



SALIENT FEATURES

- Trainer offers comprehensive experiment set up explaining Bluetooth & Zigbee Protocols.
- Either my buy shared set up with replaceable NICs or independent setup of nodes for each technology. However NICs could be replaced in one setup to experiment with other.
- Table top setup made using light but sturdy Aluminum profile (4X2) Rack.
- Lab PC with serial / USB port required for network monitoring or ot work as user, PC not in scope of supply.
- Set of Users Guides provided with each unit.

Technical Specification

Type	10940 Bluetooth (802.15.1)	10941 Zigbee (802.15.4)
Model Specification	<ul style="list-style-type: none"> Operating Freq. Band ISM 2.4Hz 2.48GHz Modulation Method : Gaussian Freq. Shift Keying Output Output Interface: UART Serial UART speed up to 921 .6kbps Bluetooth Specification : v2.0+EDR Transmit Power Max. 18dBm Receiving Sensitivity : 30dBm (0.1%BER) Compact size 27.5 X 30.0 X 14.0 (mm) Provides transparent RS232 serial cable replacement Support up to 4 multiple simultaneous connection Profile : Serial Port Profile Working Distance : Normally 100meters RSSI Indication on LED 	<ul style="list-style-type: none"> Operating Frequency Band ISM 2.4GHz Indoor/Urban : Up to 133` (400m) Outdoor line-of- sight : up to 400` (120m) Transmit Power : 2mW (+3dBm) Receiver Sensitivity: 95dBmRF Fata Rate:250,000bps TX Current: 40mA (@3.3V) RX Current : 40mA (@3.3V) Power Each direct sequence channel has over 65,000 unique network addresses available Point to-Point, Point or multipoint and peer to- peer topologies supported Self Routing, self -healing And fault-tolerant mesh networking RSSI Indication on LED
Nodes	4 embedded Nodes with 4 replaceable NICs for each technology kept under transparent cover.	
Node Hardware	A) Embedded Controller device: 89C668 operating @ 16MHz. On chip RAM: 8KB, Flash/EEPROM:64KB. B) Serial port (RS232C) 9pin D (M). C) In built USB to serial converter. D) Display: 20X4LED (Backlit). E) General Purpose SMD bicolor (green, red) 8X2LEDs & 8 SMD push button switches/DIP switches. F) Power (SMPS): 5V/2.5Amp SMPS with RCA plug. SMPS.AC1/P230Vac+/-10%/50Hz X 4Nos.	
Node Software	mbedded program written in C for Bluetooth & Zigbee protocol	
Network Interface card	Bluetooth application module mounted on adaptor PCB 4 Nos	Zigbee application module mounted on adaptor PCB 4 Nos
PC Software	Network Monitor	Network Monitor, X CTU Software
Experiment topics Software	Configuring Master & Slave. Data exchange from one device to other. Select device name & transmit key, led status messages to be observed LED.	Configuring Coordinator & End Devices. Data exchange from one device to all connected in network. Observe text message, led status, frequency/temperature display.
Mech. Dimension/Wt.	900mm(L) X 300mm (W) X 720mm (H) / 20kg	

Note: Specifications are subject to change.

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