

# Product Information

## TH72015

### 433MHz FSK/ASK Transmitter

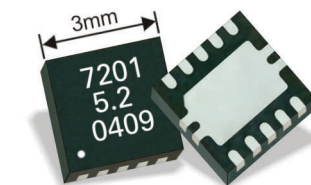
The TH72015 FSK/ASK transmitter IC is designed for applications in the European 433 MHz industrial-scientific-medical (ISM) band, according to the EN 300 220 telecommunications standard; but it can also be used in other countries with similar standards, e.g. FCC part 15.231.

The transmitter's carrier frequency  $f_c$  is determined by the frequency of the reference crystal  $f_{ref}$ . The integrated PLL synthesizer ensures that each RF value, ranging from 380 MHz to 450 MHz, can be achieved. This is done by using a crystal with a reference frequency according to:  $f_{ref} = f_c/N$ , where  $N = 32$  is the PLL feedback divider ratio.

## Features

- Fully integrated PLL-stabilized VCO
- Frequency range from 380 MHz to 450 MHz
- Single-ended RF output
- FSK through crystal pulling allows modulation from DC to 40 kbit/s
- High FSK deviation possible for wideband data transmission
- ASK achieved by on/off keying of internal power amplifier up to 40 kbit/s
- Wide power supply range from 1.95 V to 5.5 V
- Wide operating temperature range from  $-40^\circ\text{C}$  to  $125^\circ\text{C}$

- Very low standby current
- On-chip low voltage detector
- High over-all frequency accuracy
- FSK deviation and center frequency independently adjustable
- Adjustable output power range from  $-12\text{ dBm}$  to  $+10\text{ dBm}$
- Adjustable current consumption from 3.4 mA to 10.6 mA
- Conforms to EN 300 220 and similar standards
- 10-pin Quad Flat No-Lead (10L QFN 3x3 Dual)



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Automotive ICs

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RF&RFID

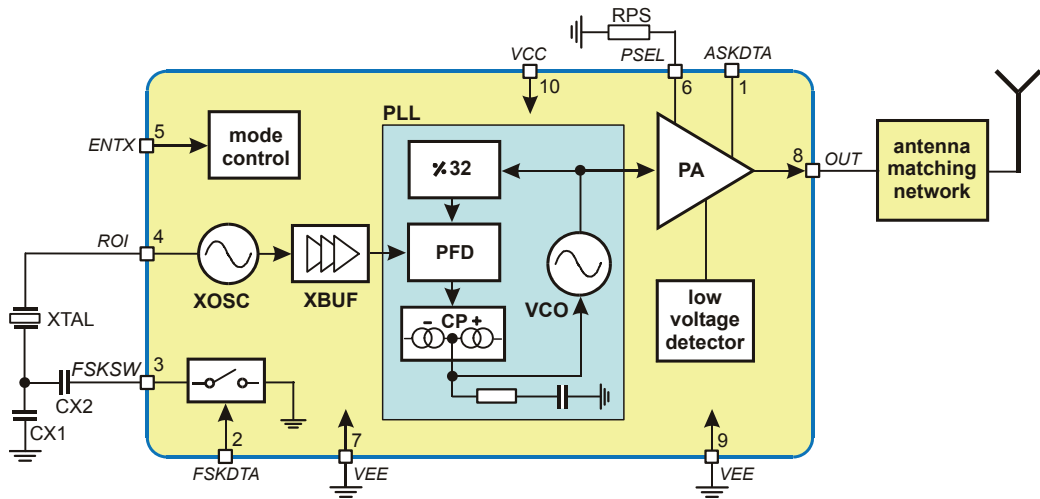
Silicon MEMS

CMOS Imaging

Bus ICs

IR Temperature

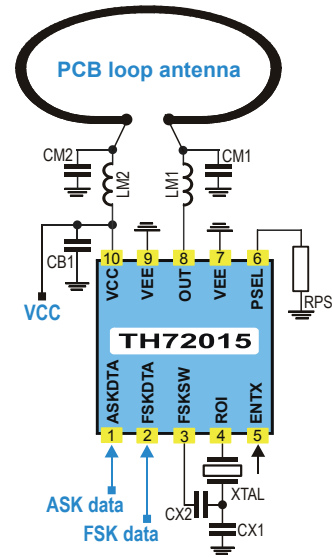
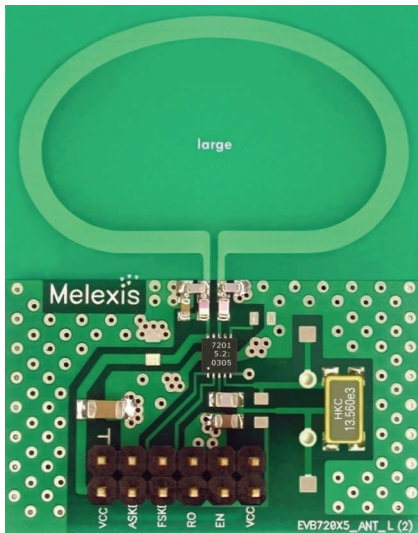
# Block Diagram with external Components



## Applications

- General digital data transmission
- Tire Pressure Monitoring Systems (TPMS)
- Remote Keyless Entry (RKE)
- Low-power telemetry systems
- Home and building automation
- Alarm and security systems
- Garage door openers
- Remote controls

## Evaluation Board



## Application Circuit

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