



School System Deploys Cisco Wireless and Benefits from TerraWave Solutions® Accessory Product Line



Executive Summary

Company Focus

- Large K-12 public school system

Business Challenge

- Provide internet access to every classroom
- Minimize interference from APs in adjoining classrooms
- Secure the AP in an aesthetically pleasing enclosure
- Limited budget for large deployment

Solutions

- Cisco 350 Access Point in a TerraWave 10" x 8" x 6" steel enclosure with a 2.4 GHz Unity Gain Stud Mount Omnidirectional Antenna and attenuator
- Cisco 1231 Access Point in a TerraWave 10" x 8" x 6" steel enclosure with a 2.4 GHz Unity Gain Stud Mount Omnidirectional Antenna and attenuator
- Cisco 1232 Access Point in a TerraWave 10" x 8" x 6" steel enclosure with a 2.4 GHz Unity Gain Stud Mount Omnidirectional Antenna and attenuator
- Cisco 1242 Access Point in a TerraWave 10" x 10" x 4" steel enclosure with a 2.4 GHz Unity Gain Stud Mount Omnidirectional Antenna and attenuator
- Cisco 1242 Access Point in a TerraWave 10" x 8" x 6" steel enclosure with a 2.4/5 GHz 4/6 dBi "Mini Quad" Omnidirectional Antenna
- Cisco 1242 Access Point in a TerraWave 12" x 10" x 4.5" steel enclosure with a 2.4/5 GHz 4/6 dBi "Mini Quad" Omnidirectional Antenna

Benefits

Antenna Solution

- Provides the proper coverage for the Cisco APs within each classroom
- Minimizes "bleed" from classroom to classroom, therefore reducing AP interference
- Low profile, aesthetically pleasing solution
- Cost effective within a limited budget

Enclosure Solution

- Provides excellent security at a low cost
- Easy to install and maintain
- Aesthetically pleasing product
- Custom backplate solution eliminated re-deployment costs

Large Public School System sees the Benefit of using TerraWave Solutions Antennas, Enclosures and WLAN Accessories to Compliment their Cisco WLAN Deployment

Challenge

Classroom learning has grown from textbooks and paper handouts to a virtual learning environment guided by the imagination and powered by the Internet. One large school system wanted to leverage the power of wireless learning and discovered the vast possibilities offered by Cisco and TerraWave Solutions to build and accessorize their newest learning tool.

The school system wanted each classroom to have a single AP, but experienced issues with large cell sizes and multiple classroom signals interfering with each other. In addition, school environments pose unique security risks for expensive wireless equipment. The access points needed to be secured and protected from theft, vandalism and the occasional rough housing incident.

Solution

TerraWave Solutions worked closely with the Value Added Reseller (VAR) to design an antenna system that would attenuate the wireless antenna signal to minimize interference from classroom to classroom bleed through. A unity gain stud mounted antenna was chosen for its low profile and gain characteristics. Multiple attenuator strengths were used to pinpoint and replicate the exact cell size needed to cover just a single classroom.

Once the antenna solution was confirmed, the school system needed to secure and protect their investment. Each AP would be installed in a K-12 classroom environment, and classrooms stimulate learning and exploration, but the school system did not want the APs to attract the attention of the students who see blinking lights and immediately want to "attack and destroy" the expensive wireless equipment.

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For detailed product information and to purchase product, please contact a TerraWave wireless networking solutions sales engineer at 210-375-8482, 800-851-4965, sales@terrawave.com or visit www.terrawave.com.

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The school system selected a TerraWave 10" x 8" x 6" steel enclosure with a window and lock to provide both visibility and security. The antenna, enclosure and attenuator solution provided the school system with precisely the coverage they needed for each classroom.

The project continued, school after school, for many years. Each couple of years the school system would upgrade to new Cisco APs, from the Cisco 350 AP to the Cisco 1231 AP to the Cisco 1232 AP, but consistently purchased the TerraWave accessory solution for every access point deployed.

The Cisco 350 AP, 1231 AP and 1232 AP Solutions



Years after the first deployments, the school system needed to upgrade their older Cisco APs with the Cisco 1242 AP. They did not want to repurchase and reinstall approximately 20 to 25 thousand enclosures and antennas, so they came back to TerraWave for a creative solution.

The 1242 AP is larger than any other AP previously deployed in the school system. The current enclosure deployed was just large enough to house the 1242 AP, but was so tight there was no possible way to affix the AP to the enclosure backplate and attach the antenna connections. TerraWave was able to manufacture a custom backplate bracket that would allow the AP to sit at an angle, allowing the antenna connections to be made easily. The school system deployed these "Retrofit Kits" where enclosure solutions already existed. For new construction, a TerraWave 12" x 10" x 4.5" enclosure was used.

Although the school system was able to repurpose their existing enclosures, the antennas had to be replaced. They required an antenna with dual leads for both the 2.4 GHz and 5 GHz radios to take full advantage of the Cisco 1242 AP, had a small enough form factor to attach to the front of the enclosure and it had to be easily installed.

TerraWave's 2.4/5 GHz 4/6 dBi "Mini Quad" Omnidirectional Antenna fit all of the requirements. By simply drilling a 3/4" hole in the door of the enclosure and using right angle connectors, the retrofit procedure was easy and required minimal installation time for the contractors.

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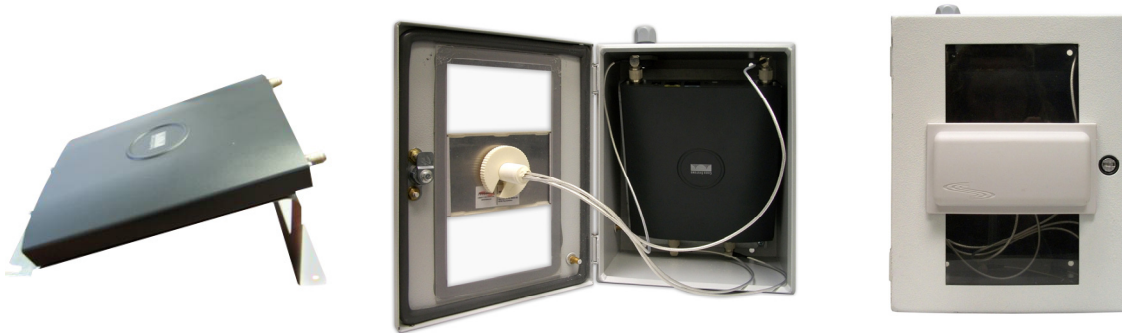


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The Cisco 1242 AP “Retrofit Kit” Solution



The Cisco 1242 AP New Construction Solution



The school board has been extremely satisfied with the complete solution, the performance of the antenna and its ability to allow the Cisco 1242 AP to function optimally. Over the past 8 years, TerraWave has shipped almost 100,000 of the unity gain/attenuator antenna systems, about 25,000 of the newer “Mini Quad” solutions and over 67,000 enclosures. Ultimately, TerraWave was able to provide the customer with a high-quality, custom solution while saving the school system a tremendous amount of time and money.

About TerraWave Solutions

TerraWave Solutions offers innovative Wi-Fi networking accessories and consulting services of exceptional quality. Focusing on wireless data, 802.11 a/b/g and next-generation 802.11n MIMO solutions, TerraWave designs, develops, manufactures and integrates Wi-Fi components based on the unique requirements of every client. TerraWave's unrivaled wireless networking knowledge means our customers receive complete solutions to seamlessly deploy, manage, secure and troubleshoot a wireless network. We apply this knowledge in providing unparalleled Wi-Fi consulting services to offer our customers tailored solutions for any WLAN application. TerraWave's complete line of premium products is compatible with Cisco WLAN equipment. Visit www.terrawave.com for additional information or call 1-800-851-4965.



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