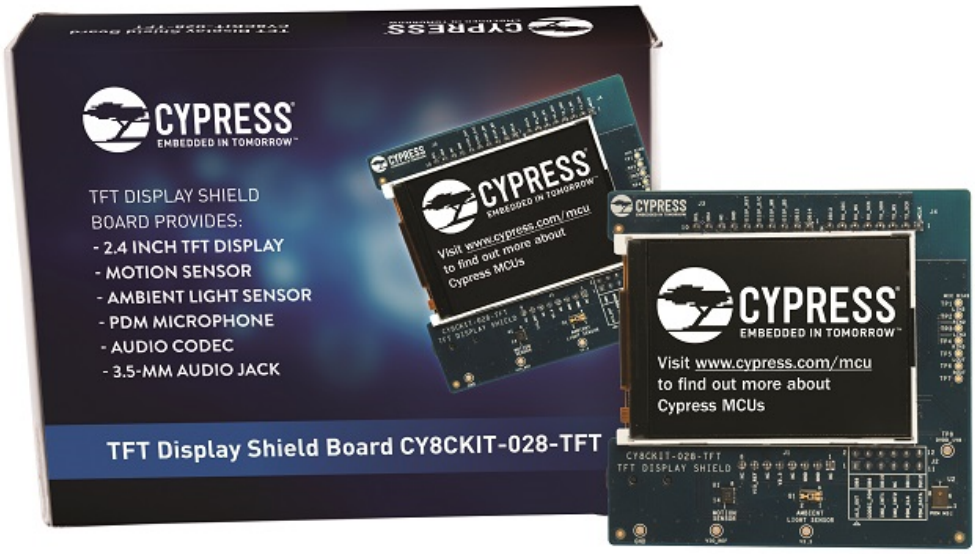

TFT Display Shield Board CY8CKIT-028-TFT

TFT Display, Audio, and Multiple Sensors

The TFT Display Shield Board (CY8CKIT-028-TFT) has been designed such that a TFT display, audio devices, and sensors can interface with Cypress' PSoC 6 MCUs.
It comes with the features below to enable everyday objects to connect to the Internet of Things (IoT).

- 2.4 inch TFT Display
- Motion Sensor
- Ambient Light Sensor
- PDM Microphone
- Audio Codec
- 3.5-mm Audio Jack

The TFT Display Shield Board is compatible with the PSoC 6 WiFi-BT Pioneer Kit CY8CKIT-062-WiFi-BT and the PSoC 6 BLE Pioneer Kit CY8CKIT-062-BLE.

The table below shows the pin mapping for the PSoC 6 MCU Pioneer Kits that the TFT Display Shield is compatible with:

PCB Connector Pin Number	Arduino Pin	Arduino Function	CY8CKIT-028-TFT Shield Function	CY8CKIT-062-BLE CY8CKIT-062-WiFi-BT
J1.1	VIN	VIN	NC	VIN
J1.2	GND	GND	GND	GND
J1.3	GND	GND	GND	GND
J1.4	5 V	5 V	NC	5 V
J1.5	3.3 V	3.3 V	VCC 3.3V	3.3 V
J1.6	RESET	RESET	NC	SWD RESET
J1.7	I/O REF	I/O REF	VIO REF	P6 VDD
J1.8	--	--	NC	NC
J2.1	A0	ADC0	ALS OUT	P10[0]
J2.2	--	--	TFT DISP DB8	P9[0]
J2.3	A1	ADC1	Codec PDN SW	P10[1]
J2.4	--	--	TFT DISP DB9	P9[1]
J2.5	A2	ADC2	IMU INT1	P10[2]
J2.6	--	--	TFT DISP DB10	P9[2]
J2.7	A3	ADC3	IMU INT2	P10[3]
J2.8	--	--	NC	P9[3]
J2.9	A4	ADC4 / SDA (I2C)	PDM CLK	P10[4]
J2.10	--	--	TFT DISP DB11	P9[4]

PCB Connector Pin Number	Arduino Pin	Arduino Function	CY8CKIT-028-TFT Shield Function	CY8CKIT-062-BLE CY8CKIT-062-WiFi-BT
J2.11	A5	ADC5	PDM DATA	P10[5]
J2.12	--	--	TFT DISP DB12	P9[5]
J3.1	D8	DIGITAL I/O	TFT DISP DB14	P13[0]
J3.2	D9	PWM	TFT DISP DB15	P13[1]
J3.3	D10	SS/PWM	TFT DISP RD_L	P12[3]
J3.4	D11	MOSI/PWM	TFT DISP WR_L	P12[0]
J3.5	D12	MISO	TFT DISP D/C	P12[1]
J3.6	D13	SCK	TFT DISP RST_L	P12[2]
J3.7	GND	GND	GND	GND
J3.8	AREF	analog ref i/p	NC	VREF
J3.9	SDA	SDA	I2C SDA (IMU and audio codec)	P6[1]
J3.10	SCL	SCL	I2C SCL (IMU and audio codec)	P6[0]
J4.1	D0	RX	I2S MCLK	P5[0]
J4.2	D1	TX	I2S TX SCK	P5[1]
J4.3	D2	DIGITAL I/O	I2S TX WS	P5[2]
J4.4	D3	PWM, I/O	I2S TX SDO	P5[3]
J4.5	D4	DIGITAL I/O	I2S RX SCK	P5[4]

PCB Connector Pin Number	Arduino Pin	Arduino Function	CY8CKIT-028-TFT Shield Function	CY8CKIT-062-BLE CY8CKIT-062-WiFi-BT
J4.6	D5	PWM, I/O	I2S RX WS	P5[5]
J4.7	D6	PWM, I/O	I2S RX SDI	P5[6]
J4.8	D7	DIGITAL I/O	TFT DISP DB13	P0[2]

Code Examples in PSoC Creator and WICED Studio for the TFT Display Shield Board (CY8CKIT-028-TFT).

Project	**Development Platform**	**Description**
CE222221_TFT_VoiceRecorder	CY8CKIT-062-WiFi-BT kit with PSoC Creator 4.2 software	This code example shows how PSoC 6 MCU can be used to record audio data, store it, and play it back. It uses a digital microphone with the PDM/PCM hardware block. All the audio data captured by the microphone is stored in an external flash memory. After the recording is completed, you can play the audio data over I2S, which interfaces with an audio codec. You can record/play/ pause/resume with CapSense buttons. You control the audio volume with a CapSense slider. The TFT LCD displays the current state of the voice recorder, the volume, and the time of the record/play.
CE222494_WiFi_BT_WICED_WiFi_Demo	CY8CKIT-062-WiFi-BT kit with WICED 6.1 software	This code example demonstrates how to use PSoC 6 MCU and WICED to enable WiFi communication. It demonstrates how the PSoC 6 MCU with the 4343W module can be used as a configuration access point (AP) to allow a user to enter the credentials of their personal network.

To find out more on the CY8CKIT-062-WiFi-BT hardware, PSoC Creator 4.2, and WICED Studio 6.1, download the CY8CKIT-062-WiFi-BT Kit Guide from here. To find standalone PSoC 6 MCU code examples for the CY8CKIT-062-WiFi-BT Pioneer Kit, you can also visit the PSoC 6 Code Examples page.

Kit Contents:

TFT Display Shield