# FDI

# 3.5" PCAP Touch Screen LCD GUI

µEZ GUI

3.5 PCAP

The 3.5" PCAP Touch Screen LCD GUI, UEZGUI-35CP-BA, adds new features and capabilities to FDI's standalone microcontroller-based µEZ®GUI product family. This unit features the optimized NXP LPC54608 Cortex-M4 microcontroller with Floating Point Unit, Flexcomm software selectable serial peripherals and a powerful State Configurable Timer (SCT) for CPU independent State Machine Control. The brilliant 400 nit display features a PCAP touch screen for a soft touch user interface. This product is ideal for customers who need a smaller footprint, cost effective GUI or HMI for their embedded design.

The Future Designs, Inc. µEZ® GUI product family is our standalone microcontroller-based solution designed for the easy integration of modern human machine interfaces (HMI) into a variety of end applications. Each µEZ GUI product includes a display with supporting hardware and FDI's open source µEZ / FreeRTOS software. FDI's µEZ GUI development kits include everything needed to kick off a project including JTAG debugger, power supply, cables, microSD card and full documentation. Once your design is complete, we offer cost-effective uEZ GUI production modules for prototypes or high-volume production. FDI also offers engineering design and production support services.

We are committed to saving our customers time, money and hassle. So, no matter how much (or little) support you need along the way, we can make your project concepta reality. µEZ GUI Products are available for immediate order at www.TeamFDI.com or from any of our franchised distributors.



Main Menu    12:06  12/17/2015
emWin Demos   Videos   More Info.
Settings
v1.03 CS: 0x035E5D76

## Module Features

- 3.5" TFT QVGA 320 x 240 PCAP Touch Screen Panel
- NXP LPC54608 180MHz CPU with 512KB internal Flash
- 16MB of QSPI Serial Flash
- 16MB of SDRAM
- Wireless Capabilities with BLE121LR Module
- State Configurable Timer for CPU Independent State Machine Control
- High Speed SD interface supporting 15fps video playback
- MicroSD Memory Card Socket
- USB Device Mini-B for 5.0 VDC power and PC communications
- USB Host support through adapter cable
- NV Data Storage via 16KB Internal EEPROM
- Internal Real-Time Clock with Supercap Backup
- Speaker, 3-axis Accelerometer, Temperature and Ambient Light Sensor
- Pmod Type 2A connector with SPI and optional I2C
- Cortex-M 9-pin JTAG Debug Connector
- Optional CAN-FD Interface
- External Expansion via two I/O Connectors (50 pins)
       - UART, I2C, SPI, USB Host/Device, RMII Ethernet



↕ 13.1 mm

Development Kit Part #: **UEZGUI-35CP**
Development Kit MSRP (Qty 1) : $225.00 (USD)
Production Module Part #: **uEZGUI-35CP-BA**
Production Module MSRP (Volume) <$85.00 (USD)

*Production guaranteed until 2027 or longer.*

partner of
NXP

freeRTOS    ARM    Cortex Intelligent Processors by ARM    Rowley Associates    SEGGER    IAR SYSTEMS

## Technical Specifications

### Production Module

- Part number: **UEZGUI-35CP-BA**
- MSRP (Volume) <$85.00 (USD)
- Contrast Ratio:  500:1 typical
- Brightness: 400 nits typical
- Horizontal Viewing Angle: 70° L / 70° R
- Vertical Viewing Angle: 60° U / 70° D
- Power consumption typ/max:  225 / 430mA
- Overall Size: 91.44(W) x 78.74(H) x 13.13(D) mm
- Operating Temperature Range: -20°C  to +70°C
- Viewable area: 70.08(W) x 52.56(H) mm
- Weight:  83g
- Touch Resolution: 320 x 240
- Number Simultaneous Touches:1
- Glass Hardness: ≤4H

**Available From:**



### Development Kit

- Part number: **UEZGUI-35CP**
- MSRP (Qty 1): $225.00 (USD)
- Includes UEZGUI-35CP-BA Production Module
- AC power supply
- Mini JTAG debugger with cables
- USB device cables for power and PC communications
- 4GB (or larger) microSD Memory Card
- Documentation and Example Software



### Production Module

## uEZ Software

μEZ® (pronounced Muse) is an open source rapid development platform that allows companies to focus on innovation and their value-added applications while minimizing development time and maximizing software reuse. μEZ  components comprise three primary categories to simplify embedded application development: Operating System Abstraction Layer (μEZ® OSAL), Sub-system drivers (ex: μEZ® TCP/IP, μEZ® USB, μEZ® Driver), and Hardware Abstraction Layer (μEZ® HAL)

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|---|---|---|---|---|
| FreeRTOS with Tasks, Semaphores,  Mutex, Queues | SafeRTOS option for safety critical real-time applications | emWin Graphics library free with NXP ARM MCUs | FAT FS for USB/SD card with long-file name support | USB Host/Device including mass storage, HID Libraries |
| Wi-Fi library with integration into TCP/IP Stack from GainSpan | SEGGER JTAG development and production SW integration | 10/100 Ethernet support with lwIP TCP/IP Stack | Memory SDRAM, NOR Flash, SPIFI Flash support | Audio PWM, DAC, and I2S support |
| TFT LCD support for QVGA, VGA, WQVGA, WVGA Displays | Multiple compilers and IDEs supported | Modbus TCP/IP and RTU support | Serial Comms I2C, SPI, UART, RS232, RS485, CAN & GPIO | Bootloader for field updates over SD/USB/Serial (affordable μEZ+) |