

ABSTRACT

In DVB-S antenna sub-system, beside the antenna pointing that matters, we need to consider the matching condition of antenna polarization and incoming wave polarization. The mismatched condition of those two polarizations will affect to low receive power level. Mismatched polarization can be caused by the changing of: weather, antenna azimuth ,and operating frequency.

An antenna polarization tracking control system are designed to help optimizing the received power level. Using the received power level that has been measured by satfinder meter block/ signal meter as a parameter, the motor block then instructed by the controller block to find the polarization angle which have the highest receive power level. After the controller block get the power level measurement result, the controller send an instruction to the motor block to lock the polarization angle of LNB-F.

This antenna polarization tracking control system has been implemented and tested to four accessed satellite, and the quality of DVB-S improved by 50,73% with maximun error angle improvement of 44%.

Keyword: Polarization, *Tracking*, DVB-S power receive quality.