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DESIGN TECHNOLOGY OF THE UHF PROXIMITY LINK TRANSCEIVER FOR CHINESE MARS
RELAY TELECOMMUNICATION

Abstract

2016, China Mars exploration mission officially approved. China plans to launch its first Mars probe in 2020, and land on Mars in 2021, one step to realize the surrounding, landing and patrol detection process. A UHF Proximity Link Transceiver is the key element of Chinese Mars exploration, which is used to support science data return and provide TTC relay communication of the orbiter, lander, and patrol device. This paper investigates the functional requirements, design characteristics, frequency flow design and implementation architecture of Chinese UHF Proximity Link Transceiver. Also, the realization of the high sensitivity, the rate adaptive switching and the Proximity-1 Protocol architecture is researched. Finally, the research and development of the UHF Proximity Link Transceiver is introduced. The research content of this paper is of positive significance to China's first Mars TTC communication mission.