



The Wireless Home of the Future The Third Home Wireless Network – Smart and Green

For many years – decades even, we have been waiting for the automated "smart" house – a house that is as technically advanced as our automobiles. For decades, we have been able to remotely lock and unlock our car doors, raise and lower our car windows, adjust temperatures for different parts of the car seating areas, and even clean the back and front windows.

Why can't we do that with our houses? Why are our homes dumb?

Why are most homes still living in the tech dark ages? Gurus and tech-evangelists have long been promising the smart home – the automated home with devices that talk to each other, with appliances and central home systems that can be controlled from a home dashboard or over the internet. Except for a few hobbyists and early innovators, most homes are still stupid today.

However, with the arrival of the third new wireless home network, this is beginning to change. Most homes already have two wireless networks – the cordless phone network for communication and the data network – usually Wi-Fi. Both are very effective for high bandwidth, power gulping applications like watching internet videos and talking on the phone.

However, for many less data intensive communications, the new ultra low power networks – based on the 802.15.4 standard and new ZigBee standards (including ZigBee RF4CE and ZigBee Green Power) promise to not only make our homes smart, but to do it in a way that is both green and maintenance-free.

This year, large consumer electronic manufacturers, cable set top box makers and service providers will start rolling out systems for our homes that will finally make our homes as smart as our cars. This revolution is going to start small, starting with the remote control we use to control our TV and set top box. However, in the coming years we will see new capabilities added to that remote.

Based on using a RF powered remote control, it will become possible to monitor and control all the homes systems from a single central dashboard – your remote control. By using RF (radio frequency) instead of the old fashioned IR (infrared), this central mobile dashboard can be used in any room to control systems based in other parts of the home. RF transits through walls, through doors, and through furniture. Because RF supports interactivity, not only can the home owner control other systems, but s/he can monitor the systems as well by using the display on the remote.

While sitting in the home office, s/he can monitor and control the temperature in different rooms, set up recording on the VCR in the living room, turn off the lights in the kids' rooms after they go out and play. S/he can even capture a digital image from the front door camera to see who is ringing the doorbell.





And if the kids do grab the remote and somehow lose it, s/he can go to one of the controlled appliances – like the flat screen TV, and press the "Find Me" button. The remote control will start beeping, playing a song, whatever it takes to make it easy to find again.

Yes, these technologies can be cobbled together now but they are expensive and need technical expertise to make them all play well together. Because of the new ZigBee/RF-4CE standard, vendors are creating systems and devices that will be less expensive and will be able to interact with each other. In addition, the new ultra low power capabilities make these devices maintenance free and GREEN by greatly reducing the amount of batteries needed to operate the various sensors around the home, as well as in the remote itself.

Batteries are one of the more hidden polluters of the planet. Even though they are small, each contains heavy metals and toxic chemicals. In addition, there is a heavy carbon footprint involved in the mining and refining of the raw materials, as well as in the actual manufacture and distribution of batteries, as well as in the final re-cycling and disposal of batteries.

GreenPeak Technologies is one of the leading developers of these new standards for the Third Wireless Home Network. By using GreenPeak's new ultra low power wireless technology, consumer electronics manufacturers are now starting to roll out remote controls that use a lot less power and never need to have the batteries changed or charged.

For example: with a typical remote control, one has to change the batteries at least once a year. Open it up, pull out the old ones and put in new AA batteries. If it is an old remote, you probably need to replace the duct tape or rubber bands holding it together.

If you have battery powered sensors in your home for security and temperature control, you already know the repeated irritation for tracking down the beeping and having to change batteries (and why do these battery powered sensors always run out of power in the middle of the night?).

By reducing the power draw and enabling the battery to last for the product's lifetime (ten years or more), it is possible to reduce the overall number of batteries needed by 90%. This means billions fewer batteries need to be made – billions fewer batteries tossed into landfills.

By not requiring the user to open up devices to replace and/or recharge batteries, these devices also become essentially maintenance free which enables the makers to design remote controls and sensors that do not require battery compartments and lids. No more duct tape and rubber bands.

By using these new ZigBee RF4CE networks, we are improving our overall ecology as well as making our lives a lot more convenient. No more having to point and shoot with remote controls to change the channel, to set up recording on our DVRs. No need to hike downstairs to adjust the thermostat or to turn off lights after everyone has left the room. Because this new technology is based on a standard – ZigBee RF4CE – companies and manufacturers worldwide can build cost effectively design and solutions that will interact and talk to each other.

The new Third Wireless Network is coming this year – bringing with it the long awaited promise of the smart home – a home that is as automated and easy to use as the car that is parked in the home's garage. Parents often say that that watching TV makes you stupid. That may be. However, because of ZigBee/RF4CE and the third Home Wireless Network, your TV set's remote control will at least make your house a lot smarter.

Do you have comments or suggestions? I appreciate your feedback!

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