EPH8630 Product Brief

EPH8630 is a RISC-V based automotive qualified capacitive multi-touch product providing superior touchscreen performance for the demanding automotive, industrial and consumer industries.

112 Sense channels can be configured as either Receive (Rx) or Transmit (Tx) to allow for numerous screen edge channel routings for both double- and single- connected sensor designs. This supports a wide range of screen sizes and aspect ratios from 1:1~3.5:1.

EPH8630 supports screen capacitive loads of more than 1200pf per line for flexible or rigid (OLED & LCD) laminated, TOE, FMLOC, touch-on-lens or on-cell stack-ups.

Communication interface of either I^2C at 400kbit/s, 1Mbit/s or 3.4Mbit/s or SPI up to 30MHz, giving system touch report rates to 240Hz with less than 10ms first touch latency (subject to features and configuration settings) for rectangular display panels, panels with notches, holes, rounded corners & curved touchscreen designs.

EPH8630's market-leading SNR of up to 80dB across a wide range of active display patterns is achieved using ESWIN Computing's combined Mutual- and Self- capacitive measurements.

EPH8630's narrow band acquisition engine allows for effortless touch reporting without the need to switch sensing modes for features such as:

- Up to 10 touches with or without thick (>5mm) gloves
- Proximity and hovering detection
- 1- and 2- Touch gestures
- In-display buttons and sliders
- Multiple touchscreen arrays
- Large touch size (>30mm) detection and suppression
- More than 1 Touches tracked in moisture / water (number of touches dependent on sensor pitch)
- Technology-leading thermal gradient removal
- Unrivalled touch performance for displays constructed with acrylic (up to 5mm thickness) or glass (up to 10mm thickness) front covers combined with thin stacks, creating high sense loading

EPH8630 is available now in 216LQFP package, with BGA package option in development:

- Automotive AEC-Q100 Grade 2 (-40°C to +105°C) qualified
- Industry-leading CISPR 25 Class 5 EMC performance
- Built in Self-Test and diagnostic for application safety and product assembly testing (including display channel opens, display channel shorts and screen parasitic degradation)
- Field updateable application firmware and parameter configurations
- 3.3V & 1.8V nominal supplies

- Internal high voltage supply generation possible with single external passive component if required
- ESWIN Computing Touch Suite software supports debug and tuning product development with non-volatile configuration storage

EPH8630

24x24x1.4mm 216LQFP 0.4mm pitch

112 Touch Sensing Channels & Driven Shield
External (3.3V, 1.8V) and Internal Power & VSS
Communications (I2C or SPI) & MFIOs

Orderable Part Number	Bulk packaging
EPH8630-LQ02 (216LQFP)	Trays or Tape and Reel
EPH8630-BGnn (tbdBGA)	

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