Operation 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 Pout can be adjusted in four steps from Pout = –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 Helical antenna or to be matched to a 50Ohm load. Bandgap biasing ensures stable operation of the IC at a power supply range of 1.95 V to 5.5 V.