

## TX OPERATING DESCRIPTION

TH72015 transmitter consists of a fully integrated voltage-controlled oscillator (VCO), a divide-by-32 divider (div32), a phase-frequency detector (PFD) and a charge pump (CP).

An internal loop filter determines the dynamic behavior of the PLL and suppresses reference spurious signals.

A Colpitts crystal oscillator (XOSC) is used as the reference oscillator of a phase-locked loop (PLL) synthesizer.

The VCO's output signal feeds the power amplifier (PA). The RF signal power  $P_{out}$  can be adjusted in four steps from  $P_{out} = -12$  dBm to  $+10$  dBm, either by changing the value of resistor RPS or by varying the voltage VPS at pin PSEL. The open collector output (OUT) can be used either to directly drive a loop antenna or to be matched to a 50 ohm load. Band gap biasing ensures stable operation of the IC at a power supply range of 1.95 Vdc to 5.5 Vdc