# Wi-Fi Enabled Landscaping Robots

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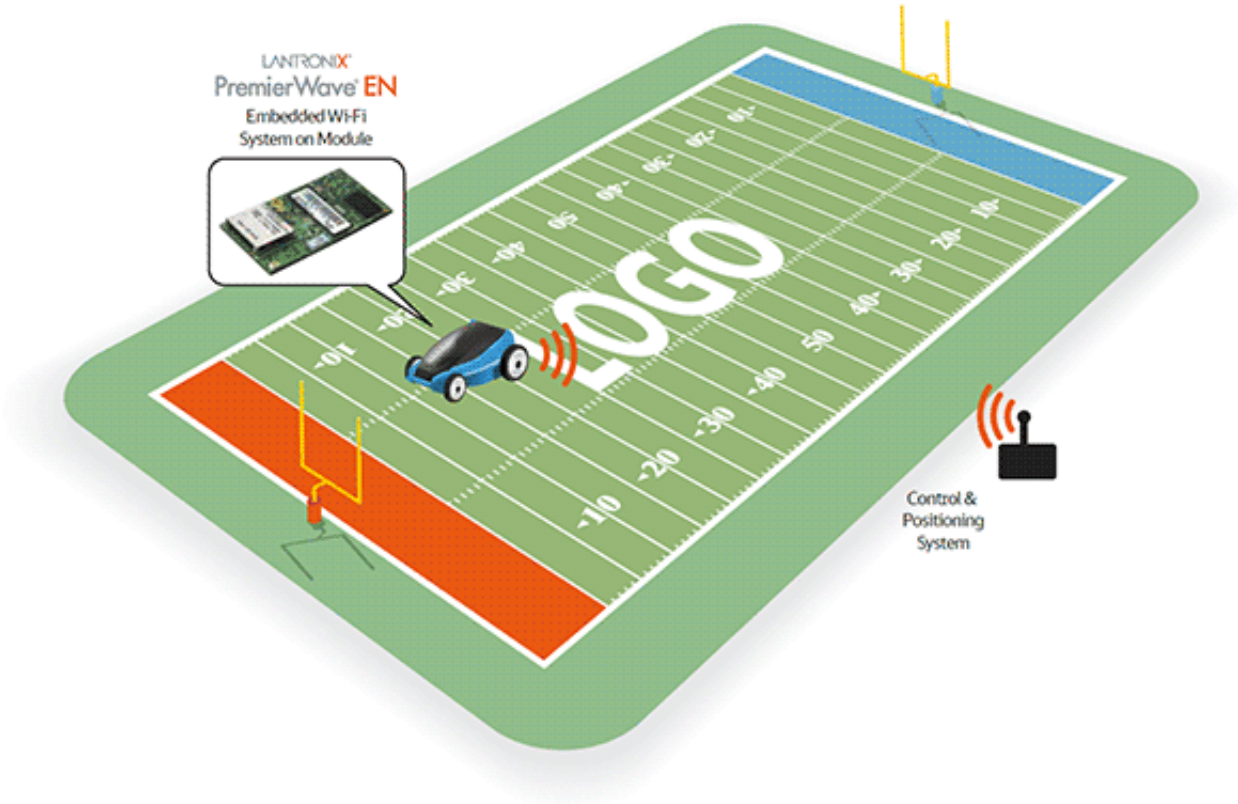



**Wi-Fi Enabled Landscaping Robots**

***Challenge:***

The customer ? A national leader in the grass signage industry utilizes robotic technology as a more affordable way to apply advertising to grass. Their technology was originally designed using the Lantronix WiPort device server to enable the wireless connection between the robot and its control and positioning systems.

When the company began working in larger stadiums, interference issues arose due to the huge amount of wireless activity in use in these facilities. The company?s engineers recognized that the wireless connection needed a boost and began investigating various options. Could Lantronix provide a more enhanced wireless

communication between its painting robots and control systems for better quality performance in highly congested areas?

***Key Requirements:***

- Extended transmission range with dual band Wi-Fi® (802.11a/b/g/n)
- Ease-of-implementation was critical
- Control the robot remotely using wireless communication
- Highest levels of encryption and security to ensure data assets are protected

***The Solution:***

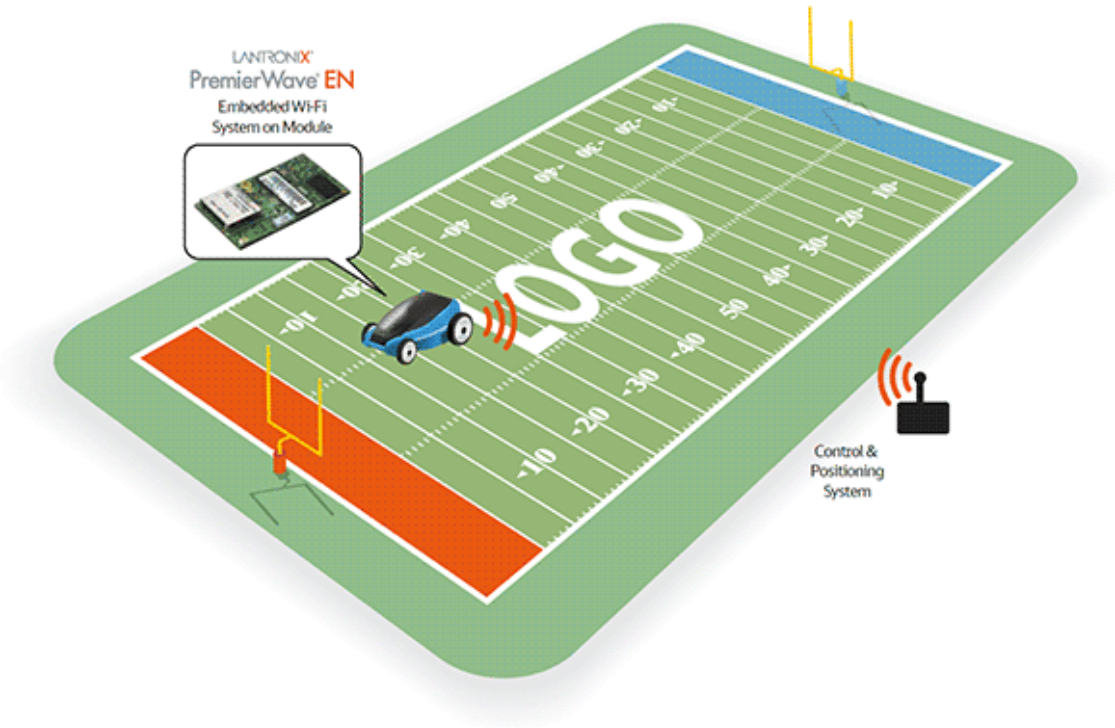
**Lantronix PremierWave EN Wi-Fi Networking System on Module**

The company?s engineers felt that the most logical solution was to test out the PremierWave EN embedded Linux wireless system on module. PremierWave EN has 802.11 a/b/g/n?as compared to the WiPort which has 802.11 b/g ? thus, boosting the signal strength needed.

Like the WiPort, PremierWave EN takes the complexity out of RF design and networking, allowing OEMs to minimize engineering risk, shorten development time and reduce development cost.

Now, with the PremierWave EN the robot can accurately create images of any size or complexity. Customers can now take advantage of new capabilities, such as the ability to frequently change logos or create advertising at racetracks, airports and other hard surface areas. In addition, the company can offer the same grass signage services that it provides to national clients?like NRL, AFL, cricket and rugby unions?to smaller businesses and work at any venue, including stadiums, sports complexes, schools, race tracks and more.

*PremierWave En Application*?
*Embedded Linux Wireless System On Module*




***Results:***

- Increased wireless speed, improved reliability and extended transmission range with dual band (2.4/5 GHz) 802.11 a/b/g/n
- Risk Reduction ? PremierWave EN takes the complexity out of RF design and networking, allowing OEMs to minimize engineering risk
- Simple and easy way to expand the range of the robot
- Reduce development cost
- Rapid deployment ? the set-up and configuration of the PremierWave EN shortened development time
- Next-generation robotic technology has opened up new markets for the client

**About the Lantronix PremierWave EN**

PremierWave EN is a high performance industrial ready ARM 9 system on module suitable for M2M applications. It is offered as a small removable module with integrated flash, RAM and dual band 802.11 a/b/g/n capabilities. The PremierWave EN is an ideal solution for embedded applications that require simple development, ease of use and a proven robust high performing solution with network connectivity. Developers can save time and reduce the complexity of developing subsystems with high speed memory, Ethernet and Wi-Fi networking that can be easily

integrated into real products.

| ***PremierWave EN Key Benefits:*** | | |
|---|---|---|
| • Powerful applications customization platform with 32-bit ARM9 Processor<br>• Robust set of interfaces that include Ethernet, Serial, USB, I2C, and SPI<br>• Low power consumption modes<br>• Linux Operating System with IP v6 Support<br>• Includes full TCP/IP stack and web server<br>• Small form factor measuring 55mm x 30mm<br>• Adds Wi-Fi to devices with the highest enterprise-grade security and authentication protocols | | |