

CGMS-XXVII
PRC-WP-05
Prepared by CMA
Agenda Item: F1

The DCP Interference FY-2A Satellite Suffered

Summary and purpose of paper

The paper describes the characteristics of interference FY-2 A suffered.

The DCP Interference FY-2A Satellite Suffered

Since the launch of FY-2A satellite in June 1997, it is being suffered a serious interference in DCP UHF band. The interference is even 10 dB higher than the DCP signal.

To find out that the interference is from satellite itself or from some where outside the satellite, the following experience has be done: disconnecting the UHF antenna with receiver the interference disappears and connecting the UHF antenna with receiver the interference appears again.. This experiment indicates that the interference comes from outside satellite.

The interference has the following features:

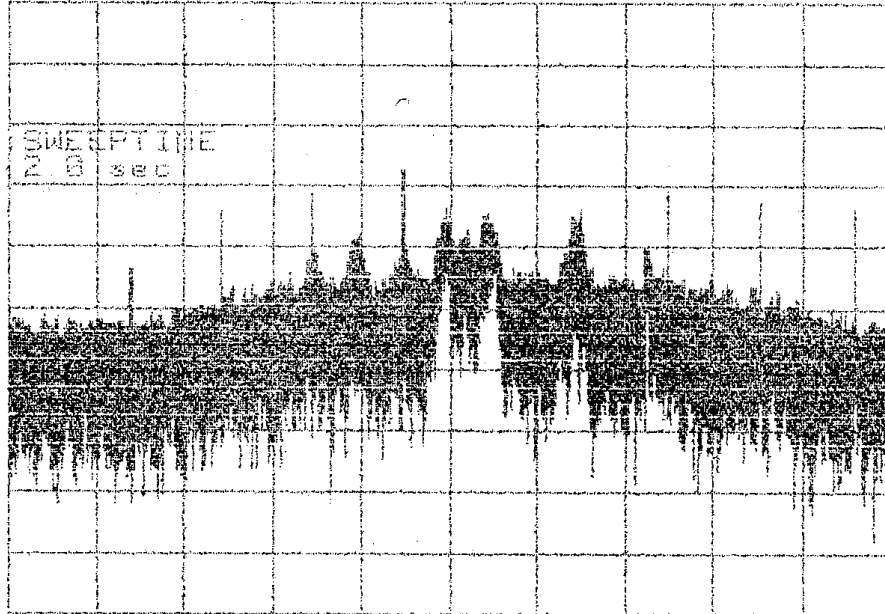
- (1) The spectrum of interference is very wide. The interference exists in the whole 401-402MHz UHF band.
- (2) The repeat period of the interference is 198.5ms.
- (3) The pulse of the interference is very narrow and it seems to contain no information as it has no modulation.

Based on the statistics between June 26-July 17, 1997, the bit error rate was $e=1.14 \times 10^{-4}$ and even up to $e=6.94 \times 10^{-4}$ on July 26 when the interference was existing. The interference disappeared on July 23 and 24 and totally 305 DCP reports was transmitted and the bit error rate was near to zero.

Up to now, FY-2A is still suffered by the interference, the spectrum of the interference is shown in the following Fig.

ATTEN 20dB

RL 10:0dBm 10dB/



CENTER 97.500MHz

SPAN 1.000MHz

RBW 10kHz

VBW 10kHz

*SWP 2.0sec

FY-2 Interference Spectrum of DCP UHF Band

(The impulse interval is about 200ms)