

## Description

EDGE Spartan 7 FPGA Development board is the low cost and feature rich FPGA kit which is upgraded from EDGE Spartan 6 kit. Both EDGE Spartan 6 and Spartan 7 share the same interfaces except FPGA IC. An advantage of EDGE Spartan 7 over Spartan 6 is more logics resources and fully compatible with Vivado design suite.

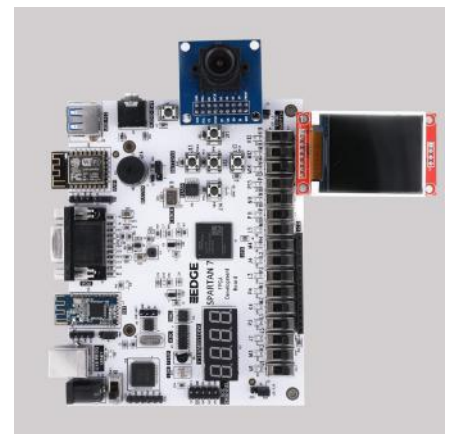
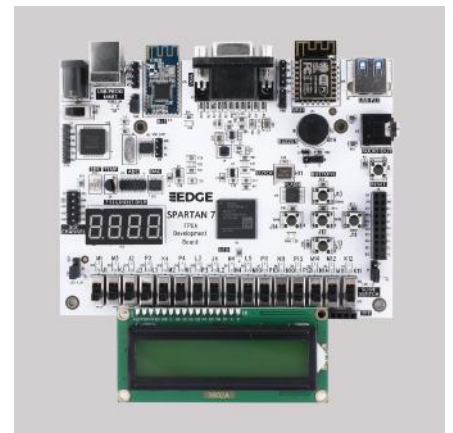
Its features includes FPGA, SPI FLASH, Wi-Fi, Bluetooth, ADC, DAC, LCD, 7 segment, VGA, PS2, Stereo Jack, buzzer, Push Button, Slide Switch, LED, Temperature Sensor, LDR and UART. The Board also provides additional interface like CMOS Camera and TFT Display at the expansion connectors.

EDGE FPGA kit is ready to use Laboratory kit for ECE Curriculum. It can be useful for developing basic to advanced level digital circuits.

Xilinx offers free WebPACK™ versions of Vivado design suite, so designs can be implemented at no additional cost

## Package includes

- EDGE Spartan 7 FPGA Development Board
- USB Cable
- LCD Display 2x16
- SPI TFT (optional)
- CMOS VGA Camera (optional)
- Acrylic Sheet Top/Bottom (optional)
- Lab Protection Box (optional)
- Sensor Addon (Gesture/Ultrasonic/Touch/Accelero.) (optional)
- Motor Addon (Stepper/DC/Servo/Relay) (optional)



## Technical Specification

FPGA	Xilinx Spartan 7 XC7S15 FTGB196, 12800 Logic Elements, 368640 bits of Block RAM
SPI FLASH	8 MByte for FPGA Configuration
WiFi	ESP-12F WIFI Modem
VGA	12-bit, 4096 Color
Bluetooth	1.8 inch SPI TFT, 128×160
ADC	8 channel 12-bit SPI ADC, 6 channel available at J7 Connector.
Sensor1	LM35 Temperature Sensor
Sensor2	LDR
DAC	12-bit SPI DAC output at J7 Connector
Audio	Stereo Jack
7 segment Display	4-Digit 7 Segment Display
LCD	2×16 Character LCD
Buzzer	5v Piezo Buzzer
Slide Switch	16 Nos of SPDT
LEDs	16 Nos of LEDs
Push Button	5 Nos of Push Button
PS2	Keyboard interface on USB connector.
JTAG	USB JTAG for Programming and Debugging. Fully Compatible with Vivado Design Suite.
UART	USB UART can communicate at different baud rate
Clock	50 MHz

## Technical Specification (Optional)

Camera	OV7670 CMOS Camera
TFT	1.8 inch SPI TFT, 128×160
Digital Sensor Addon	Gesture sensor/ Ultrasonic Sensor/ Touch Sensor/ 3 axis Accelerometer
Motor Driver Addon	Stepper Motor/ DC Motor/ Servo Motor/ 2 channel Relay/ 12v Adaptor/ Motor Driver Board

## Applications

- Wireless Communication
- IoT (Internet of Things)
- Environment monitor
- Product Prototyping
- Image Processing
- Video Processing

