>>Ubiquitous Sensor Network

A New Efficient Base Station for Wireless Sensor Networks

HBE-Ubi-Box III

- Realizing the maximum 300m communication distance with 10dBm RF power
- Perfectly compatible with ZigbeX, ZigbeX II and MAP430
- Capable of building as USN base stations
- It has a more powerful microprocessor
- It supports Bluetooth communication, ZigBee RF as well as LAN (built-in web server)
- Utilizing the embedded Linux kernel 2.6 as the main OS

Introduction

Since HBE-Ubi-Box supports the LAN, Bluetooth and ZigBee RF communications technologies, it is a proper solution as the base station for wireless sensor networks. Its ZigBee RF power is approximately closed to 10dBm which is one of the best performances in its related industry areas. Other company's general solutions with 0dBm RF can cover a communication distance up to near 60m, but the Ubi-Box's capability is up to near 300m.

Therefore, it can be applied to various application mainly affected by a restriction of communication distance. In particular, it can be utilized as the USN bases stations as well as the router of mesh networks.
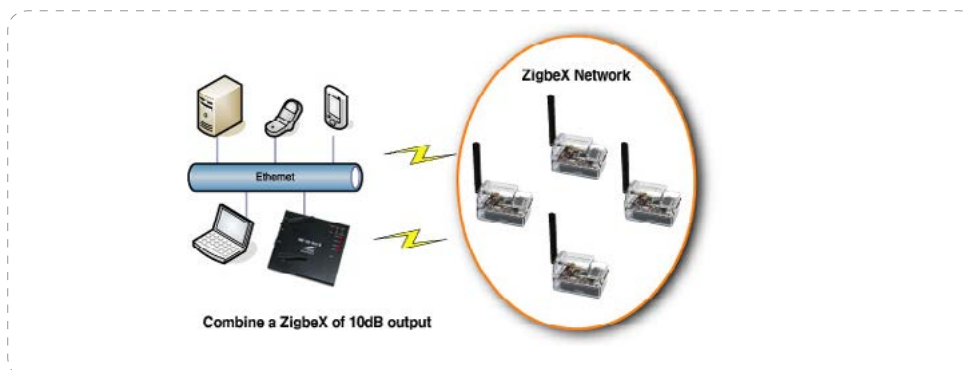
Product Specifications

Items	Description
CPU Module	Marvell PXA270
Memory	Flash Memory : 64Mbyte SDRAM : 128Mbyte
Connectivity	Ethernet, Bluetooth, Wireless LAN, USN, UART
Button	4EA
User LED	2EA
RF power	10dBm
RF Distance	Max 300m
Power	5V Adapter provided
OS	Embedded Linux Kernel 2.6.x, TinyOS 2.x

* Specifications can be changed without notice

HANBACK ELECTRONICS

Application Example

· Application Example I. ZigbeX network monitoring

Monitor the ZigbeX sensor network by using the Ethernet-connected Ubi-Box and send results to various devices by using a built-in web server.
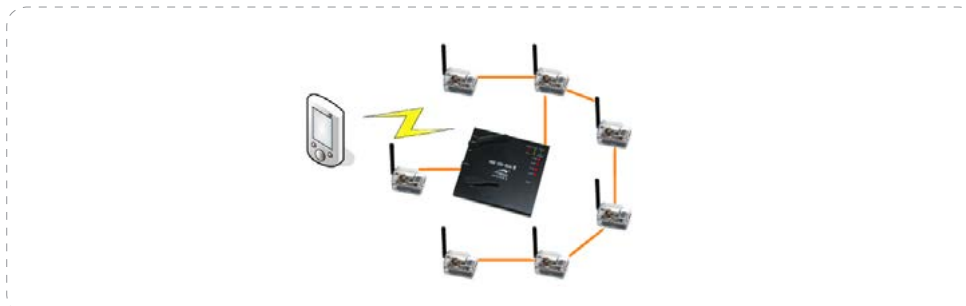

· Application Example II Using Ubi-Box as ZigbeX relay station

Build a broadband network for ZigbeX communication distance with about 60m limits by using the Ubi-Box as a real stations without a need for server nodes, but can be used for long-distance pantograph, forest fire monitoring, intruder monitoring, etc.

· Application Example III Sensor network data collection through PDA (using Bluetooth)

Collect sensor data in mobile environments by connecting the Ubi-Box with devices that are equipped with a Bluetooth function.