USB/Ethernet Gateway Solution
for Ember EM260 ZigBee

Cyan and Ember USB/Ethernet Gateway for ZigBee provides back channel connectivity, linking the RF network to a monitoring and control centre via the Internet but also with USB peripheral capability and a memory card connector. It is a board level solution, including power socket and a connector for the Cyan eICE debug interface.

The diagram below outlines the philosophy:
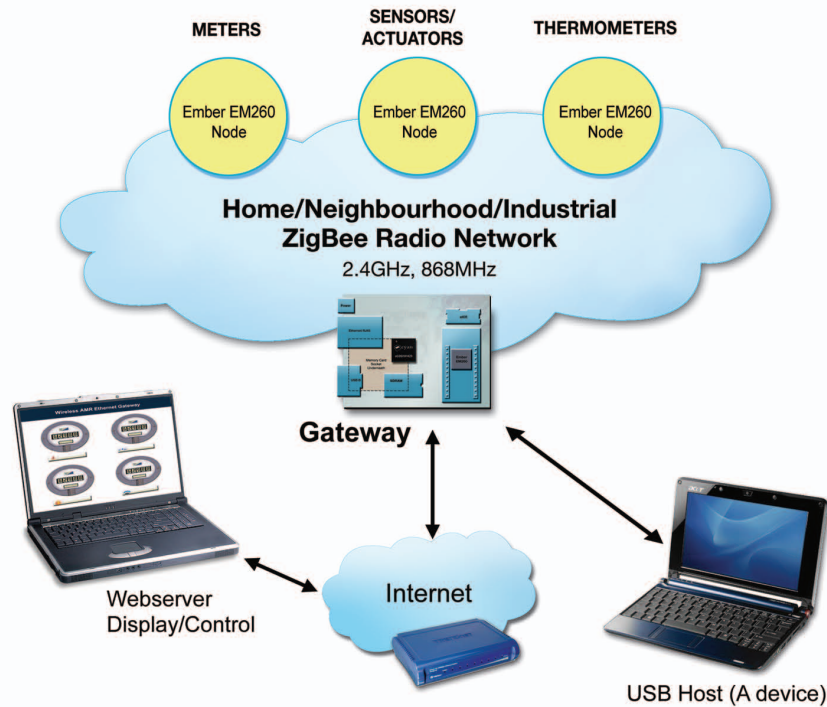
Part Number	Description
mCOG-UPE-1X-EMZ-B1-2	Board 2.4GHz ZigBee + Ethernet + USB peripheral
EVALKIT-UPE-1X-EMZ-B1-2	Board + Dongle + Cables + CyanIDE CD
DEVKIT1X-USB/ETHERNET	USB/Ethernet Development Kit

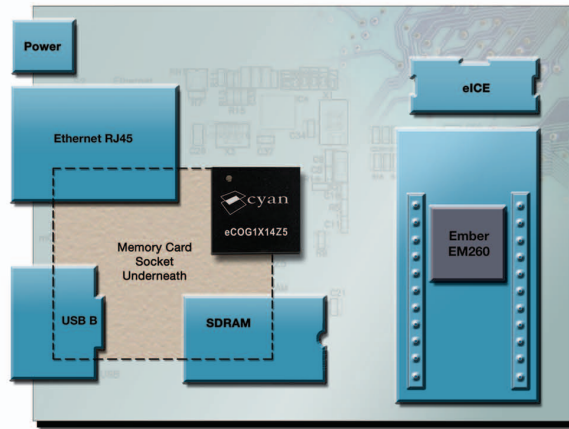*Other frequencies are available please contact: sales@cyantechnology.com for details*

Image for illustrative purposes only

Applications:

- Automatic Meter Reading (AMR)
- Advanced Metering Infrastructure (AMI)
- Home Area Networks (HAN)
- Industrial Wireless Sensor Networks (WSN)
- Security systems
- Process control

Ember EM260 ZigBee co-processor Features:

- Network Co-Processor
- Handles all EmberZNet ZigBee stack processing
- EZSP (EmberZNet Serial Protocol) SPI or UART interface to access EmberZNet API
- Isolates timing critical ZigBee functions (routing, etc) from the application processor, easing development
- Prevents resource conflicts between ZigBee stack and user application by separating ZigBee stack processing
- Flash-based for easy upgrades
- On-chip battery/supply voltage monitor
- Ultra-low power sleep current with sleep timer running (<1uA) - can wake application processor from deep sleep
- 2.4GHz IEEE 802.15.4 Compliant Transciever
- -99dBm receive sensitivity
- +2.5dBm transmit power (+4.5dBm boost)
- Excellent 802.11b/g rejection and interference immunity

Cyan MCU Features include:

- 70MHz eCOG1X14Z5
- 512KB Flash / 24KB RAM
- 10/100 Ethernet MAC
- USB 2.0 Host/Peripheral/OTG controller
- 5 multi-purpose timers
- UART, I2C & SPI serial interfaces
- Code security feature

Software included with CyanIDE:

- GNU C Compiler / Debugger, Eclipse IDE
- ZigBee node to Webserver demo
- Open source TCP/IP stack with support for HTTP, FTP, SMTP,Telnet, DHCP, TFTP, BOOTP, SNTP & SNMP
- FAT16 / FAT32 filing system
- SD / SDHC / MMC low-level device interface
- USB CDC, HID and MSD (mass-storage) device classes

Gateway Board Key Features:

- Small size approx 2" x 3"
- eCOG1X14Z5 MCU
- EM260 ZigBee co-processor
- 16MB external SDRAM
- SD/SDHC/MMC socket
- 100Base-T Ethernet PHY and RJ45 connector
- Preprogrammed MAC address and serial number
- USB 2.0 Full-Speed peripheral (B socket)
- Power connector
- eICE MCU debug interface
- Connectors arranged for easy panel mounting
- 0-70 deg C operating temperature range
- Single 3.3V supply
- FCC/ETSI/CE approvals pending
- ZigBee Certification pending

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