

22nd IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Generic Technologies for Small/Micro Platforms (6A)

Author: Mr. Yoshiyuki Miura

Japan Aerospace Exploration Agency (JAXA), Japan, miura.yoshiyuki@jaxa.jp

Mr. Koichi Fujihira

Japan Aerospace Exploration Agency (JAXA), Japan, fujihira.koichi@jaxa.jp

Mr. Hiroyuki Morishita

Japan Aerospace Exploration Agency (JAXA), Japan, morishita.hiroyuki@jaxa.jp

Ms. Chisato Sekigawa

Japan Aerospace Exploration Agency (JAXA), Japan, sekigawa.chisato@jaxa.jp

Mr. Masahito Washiya

Japan Aerospace Exploration Agency (JAXA), Japan, washiya.masahito@jaxa.jp

Mr. Koichi Inoue

Japan Aerospace Exploration Agency (JAXA), Japan, inoue.koichi@jaxa.jp

Mr. Shinichiro Narita

JAXA, Japan, narita.shinichiro@jaxa.jp

JAXA SMALL GPS/WHL DEMO BOX: IN-ORBIT DEMONSTRATION EXPERIMENT OF SMALL
SATELLITE COMPONENTS USING EXPOSED EXPERIMENT PLATFORM ON JEM

Abstract

The Small Demonstration Satellite (SDS) program is a JAXA's technology demonstration program, targeting the in-orbit demonstration of advanced technologies using small satellites, such as SDS-1 and SDS-4. Recently, an Exposed Experiment Platform in International Space Station (ISS) has been focused as new method for in-orbit demonstration to replace small satellite.

JAXA Space Technology Demonstration Research Center (STDRC) has developed new high momentum micro wheel (MWHL) and new small GPS receiver (GPSR) until 2014, which are not yet demonstrated on orbit, and makes plans for in-orbit demonstration in 2016 at Exposed Experiment Platform on JEM, which is developed by JAXA Human Space flight Mission Directorate. JAXA STDRC has also developed the package as JAXA Small GPS/WHL Demo Box, in which MWHL and GPSR has been installed and which also has the interface function to ISS.

This paper describes the overview and experiment plan of in-orbit demonstration components; MWHL and GPSR, and JAXA Small GPS/WHL Demo Box. Moreover, we discuss about the difference between small satellite and Exposed Experiment Platform in ISS from an point of view of in-orbit demonstration method.