

ACTIVE LOAD MODULATION TECHNIQUE IN NEAR FIELD COMMUNICATION

Abstract

A near field communication (NFC) device configured to use in preparing a carrier signal for active load modulation supporting both synchronous and asynchronous transmissions. The NFC device comprises a local clock generator for generating a reference clock signal (REF_CLK), a clock extractor for recovering a clock signal (EXT_CLK) generated by an NFC initiator device, a frequency tracking module (FTM) for performing a frequency tracking operation based on an input clock signal (REF_CLK or EXT_CLK) to produce a FTM output with its frequency aligned with the input clock signal, and a phase tracking module (PTM) for performing a phase tracking operation on the FTM output based on EXT_CLK to produce a PTM output with its phase aligned with EXT_CLK. The PTM output at a desired frequency and phase is served as the carrier signal for use in load modulating data of the NFC device to form a load modulated signal to be actively transmitted to the NFC initiator device.

[Fig. 4]