

CGMS-XXXII
PRC-WP-04-2
Prepared by CMA
Agenda Item: C.1

FY-3A METEOROLOGICAL SATELLITE (2)

Data Transmission

Summary and purpose of paper

FY-3 is a new series of polar orbiting meteorological satellites of China. There are 7 satellites starting with FY-3A and end with FY-3G to cover the period of 2006-2020. FY-3A is scheduled to launch in 2006 and transmit AHRPT, MPT and DPT. This paper gives the transmission characteristics.

FY-3A METEOROLOGICAL SATELLITE (2) DATA TRANSMISSION

Launch of the polar-orbiting meteorological satellite FY-3A is scheduled for 2006. Information about the instruments onboard this satellite can be found in CMA report CGMS-XXXII-CMA-04-1. This paper provides major characteristics of data transmission.

1. REAL TIME BROADCAST - AHRPT

Real time data broadcast will continue to enable users to receive high-resolution pictures. The AHRPT transmission characteristic is as follows.

Transmission frequency: 1704.5 MHz

EIRP: 41 dbm

Polarization: right-hand circular

Data rate: 4.2Mbps

Bandwidth: 5.6 MHz

Modulation: QPSK

Data Coverage:

- Visible and Infrared Radiometer (VIRR)
- Microwave Radiation Imager (MWRI)
- Infrared Atmosphere Sounder (IRAS)
- Microwave Temperature Sounder (MWTS)
- Microwave Humidity Sounder (MWHs)
- Total Ozone Unit and Solar Backscatter Ultraviolet Sounder (TOU/SBUS)

2. MEDIUM RESOLUTION PICTURE TRANSMISSION - MPT

Because the power constraints, real-time MPT is only for pre-selected area, not for the whole path of FY-3A. MPT transmission characteristic is as follows.

Transmission frequency: X band, 7775.0 MHz

Polarization: right-hand circular

Data rate: 18.7Mbps

Bandwidth: 35 MHz

Modulation: QPSK

Data Coverage: Medium Resolution Spectral Imager (MERSI)

3. DELAYED PICTURE TRANSMISSION – DPT

DPT is to be received by CMA. DPT transmission characteristic is as follows.

Transmission frequency: X band, 8145.95 MHz

Polarization: left-hand circular

Data rate: 93Mbps

Bandwidth: 120 MHz

Modulation: QPSK

Data coverage: data of MERSI for selected region, and global data coverage of other instruments.