SIGMA

INTEL GALILEO MICRO CONTROLLER TRAINER
MODEL - INTGL100

This trainer has been designed with a view to provide theoretical & practical knowledge of Intel Galileo Micro controller board.

SPECIFICATIONS

1. Hardware

1.	Processor	:	Intel® Quark X1000 – single core
2.	Speed	:	400MHz
3.	Real Time Clock	:	Yes
4.	RAM	:	512KB on-chip SRAM
5.	DRAM	:	256MB DRAM
6.	FLASH Memory	:	8MB NOR Flash
7.	EEPROM	:	11KB
8.	External Storage	:	Micro-SD Card (up to 32GB)
9.	Support for External USB2.0 Drive	:	Yes
10.	Status Indication	:	Power LED
11.	JTAG	:	10-pin, Mini-JTAG header
12.	DSI	:	Display Serial Interface
13.	Analog I/O	:	Up to 6 Analog Inputs
14.	Digital I/O	:	14 Digital I/O
15.	PWM	:	Up to 6
16.	USB 2.0	:	2 Ports
17.	Ethernet (RJ45)	:	10/100 Mbps
18.	SD Card	:	Micro SD slot
19.	PCIe	:	Yes, PCI Express mini.
20.	SPI	:	Yes

2. Software

1.	Controller Driver Software CD	:	1 No.
2.	Applications Software CD	:	1 No.

3. **Accessories**
    1. Practical Manual   :   1 No.
    2. Required Cables   :   1 No.
    3. Software and Driver CD   :   1 No.
    4. E-Books for Intel Galileo   :   10 Nos. in PDF Format
    5. Mp4 Video Class for Intel Galileo   :   40 Nos

4. **Trainer Board:-**

    The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe.

5. **Note:**

    One Computer systems (Pentium IV 1.5 GHz, 160GB HD, 128 MB RAM) with Windows-7 is required to operate this trainer.

EXPERIMENTS

1. Software and hardware configuration for Intel Galileo board.
2. To Write a program to blink on board LED.
3. To Write a program to take input form switch and blink LED.
4. To Display "Hello world" on 16* 2 alphanumeric LCD
5. To make moving Message Display on 16* 2 alphanumeric LCD.
6. To Write a program to interface DHT11 sensor to implement one wire protocol.
7. To Write a program to interface Flame sensor.
8. To Write a program to interface IR object sensor.
9. To Write a program to interface Ambient light sensor using
10. To Write a program to blink led using PWM module.
11. To Write a program to interface Ultrasonic distance measurement sensor.
12. To Write a program to interface real time clock (RTC) using I2C protocol.
13. To Write a program to interface 3 axis accelerometer module using SPI protocol.
14. To Write a program for external interrupt, to blink LED.
15. To Write a program to send data serially using UART.
16. To Write a program to receive data serially using UART.
17. To Write a program to send and receive data using UART.
18. To Write a program to write data into internal EEPROM.
19. To Write a program to read and To Write back data into internal EEPROM.
20. Intel Galileo at Application approach – To Write an application to display temperature and humidity data on LCD and send data over serial port.