

## Miniaturized Instrumentation for Planetary Environment Monitoring

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### Contents:

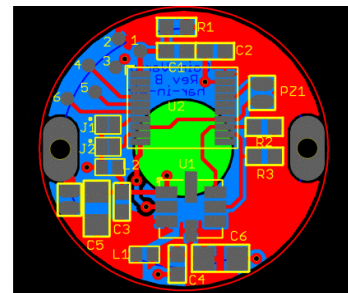
Environmental applications have gained increasing attention from both the research communities and companies involved in space research. A sensor node is integrating with various sensors (environmental measuring in this case), do data processing and wireless communications in order to apprehend, collect and process information to achieve defined tasks.

Have designed the above node in a small form factor of size credit card based on TI chipset, which is currently measuring the environment parameters such as gases and few other parameters.

Our objective is to change the existing sensor node design, based out of commercial grade chipset from TI to new hardware with space CoTS qualified chipset such as AVR to monitor the Gases on Space environment.

The proposed hardware should be highly miniaturized (size to as less as coin cell) , and designed using CoTS, specifications and transmit data in the network in a reliable and scalable mode.

Our current objective is also include Power consumption of any given node should always be as less as possible so as to increase the life time of operation and battery lifetime, design of antenna, RF efficiency and detuning issues. Further complete implementation details are updated in full paper/poster.



**1. Current Design**

**2. Proposed Design**

### References:

- [1]Durga Prasad & Murty, *Advances in Space Research*, 2011, [2]Durga Prasad et. al., *Planetary and Space Science*, 2012, [3]  
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