

SAMANAÚ.TX – LOW COST DATA COLLECT TRANSMITTER

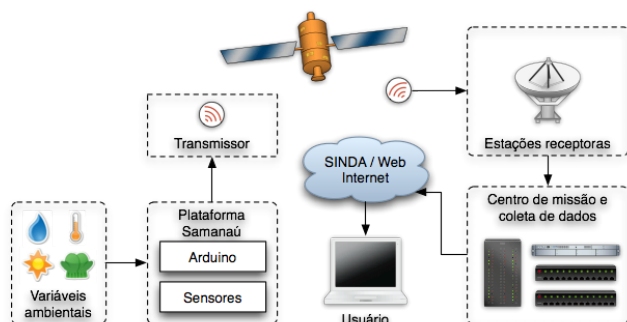
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MOTIVATION AND OBJECTIVE

Environmental monitoring is a common need for various applications, such as in meteorology, industry, agriculture, water resource management and natural disaster control, for example.

In Brazil, for using the data collection system is needed a data collect platform and a specific transmitter to send the data to the satellites of the system. However, for many users, the conventional equipment are very expensive, making system use unfeasible.

The objective of the Samanaú project is the development of equipment (platforms and transmitters) and a monitoring environment (software), which allows the low cost environmental data collection, as well as the integration with Brazilian data collection system (SINDA).



SINDA

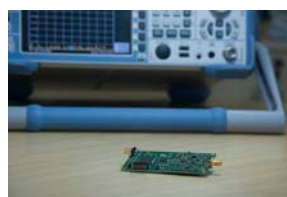
The Integrated System for Environmental Data (SINDA) is located in the Northeast Regional Center of the National Institute of Space Research (INPE-CRN), in Natal-RN. The SINDA consists of satellites that receive the data from the collection platform and forward the information to receiving stations (Cuiabá-MT and Alcântara-MA). The data is processed and made available to users over the internet.

SAMANAÚ.TX

Is a low-cost radio frequency transmitter that send the environmental data to the ARGOS/SCD satellites, fully designed on Samanaú project:

- FPGA based digital system.
- Direct conversion of frequency.
- Reconfigurable: ARGOS/SCD or ARGOS 3 protocols.
- Full Custom Hardware Description using Verilog Language.

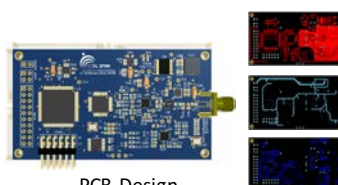
The first Samanaú.TX prototypes were recently approved in the SINDA homologation tests. A new version of the PCB was designed to solve some issues of the first version.



Samanaú.TX Transmitter



Samanaú project parts



PCB Design



PCB mounted

ACKNOWLEDGMENT

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