Launch Vehicle Electrical Interface Test for Small Satellite

Young-Su Youn, Jong-Yeon Choi, Jae-Wook Kwon,
Seung-Won Cho, and Young-Yun Kim
Space Test Department, Korea Aerospace Research Institute

The objective is to perform the electrical interface test between the small satellite and the launch vehicle. This paper performs a step-by-step check to provide the integration of all launch vehicle system and the satellite. The communication network check test is to check all communication networks between the undertable room and the mission control center through the MIK and the electrical interface between the launch vehicle system and the LSTS (Launch Support and Test Set) at early launch campaign period. The first joint electrical test is to verify interface signals between the satellite and the LSTS through the LV telemetry measurement system simulator. The second joint electrical test is to verify interface signals between the satellite and the LSTS through the LV adapter system. The third joint electrical test is to verify interface signals between the satellite and the LSTS through the LV adapter system and the LV upper stage and to verify proper mating of the wiring harnesses between the satellite and the Breeze. The forth joint electrical test is to verify interface signals between the satellite and the LSTS through the LV adapter system and the LV upper stage after the LV space head. The fifth joint electrical test is to verify proper operation of the satellite after stacking and mating of the LV space head on the launch vehicle. The last joint electrical test is to verify that all systems including the satellite, the LV and the ground communication network are ready for launch.