



NXP hybrid Silicon Tuner TDA18273

Worldwide TV reception with hybrid Silicon Tuner

This high-performance Silicon Tuner, designed for worldwide terrestrial and cable TV reception, supports all analog and digital TV standards.

Key features

- ▶ Single 3.3 V supply voltage
- ▶ Fully integrated IF selectivity
- ▶ No need for external LNA and SAW filters
- ▶ Fully integrated oscillators
- ▶ Integrated RF tracking filters
- ▶ Alignment-free
- ▶ Integrated wideband gain control
- ▶ Best-in-class phase noise performance
- ▶ Power Level Detector
- ▶ Very fast tuning time
- ▶ Strong immunity to spurious and field interferences
- ▶ I²C-bus interface (3.3/5 V)
- ▶ Low IF output ranges below 10 MHz
- ▶ RoHS green solution
- ▶ Compact 40-pin HVQFN (6 x 6 mm)

Key applications

- ▶ TV, STB, DVD-R, PC
- ▶ TV can tuner, NIM

The highly integrated TDA18273 supports all analog (PAL, SECAM, NTSC) and digital (DVB-T/C, DVB-T2, ATSC, ISDB-T, DMB-T) TV standards worldwide.

For analog TV, it delivers a Low IF (LIF) signal to an IF demodulator. For digital TV, it delivers the LIF to a channel decoder. For systems that use a System-on-Chip (SoC) solution, it can be configured to send the LIF directly to the TV SoC.

The device targets the following specifications (in alphabetical order): ARIB STD-B21, ATSC A74 (US), C-BOOK (Cable, EU), CENELEC EN55020 (EU), DTG 6.0 (EU), E-BOOK and D-BOOK, NorDig 2.1 (EU), NorDig cable (EU), and OCUR (US).



Design tools

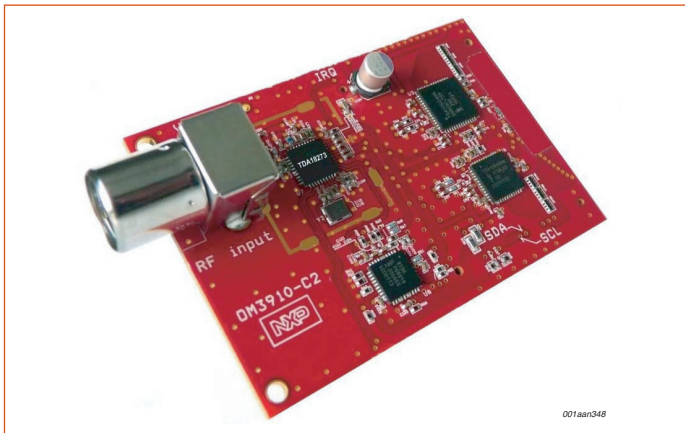
To reduce time-to-market, the device is supported by reference design suites, complete with boards, software, and documentation, that simplify test and evaluation.

Operating characteristics

Parameter	Typical value
RF frequency	42 to 870 MHz
Tuner noise figure	4 dB
AGC gain range	130 dB
Maximum input level: analog	119 dB μ V
Maximum input level: digital	10 dBm
Phase jitter (UHF from 250 Hz to 4 MHz)	0.4 °
Power dissipation	0.9 W
Image rejection	63 dB

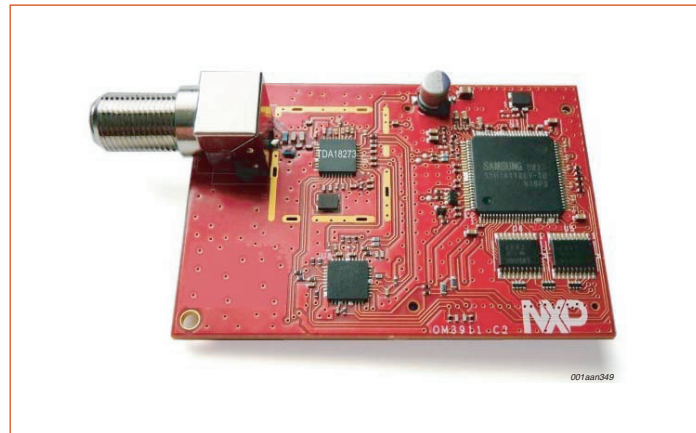
OM3910 (Europe) reference design

Analog + DVB-T + DVB-C frontend



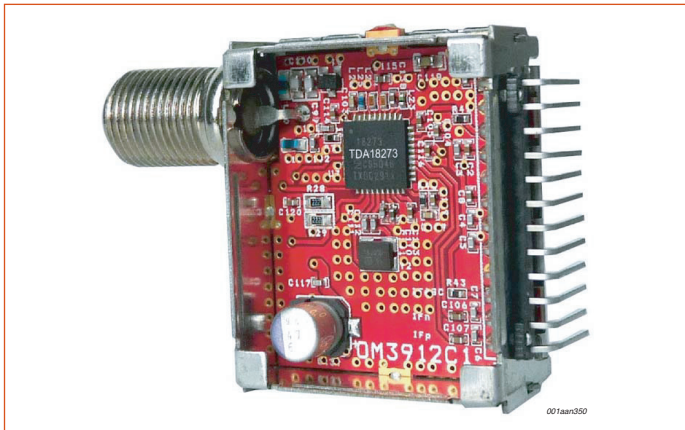
OM3911 (US) reference design

Analog + ATSC/QAM frontend



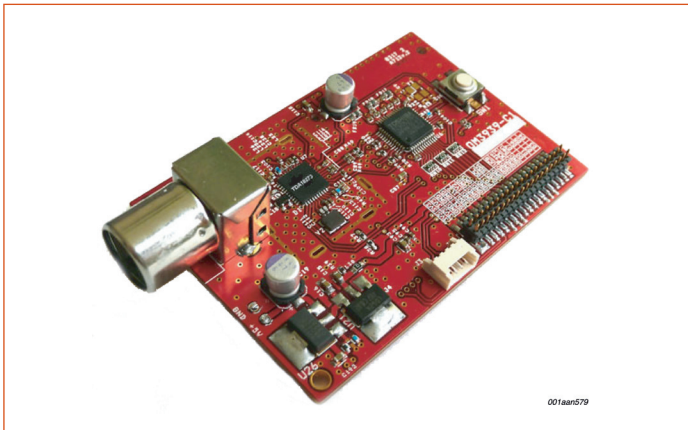
OM3912 reference design

Tuner only, analog and digital TV



OM3939 (JP) reference design

ISDB-T frontend



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