

The Sony CXD2858ER single-chip combined terrestrial/cable and satellite silicon tuner for TV

The CXD2858ER combines Sony terrestrial/cable and satellite silicon broadcast tuners into a single package for high performance but price critical applications

CXD2858ER offers class-leading performance, the close integration minimises BOM and layout size

TERRESTRIAL/CABLE TUNER

- Frequency range 42 - 1002MHz
- Targeting DVB-T2/T/C2/C, ISDB-T and ATV reception
- 75ohm single-ended RF input with >8dB return loss
- Low noise figure (typ 4.5dB) for high sensitivity reception achieved with integrated RF LNA
- High linearity, low distortion design with low spurious levels especially important for cable and analogue reception
- High RF selectivity and protection ratio offer excellent immunity from adjacent and unwanted signals achieved by a combination of alignment-free RF tracking filter, high performance image-reject mixer and programmable base-band filter (1.7, 5, 6, 7 and 8MHz nominal settings)
- Excellent immunity from adjacent LTE interferer characteristics in conductive tests
- Flexible AGC implementation utilising wideband detector for protection against both close-in and distant interferers including LTE/WS/WiMax and fully-loaded cable networks
- Upper or lower LO down-conversion selectable for compatibility with SoC analogue demodulator
- High linearity RF level measurement function (RSSI) compatible with operator requirements

SATELLITE TUNER

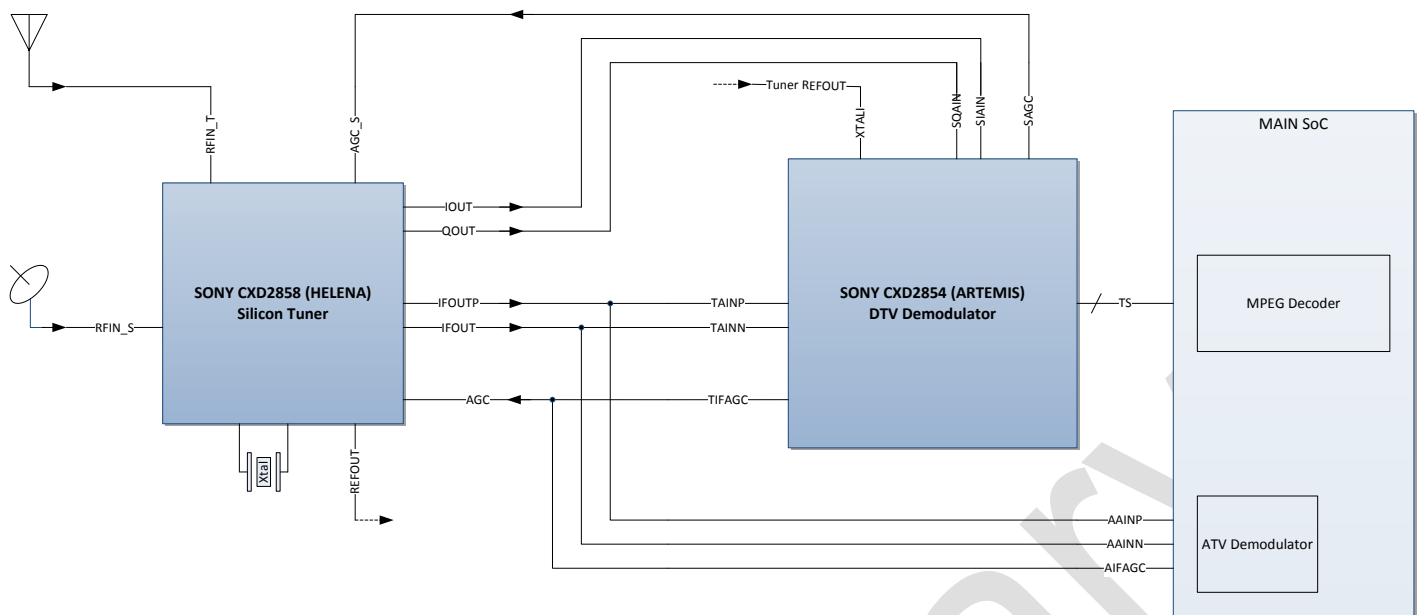
- Frequency range 950 - 2150MHz
- Targeting DVB-S2/S and ISDB-S reception
- 75ohm single-ended RF input with >8dB return loss
- Low noise figure (typ 4.5dB) for high sensitivity reception achieved with integrated RF LNA
- High linearity, low distortion design
- Internal multi-stage AGC optimised for best performance across the full signal level range from low-level SCPC signal to full channel loading
- Optimised for fast channel blind scan in conjunction with CXD2854ER and other compatible Sony demodulators

GENERAL FEATURES

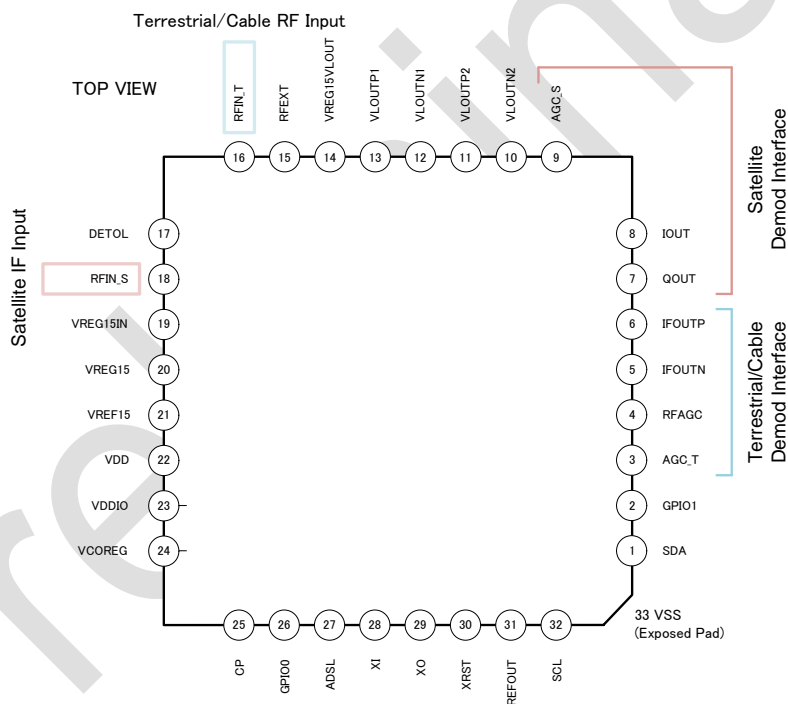
- Single 16MHz or 24MHz crystal up to +/-100ppm
- Crystal sharing with dedicated output for multi-tuner front-end applications
- Component count reduction 30% to 37pcs and board area by 41% compared with individual tuner application circuits realised by terrestrial/cable/satellite combined architecture
- Application optimised for use with CXD2854ER and other terrestrial/cable/satellite Sony digital demodulators
- Pinout closely compatible with CXD2871AER terrestrial silicon tuner permitting common layout for terrestrial only and terrestrial/satellite tuner options
- Common layout can be extended to the demodulator so that a wide range of terrestrial/satellite tuner/demodulator combinations can be realised to encompass low to high-end support on single platform design
- Software compatible with CXD2871AER terrestrial tuner
- Fast 400kHz I²C compatible bus interface
- Programmable I²C addresses allowing 4 tuners to be connected in parallel
- Programmable GPIO
- 1.8V ~ 3.3V analogue supply range with integrated regulator
- 2.5V ~ 3.3V logic/GPIO supply range
- Split supplies for optimum low-power consumption typically ~390mW
- Low stand-by power 13mW in 1.8V dual power mode
- Temperature range -25°C to +75°C
- 32 pin VQFN 5mm x 5mm package
- Supplied with full reference design, including software driver, PCB schematic/layouts, and documentation

APPLICATIONS

- Single and dual tuner receivers requiring terrestrial and satellite reception
- IDTV for digital only and digital/analogue capability
- High-end Blu-ray™/DVD recorder
- PVRs with 'watch and record' capability



Example application. Terrestrial and Satellite receiver for analogue/digital TV



CXD2858ER Pin-out diagram

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