

**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH
TECHNOLOGY****A REVIEW ON SECURITY OF BORDER USING WINS****Prof. Ku. Payal I. Shire^{1*}, Ku. Nikita Katkhede², Ku. Pooja Mande³**¹B.E. Prof. in the Department of Electronic, Shri Shivaji College of Science, Arts, Commerce Akola (444001), India.²BSc 2nd year in the Department of Electronic, Shri Shivaji College of Science, Arts, Commerce Akola, India.³BSc 2nd year in the Department of Electronic, Shri Shivaji College of Science, Arts, Commerce Akola, India.

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ABSTRACT

Wireless Integrated Network Sensors(WINS) provide monitoring and control capability for monitoring the borders of our country. WINS is used for identify a stranger or some terrorists entering the border. With the help of microprocessor, sends appropriate signals to the main node. Due to the stranger identified at the main node. Concept of WINS is made by using C-MOS circuits. In WINS, a micro power spectrum analyzer has been developed to enable low power operation. It is used for short distance communication less than 1Km. It contains less amount of delay. Not only border security but also it provides a facility of monitoring of land, water, air resources on global scale.

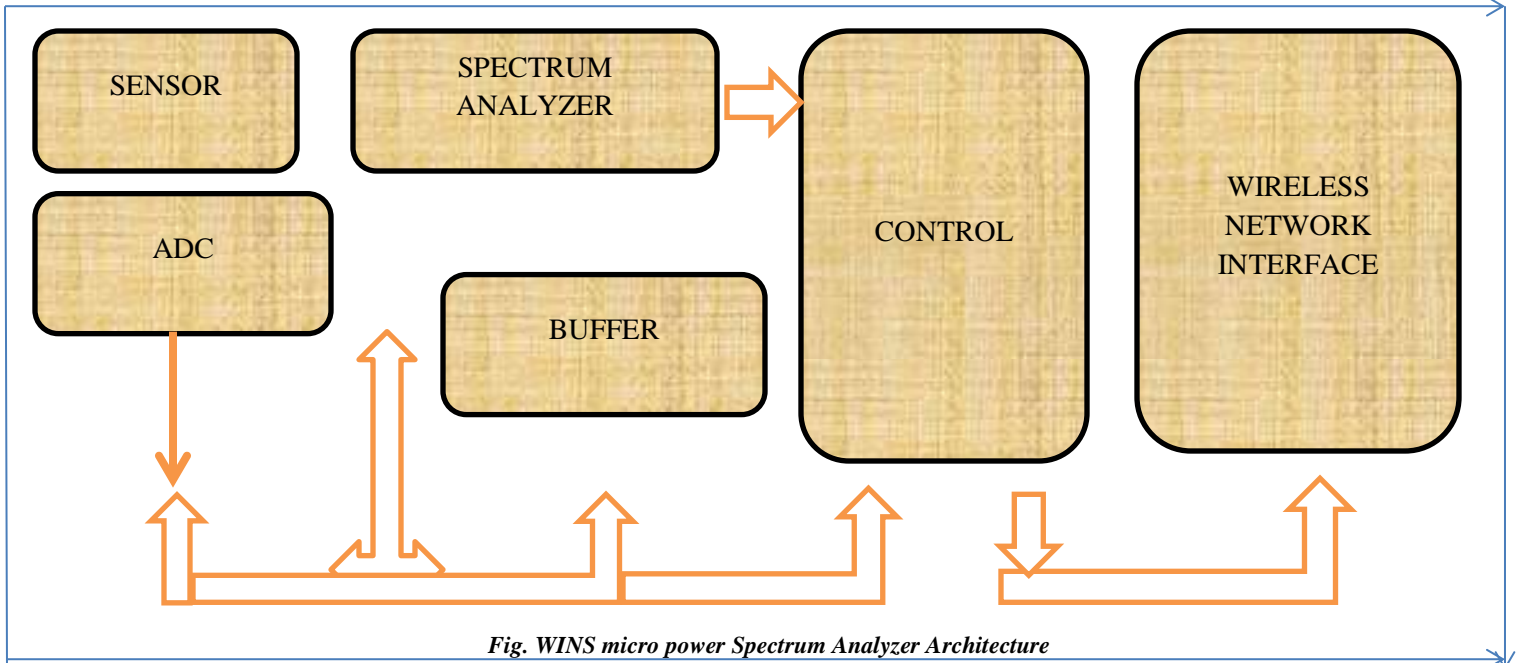
I. HISTORY

Earliest research effort in WINS was low power wireless integrated micro sensors. The (LWIM) projects at UCLA founded by DARPA. The LWIF project focused on developing devices with low power electronics. It enable large, dense wireless sensor network. This project was succeeded by the WINS project.

II. INTRODUCTION

Combine sensing, signal processing, decision capability, and wireless networking capability are all things combine in compact low power low cost system. On cable installation and network bandwidth conventional methods for sensor networking would present impractical, the burden on communication system components, networks and human resources are drastically reduced by eliminating the requirements for transmission of all measured data. The development of a scalable, low cost, sensor network architecture is the parameter on which opportunities of WINS depends. To enable constant monitoring of events in an environment continues sensor signal processing must be provided in the WINS. The opportunities for WINS depend on the development of scalable. Low cost, sensor network architecture. The requires these sensor information be conveyed to the users at low power transceivers. On a local scale, wide area scale, battle field situational awareness will provide personal health monitoring and enhance security and efficiency.

III. CIRCUIT DIAGRAM



IV. WORKING

First of all a stranger enters the border then the footsteps will generate harmonic signals and it detects the characteristic feature in signal power spectrum. Due to this the spectrum analyzer is implemented. In the WINS digital signal processing system. The spectrum analyzer resolves the wireless Integrated Network Sensors input data into a low resolution power spectrum and wireless Integrated Network sensors spectrum analyzer must operate at W power level. Thus complete Wireless Integrated Network sensors system containing controller and wireless network interface components, and achieves low power operation by maintaining only the micro power components in continuous operation. The WINS spectrum analyzer system and the contains a set of 8 parallel filters.

Mean square power for each frequency is calculated at the filter's output. Each filter has coefficient set for PSD calculation. At last PSD values are compared with reference values. If the calculated PSD spectrum values is greater the reference values, then the microcontroller is triggered. So only if an event appears does the microcontroller operate. Microcontroller may support additional complex algorithms at higher power for event identification.

V. ADVANTAGES

- It eliminates hell lot of wiring.
- WINS can accommodate new device at any time.
- It can easily access by a centralized monitor.
- It is very cheaper, faster can access less amount of delay, power consumption is in the order of microwatt.

VI. DISADVANTAGES

- In WINS, the propagation of waves it's the most problematic condition.
- In this concept or system, low speed of communication.
- It is getting distracted by elements like Bluetooth.
- WINS may be costly at large.



VII. APPLICATIONS

- On global scale, WINS allowed monitoring of land, water and air resources for environmental monitoring.
- On national scale, transportation systems and borders will be monitored for efficiency, safety and security.
- On local scale, wide area scale, battle field situational awareness will provide personal health monitoring and enhance security and efficiency.
- WINS in biomedicine will connect patients in the clinic, ambulatory services and to medical professionals to sensing, control and monitoring.

VIII. CONCLUSION

A series of interface, signal processing, and commination systems have been implemented in micro power CMOS circuits. WINS require a Microwatt of power. But it is very cheaper when compared to other security systems such as RADAR under use. It is also useful for the communication up to 1Km. It produces a minimum delay. Hence it is faster. Globally, WINS will permit monitoring of land, water and air resources for environment monitoring.

IX. REFERENCES

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