

Experimental NPP Meteo-satellite Launched in USA



On 28th October 2011, a new, experimental NPP meteo-satellite was launched into polar orbit aboard the Delta-2 rocket from Vandenberg Air Force Base, California, USA. The spacecraft was put into the sun-synchronous afternoon orbit, into the same orbital plane as the Aqua satellite with a repeat cycle of 16 days. The expected lifespan of the NPP satellite is 5 years, with possible extension up to 7 years.

A set of 5 imaging instruments is installed onboard the NPP spacecraft built by Ball Aerospace company:

- 22-band VIIRS radiometer (Visible/Infrared Imager and Radiometer Suite)
- Infrared sounder CrIS (Cross-Track Infrared Sounder)

- OMPS sensor (Ozone Mapping and Profiler Suite)
- advanced 22-band ATMS sounder (Advanced Technology Microwave Sounder)
- CERES sensor (Clouds and the Earth's Radiant Energy System).

Data from the optical mechanical VIIRS scanner, designed based on the well-known in Russia MODIS spectroradiometer is of biggest interest. It provides images in 22 spectral bands (0.4-12.5 μm) at the spatial resolution from 0.4 to 0.8 km within the swath of 3000-km wide.

One of the data transmission modes from NPP satellite will be the Direct Broadcasting mode (DB). This mode is similar to the one used on Terra and Aqua satellites. DRL laboratory of the NASA agency developed IPOPP software for NPP sensors' data processing. This software will be distributed for free among the receiving stations' operators. Similar principle has been implemented for a free access to space information by EOS program (MODIS sensors of Terra and Aqua satellites), applying IMAPP algorithms data package.

Flight testing, sensors calibration and NPP satellite data validation will take 18 months and after that in 2013 the satellite will be handed in for operations to its customer - the NOAA agency. The NPP satellite will enable to continue the policy of a free democratic access to space information.