ABSTRACT

Nanosatelit is one type of artificial satellites are relatively small and lightweight mass, between 1 kg - 10 kg. Nanosatelit can be programmed to perform shared mission, one of which is for remote sensing. Many aspects that can be used as the object sensing by nanosatelit, one of which is forest. By monitoring the condition of the forest, we can know the progress of a forest such as deforestation or the reduction in the amount of forest.

To support this mission, necessary imaging payload is equipped with a camera to take pictures as well as a microcontroller to process the image before ditransmimisikan to the earth station. CAM130 cameras with OV9650 sensor was chosen because it has low prices and a smaller electric power. For microcontroller-based Samsung S3C2440A mini2440 selected to process the image. Excess mini2440 is to have a port for a camera with 20 feet. CAM130 will be linked to the camera port on mini2440 and coupled with the library - a library of MJPG streamer to process the image.

CAM130 and mini2440 this produces an image area coverage of 305.38 km and 240.81 km km based on testing on a map scale. The ability to take pictures and send them relatively quick 2.2 seconds to 3.2 seconds. Remote sensing payload has a total mass of 82.79 grams. CAM130 camera module has dimensions of 3.5 cm x 2.1 cm and mini2440 has dimensions 10 cm x 10 cm. Power consumption of 823 428 mW when the camera is active. The end result of a prototype imaging system for monitoring payload on nanosatelit deforestation in forests in Indonesia in the form of mini-plan map scale 1: 80000 cm.

Keyword: Nanosatelit, image payload, CAM130, SAMSUNG S3C2440A