and custom.h
- Improved robustness and stability
- Library
  - Data text box widget
  - Calendar: highlight selected date
- Target
  - NPI: i.MX RT1040
- Toolchain
  - MCUXpresso IDE 11.6.1
  - MCUXpresso SDK 2.12.1
- RTOS
  - Zephyr
- Bug fix
  - LGLGUIB-2466: [Widget: Slider] V7&V8: Slider outline opacity works abnormally in editor When setting the outline opacity of slider widget to 0, the outline is still visible in editor.

### ***Known issues***

- **LGLGUIB-1613:** An error message in the log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the APP is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of the RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2517:** The image position is not displayed correctly in the simulator
  - Set the image to one position. It shows a little deviation in the simulator. The position is correct when running on the development board.
- **LGLGUIB-2520:** The panel type is wrong when running the demo on the target
  - With an RT1160-EVK with RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then, execute “RUN” > Target “MCUXpresso”. The GUI can be shown on display. When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.
- **LGLGUIB-2522:** Must reset the platform manually after running Target with Keil
  - When creating an example (printer) of GUI Guider, which selects RT1060-EVK board and RK043FN02H panel, execute “RUN” > Target “Keil”. The log window shows “undefined”, so the board must be reset

manually to run the example.

- **LGLGUIB-2720:** The behavior of Carousel widget in MicroPython simulator is incorrect
  - When adding image button in carousel and clicking the widget, the status of image button is displayed abnormally.

## V1.4.0 GA

*V1.4.0 GA (Released on 29 July 2022)*

### New features (Released on 29 July 2022)

- UI development tool
  - Unified layout of attribute setting UI
  - Shadow settings
  - Custom ratio of GUI resize
  - More themes and system settings
  - Zoom out < 100 %, mouse control
  - Easily set default screen
  - Horizontal align and align line
  - Screen and image preview
  - Batch image import
  - Rotate image by mouse
  - Defaults to new display
  - Project restructure
  - RT-Thread
- Widgets
  - LVGL v8.2.0
  - Public: menu, rotary switch(arc), radio button, Chinese input
  - Private: carousel, analog clock
- Performance
  - Optimized performance template of i.MX RT1170 and i.MX RT595
  - Size optimization by compiling used widgets and dependency
- Target
  - LPC54628: external flash storage
  - i.MX RT1170: landscape mode
  - RK055HDMIPI4MA0 display
- Toolchain
  - MCUXpresso IDE 11.6
  - MCUXpresso SDK 2.12
  - IAR 9.30.1
  - Keil MDK 5.37
- Bug fixes
  - **LGLGUIB-1409:** Random framing error
    - Occasionally the top menus may be cut off after widgets adding and deleting operation in the UI

editor. Currently, no other detail regarding this issue is available. The only known solution if this issue occurs is to close and reopen the GUI Guider application.

- **LGLGUIB-1838:** Sometimes svg image is not imported correctly
  - Sometimes the svg image is not imported correctly in GUI Guider IDE.
- **LGLGUIB-1895:** [Shape:color] lvgl-v8: Color widget distorts when it has large sizeWhen using color widget of LVGL v8, the widget distorts when the color widget size is large.
- **LGLGUIB-2066:** [imgbtn] Can select multiple images for a state
  - When selecting images for the different states of an image button (Released, Pressed, Checked Release, or Checked Pressed), it is possible to select multiple images in the selection dialog box. The selection box should only highlight the last selected image.
- **LGLGUIB-2107:** [GUI Editor] GUI Editor design area not the same as simulator or target results When designing a screen with a chart, the GUI editor design may not match the results when viewing in the simulator or on a target.
- **LGLGUIB-2117:** GUI Guider simulator generates an unknown error, and the UI application could not respond to any event
  - When developing multi-screen applications with GUI Guider, the three screens can be switched by clicking a button. After several times of screen switching, the simulator or board excites abnormally and reports an unknown error, and the demo could not respond to any event.
- **LGLGUIB-2120:** Filter recolor does not work on the design screen
  - The filter recolor feature does not show correctly in the design windows. When an image is added with the original color of white, the filter changes the color to blue. The design window shows that all the images, including their background, switch to the new color. The expectation is that the background should not change.
- **LGLGUIB-2121:** Font size could not be larger than 100
  - The font size could not be larger than 100. In some GUI applications, larger font size is needed.
- **LGLGUIB-2434:** Calendar display misplaced
  - When using the tab view as the overall background, after adding the calendar in content2, it is not shown correctly, no matter how the calendar is resized. The same issue occurs in both the simulator and board.
- **LGLGUIB-2502:** Unable to change the BG color of the list item on the drop-down list widget
  - The background color for the list label in the drop-down list widget cannot be changed.

### ***Known issues***

- **LGLGUIB-1613:** An error message in log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the APP is deployed successfully on the board.
- **LGLGUIB-2495:** The simulator display of the RT1176 (720×1280) demo is out of the screen
  - When running the simulator of RT1176 demo with default display (720×1280), the simulator is out of the screen and cannot display all content. The workaround is to change the host display scale setting to 100 %.
- **LGLGUIB-2517:** The image position is not displayed correctly in the simulator
  - Set the image to one position. It shows a little deviation in the simulator. The position is correct when running on the development board.

- **LGLGUIB-2520:** The panel type is wrong when running the demo on targetWith an RT1160-EVK
  - With RK043FN02H panel, create an example of GUI Guider and select the RT1060-EVK board and RK043FN66HS panel. Then execute “RUN” > Target “MCUXpresso”. The GUI can be shown on display. When exporting the project and deploying it by MCUXpresso IDE, there is no GUI display on the panel.
- **LGLGUIB-2522:** Must reset the platform manually after running Target with Keil
  - When creating an example (printer) of GUI Guider which selects RT1060-EVK board and RK043FN02H panel, execute “RUN” > Target “Keil”. The log window shows “undefined” and therefore the board must be reset manually to run the example.

## V1.3.1 GA

### V1.3.1 GA (*Released on 31 March 2022*)

#### New features (*Released on 31 March 2022*)

- UI development tool
  - Wizard for creating project
  - GUI auto scaling
  - Selectable display with custom option
  - 11 new fonts: including Arial, Abel, and more
  - Defaults to Arial font in demos
  - Memory monitor
  - Camera preview APP on i.MX RT1170
  - Group widgets move
  - Container copy
  - Incremental compile
- Widgets
  - Animated analog clock
  - Animated digital clock
- Performance
  - Build time optimization
  - Perf option: size, speed, and, balance
  - Performance chapter in User Guide
- Target
  - i.MX RT1024
  - LPC55S28, LPC55S16
- Toolchain
  - MCU SDK v2.11.1
  - MCUX IDE v11.5.1
- Bug fixes
  - **LGLGUIB-1557:** The copy/paste function of container widget should apply for all its child widgets GUI Guider copy and paste operation were applicable only for the widget itself and was not included for the children. For example, when a container was created and a slider was added as a child, copying and pasting the container, resulted in a new container. However, the container was without a new slider. The

copy/paste function of the container widget is now applied to all the child widgets.

- **LGLGUIB-1616:** Improve the UX of widget move up/down in resource window
  - On the Resource tab, a screen may contain many widgets. It was inefficient and inconvenient to move up a widget resource from the bottom to the top in widgets list of the screen. It was only possible after step-by-step mouse click. To provide a better experience, the drag-and-drop feature is now supported for it.
- **LGLGUIB-1943:** [IDE] The start position of line is incorrect in the editor
  - When setting the start position of line to (0, 0), the start position of the widget is incorrect in the editor. However, the position is normal in simulator and target.
- **LGLGUIB-1955:** No previous screen button on the second screen of screen transition demo
  - For the screen transition demo, the text of button in the second screen should be “previous screen” instead of “next screen”.
- **LGLGUIB-1962:** Memory leak in auto-generated code
  - There is memory leak in the code generated by GUI Guider. The code creates a screen with `lv_obj_create()` but calls `lv_obj_clean()` to delete it. `Lv_obj_clean` deletes all the children of an object but not the object causing the leak.
- **LGLGUIB-1973:** Code of events and actions of the second screen is not generated
  - When a project is created including two screens with one button on each, and the event and action are set to navigate between these two screens by the button event; the code of “Load Screen” event of second screen’s button is not generated.

### ***Known issues***

- **LGLGUIB-1409:** Random framing error
  - Occasionally the top menus may be cut off after widgets adding and deleting operation in the UI editor. Currently, no other detail regarding this issue is available. The only known solution if this issue occurs is to close and reopen the GUI Guider application.
- **LGLGUIB-1613:** An error message in log window appears after successfully running “Run Target” on macOS
  - An error message appears on the log window when “Run Target” is completed on macOS, even if the APP is deployed successfully on the board.
- **LGLGUIB-1838:** Sometimes svg image is not imported correctly
  - Sometimes the svg image is not imported correctly in GUI Guider IDE.
- **LGLGUIB-1895:** [Shape:color] lvgl-v8: Color widget distorts when it has large size
  - When using color widget of LVGL v8, the widget distorts when the color widget size is large.

## **V1.3.0 GA**

***V1.3.0 GA (Released on 24 January 2022)***

### **New features**

- UI development tool
  - Two LVGL version
  - 24-bit color depth



- Music player demo
- Multi-themes
- Enable/disable FPS/CPU monitor
- Screen attributes setting
- Widgets
  - LVGL 8.0.2
  - MicroPython
  - 3D animation for JPG/JPEG
  - Drag and drop design for tileview
- Toolchain
  - New: Keil MDK v5.36
  - Upgrade: MCU SDK v2.11.0, MCUX IDE v11.5.0, IAR v9.20.2
- Supported OS
  - macOS 11.6
- Bug fixes
  - **LGLGUIB-1520:** Blank screen appears when Gauge is added in tabview and needle value is changed A blank screen appears in the IDE on clicking the editor after adding the gauge widget as a child of the tabview object and setting the needle value. The workaround is to restart GUI Guider.
  - **LGLGUIB-1774:** Issue adding calendar widget to project
    - Adding a calendar widget to a project causes an unknown error. Apparently the name of the widget is not properly updated. GUI Guider attempts to process a widget name screen\_calendar\_1 but the calendar is on scrn2. It should be scrn2\_calendar\_1.
  - **LGLGUIB-1775:** Typo in the system information
    - In the “System” setting of GUI Guider IDE, there is typo in “USE PERE MONITOR”, it should be “REAL TIME PERF MONITOR”.
  - **LGLGUIB-1779:** Build error when project path contains space character
    - When there is space character in the project path, the project build fails in GUI Guider.
  - **LGLGUIB-1789:** [MicroPython simulator] Blanks space added in the roller widget
    - The roller widget simulated with MicroPython adds a blank space between the first and last list item.
  - **LGLGUIB-1790:** ScreenTransition template fails in 24 bpp building in IDE
    - To create a project in GUI Guider, select lvgl7, RT1064 EVK board template, ScreenTransition app template, 24- bit color depth and 480\*272. Generate the code and then export the code to IAR or MCUXpresso IDE. Copy the generated code to SDK lvgl\_guider project and build in IDE. An incorrect screen appears and the code gets stuck in MemManage\_Handler.

### ***Known issues***

- **LGLGUIB-1409:** Random framing error
  - Occasionally the top menus may be cut off after widgets adding and deleting operation in the UI editor. Currently, no other detail regarding this issue is available. The only known solution if this issue occurs is to close and reopen the GUI Guider application.
- **LGLGUIB-1613:** An error message in log window appears after successfully running “Run Target” on macOSAn error message appears on the log window when “Run Target” is completed on macOS, even if the APP is

deployed successfully on the board.

## V1.2.1 GA

### *V1.2.1 GA (Released on 29 September 2021)*

#### New Features

- UI development tool
  - LVGL built-in themes
- Toolchain
  - MCU SDK 2.10.1
- New Target / Device Support
  - i.MX RT1015
  - i.MX RT1020
  - i.MX RT1160
  - i.MX RT595: TFT Touch 5" display
- Bug fixes
  - **LGLGUIB-1404:** Export files to specified folder
    - When using the code export function, GUI Guider forces the exported files in a default folder instead of the folder specified by users.
  - **LGLGUIB-1405:** Run Target does not reset and run the application
    - When IAR is selected from the "Run Target" feature, the board does not reset automatically after image programming. The user must manually reset the EVK using the reset button once the programming has completed.
  - **LGLGUIB-1407:** [Tileview] Child widgets are not updated in real time
    - When a new tile is added in tileview widget, the widgets tree in the left panel of GUI Guider is not refreshed if no child widget is added in the new tile. A child widget must be added to the tile for it to appear in the leftmost panel.
  - **LGLGUIB-1411:** ButtonCounterDemo application performance issue
    - When buttonCounterDemo is built for LPC54S018 by using IAR v9.10.2, the poor application performance may be experienced. When pressing one button and then the other, there is a noticeable delay of ~500 ms before the screen updates.
  - **LGLGUIB-1412:** Building demo applications may fail
    - If the Export code feature is used to export code of GUI APP without running "Generate Code" first, the build fails after importing the exported code in MCUXpresso IDE or IAR.
  - **LGLGUIB-1450:** Error in GUI Guider uninstaller
    - If there are multiple installations of GUI Guider on a machine, the uninstaller fails to distinguish between those installations. For example, running the uninstaller of v1.1.0 may result in the removal of v1.2.0.
  - **LGLGUIB-1506:** The state of previously pressed image button is not refreshed after pressing another image button
    - When one button is pressed, and another one is also pressed, the state of the last pressed button does not change. The resulting effect is that multiple image buttons are in the pressed state

simultaneously.

### **Known issues**

- **LGLGUIB-1409:** Random framing error
  - Occasionally the top menus may be cut off after widgets adding and deleting operation in the UI editor. Currently, no other details are available regarding this issue. The only known solution if this issue occurs is to close and reopen the GUI Guider application.
- **LGLGUIB-1520:** Blank screen appears when Gauge is added in tabview and needle value is changed A blank screen appears in the IDE on clicking the editor after adding the gauge widget as a child of the tabview object and setting the needle value. The workaround is to restart GUI Guider.

## **V1.2.0 GA**

***V1.2.0 GA (Released on 30 July 2021)***

### **New features**

- UI development tool
  - Widget search
  - Custom font size
  - UG for board support without template
- Widgets
  - LVGL 7.10.1
  - Events for buttons of list
  - Memory leak check
- Toolchain
  - IAR 9.10.2
  - MCUX IDE 11.4.0
  - MCUX SDK 2.10.x
- Acceleration
  - Image converter for VGLite performance augment
- New target / device support
  - LPC54s018m, LPC55S69
  - i.MX RT1010
- Bug fixes
  - **LGLGUIB-1273:** Simulator cannot display full screen when screen size is greater than host resolution
    - When the target screen resolution is greater than the PC screen resolution, the entire simulator screen cannot be viewed. In addition, the control bar is not visible so it is impossible to move the simulator screen.
  - **LGLGUIB-1277:** The simulator is blank for i.MX RT1170 and RT595 project when large resolution is selected
    - When the large resolution, for example 720×1280, is used to create project for i.MX RT1170 and i.MX RT595, the simulator is blank when GUI APP is running in simulator. The reason is that only

partial screen is displayed when device screen size is larger than the PC screen resolution.

- **LGLGUIB-1294:** printer demo: Click does not work when icon image is clicked
  - When the printer demo is running, there is no response when the icon image is clicked. This happens because the event trigger and action are not configured for the icon image.
- **LGLGUIB-1296:** Size of text style is not to be exported in the list widget
  - After setting the text size of the list widget in the attributes window of GUI Guider, the configured text size does not take effect when the GUI APP is running.

## Known issues

- **LGLGUIB-1405:** Run Target does not reset and run the application
  - When IAR is selected from the “Run Target” feature, the board is not reset automatically after image programming. The user must manually reset the EVK using the reset button once the programming has completed.
- **LGLGUIB-1407:** [Tileview] Child widgets are not updated in real time
  - When a new tile is added in tileview widget, the widgets tree in the left panel of GUI Guider is not refreshed if no child widget is added in the new tile. A child widget must be added to the tile for it to appear in the left-most panel.
- **LGLGUIB-1409:** Random framing error
  - Occasionally the top menus may be cut off after widgets adding and deleting operation in the UI editor. No other details regarding this issue are available at this time. The only known solution if this issue occurs is to close and reopen the GUI Guider application.
- **LGLGUIB-1411:** ButtonCounterDemo application performance issue
  - When buttonCounterDemo is built for LPC54S018 by using IAR v9.10.2, the poor application performance may be experienced. When pressing one button and then the other, there is a noticeable delay of ~500 ms before the screen updates.
- **LGLGUIB-1412:** Building demo applications may fail
  - If the Export code feature is used to export code of GUI APP without running “Generate Code” first, the build will fail after importing the exported code in MCUXpresso IDE or IAR.
- **LGLGUIB-1506:** The state of previously pressed image button is not refreshed after pressing another image button
  - When one button is pressed, and another one is also pressed, the state of the last pressed button does not change. The resulting effect is that multiple image buttons are in the pressed state simultaneously. The workaround is to enable Checked state for image button through GUI Guider IDE.

## V1.1.0 GA

***V1.1.0 GA (Released on 17 May 2021)***

## New features

- UI development tool
  - Menu shortcut and keyboard control
  - New states: FOCUSED, EDITED, DISABLED

- Frame rate customization
- Screen transition configuration
- Parent / children widgets
- Callback function setting for animation image
- VGLite enablement on IDE
- Header path auto-config
- Widgets
  - BMP and SVG assets
  - 3D animation for PNG
  - Support tileview as standard widget
- Acceleration
  - Initial VGLite for RT1170 and RT595
- New target / device support
  - i.MX RT1170 and i.MX RT595
- Bug fixes
  - **LGLGUIB-675:** Animation refresh may not work well in simulator sometimes
    - The images of animation are not refreshed correctly in simulator sometimes, the root cause is that animation image widget does not handle image source changing properly.
  - **LGLGUIB-810:** Animation image widget may have distorted hues
    - During the operation of an animation widget, the animated image may have a discolored hue in the background. The issue is caused due to the unhandled style properties.
  - **LGLGUIB-843:** Erratic mouse operation when moving widgets when UI editor is zoomed in
    - When the UI editor is zoomed in, there may be erratic mouse operation when moving widgets in the editor.
  - **LGLGUIB-1011:** The screen overlay effect is incorrect when screens of different sizes are switched When a second screen with opacity value 100 is created to cover the current screen (which is not deleted), the background screen effect is not displayed correctly.
  - **LGLGUIB-1077:** Cannot display Chinese in Roller widget
    - When Chinese characters are used as row text in roller widget, the Chinese are not displayed when the APP is running.

### ***Known issues***

- **LGLGUIB-1273:** Simulator cannot display full screen when screen size is greater than host resolution When the target screen resolution is greater than the PC screen resolution, the entire simulator screen cannot be viewed. In addition, the control bar is not visible so it is impossible to move the simulator screen.
- **LGLGUIB-1277:** The simulator is blank for i.MX RT1170 and RT595 project when large resolution is selected
  - When the large resolution, for example 720×1280, is used to create project for i.MX RT1170 and i.MX RT595, the simulator is blank when GUI APP is running in simulator. The reason is that only partial screen is displayed when device screen size is larger than the PC screen resolution.
- **LGLGUIB-1294:** printer demo: Click does not work when icon image is clicked
  - When the printer demo is running, there is no response when the icon image is clicked. This happens because the event trigger and action are not configured for the icon image.
- **LGLGUIB-1296:** Size of text style is not to be exported in the list widget

- After setting the text size of the list widget in the attributes window of GUI Guider, the configured text size does not take effect when the GUI APP is running.

## **V1.0.0 GA**

***V1.0.0 GA (Released on 15 January 2021)***

### **New features**

- UI development tool
  - Supports Windows 10 and Ubuntu 20.04
  - Multi-language (English, Chinese) for IDE
  - Compatible with LVGL v7.4.0, MCUXpresso IDE 11.3.0, and MCU SDK 2.9
  - Project management: create, import, edit, delete
  - What You See Is What You Get (WYSIWYG) UI design by drag and drop
  - Multi-page application design
  - Shortcut of bring forward and backward, copy, paste, delete, undo, redo
  - Code viewer for UI definition JSON file
  - Navigation bar to view the selected source file
  - LVGL C code auto-generation
  - Widget attributes group and setting
  - Screen copy function
  - GUI editor zoom in and zoom out
  - Multiple fonts support and 3rd party fonts import
  - Customizable Chinese character scope
  - Widgets alignment: left, center, and right
  - PXP acceleration enable and disable
  - Support default style and custom style
  - Integrated demo applications
  - Compatible with MCUXpresso project
  - Real-time log display
- Widgets
  - Supports 33 widgets
  - Button (5): button, image button, checkbox, button group, switch
  - Form (4): label, drop-down list, text area, calendar
  - Table (8): table, tab, message box, container, chart, canvas, list, window
  - Shape (9): arc, line, roller, led, spin box, gauge, line meter, color, spinner
  - Image (2): image, animation image
  - Progress (2): bar, slider
  - Others (3): page, tile view, keyboard
  - Animation: animation image, GIF to animation, animation easing, and path
  - Support event trigger and action selection, custom action code
  - Chinese display
  - Support default style and custom style

- New target / device support
  - NXP i.MX RT1050, i.MX RT1062, and i.MX RT1064
  - NXP LPC54S018 and LPC54628
  - Device template, auto-build, and auto-deploy for supported platforms
  - Run simulator on X86 host

### ***Known issues***

- **LGLGUIB-675:** Animation refresh may not work well in simulator sometimes
  - The images of animation are not refreshed correctly in simulator sometimes, the root cause is that animation image widget does not handle image source changing properly.
- **LGLGUIB-810:** Animation image widget may have distorted hues
  - During the operation of an animation widget, the animated image may have a discolored hue in the background. The issue is caused due to the unhandled style properties.
- **LGLGUIB-843:** Erratic mouse operation when moving widgets when UI editor is zoomed in
  - When the UI editor is zoomed in, there may be erratic mouse operation when moving widgets in the editor.
- **LGLGUIB-1011:** The screen overlay effect is incorrect when screens of different sizes are switched When a second screen with opacity value 100 is created to cover the current screen (which is not deleted), the background screen effect is not displayed correctly.
- **LGLGUIB-1077:** Cannot display Chinese in Roller widget
  - When Chinese characters are used as row text in roller widget, the Chinese are not displayed when the APP is running.

### **Revision history**

Table 1 summarizes the revisions to this document.

**Table 1.** Revision history

Document ID	Release date	Description
GUI_GUIDER_RN_1.7.1	29 March 2024	Updated for v1.7.1
GUI_GUIDER_RN_1.7.0	31 January 2024	Updated for v1.7.0
GUI_GUIDER_RN v1.6.1	29 September 2023	Updated for v1.6.1
GUI_GUIDER_RN v1.6.0	31 July 2023	Updated for v1.6.0
GUI_GUIDER_RN v1.5.1	31 March 2023	Updated for v1.5.1
GUI_GUIDER_RN v1.5.0	18 January 2023	Updated for v1.5.0
GUI_GUIDER_RN v1.4.1	30 September 2022	Updated for v1.4.1
GUI_GUIDER_RN v1.4.0	29 July 2022	Updated for v1.4.0
GUI_GUIDER_RN v1.3.1	31 March 2022	Updated for v1.3.1
GUI_GUIDER_RN v1.3.0	24 January 2022	Updated for v1.3.0
GUI_GUIDER_RN v1.2.1	29 September 2021	Updated for v1.2.1
GUI_GUIDER_RN v1.2.0	30 July 2021	Updated for v1.2.0
GUI_GUIDER_RN v1.1.0	17 May 2021	Updated for v1.1.0

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## Documents / Resources

	<p><a href="#">NXP LPC55S28 GUI Guider</a> [pdf] User Guide LPC55S28, LPC55S28 GUI Guider, GUI Guider, Guider</p>
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