

Polar Orbiting Meteorological Satellite Systems

STATUS OF RUSSIAN POLAR ORBITING METEOROLOGICAL SATELLITE SYSTEM

Summary and purpose of the WP

Two satellites are currently operated. Meteor-3 N5 satellite operated well beyond its lifetime and has limited capabilities. The first polar orbiting satellite Meteor-3M N1 of the new series of meteorological satellites has been successfully launched from Baikonur by Zenit – 2 launcher on 10 December 2001.

Action proposed: no action required.

STATUS OF RUSSIAN POLAR ORBITING METEOROLOGICAL SATELLITE SYSTEM

Two polar orbiting meteorological satellites are currently operated - Meteor-3 N5 and Meteor-3M N1.

Meteor-3 N5 is in polar orbit inclined at approximately 82 degrees. This satellite operated well beyond its lifetime and has limited capabilities. Data of MR-900 imager (resolution 2 km, swath width 2600 km, spectral band 0.5-0.7 μm) are available through direct broadcast in APT mode (137 MHz).

The first polar orbiting satellite Meteor-3M N1 of the new series of meteorological satellites has been successfully launched from Baikonur by Zenit – 2 launcher on 10 December 2001. Meteor-3M N1 operated in sun-synchronous orbit inclined at 99.6 degrees. Its equator crossing time (ascending node) is 09:15 a.m.

The payload of Meteor-3M N1 includes the scanning instrument MR-2000M (0.5-0.8 μm), scanning IR radiometer KLIMAT (10.5-12.5 μm), MW scanning radiometer MIVZA (5 channels in the range 20-94 GHz), MW conical scanning radiometer MTVZA (20 channels in the range 18.7-183.3 GHz), high resolution scanning instrument MSU-E (3 channels in the range 0.5-0.9 μm with spatial resolution 38 m), UV – band instrument SFM-2, complex of heliogeophysical instruments (KGI-4C, MSGI-5EI) and sensor SAGE – III (USA, NASA).

Radiometers MIVZA and MTVZA have limited capabilities, due to technical problems related to these instruments scanning mode.

Meteor-3M N1 data direct broadcast in raw format is carried out in 1.7 and 8.2 GHz bands. On-board 466 MHz transmitter no longer functioning. Due to this reason, satellite has limited capabilities for MR-2000M and KLIMAT data direct broadcast.