

DVB-S2/DVB-S Tuner and Channel Decoder ICs

μ PD61632 (Tuner) and μ PD61616 (Channel Decoder)

The new μ PD61632 is a second generation DVB-S2 tuner which provides reduced power consumption and solution cost. Used in combination with the field proven DVB-S2/DVB-S demodulator (μ PD61616) the Renesas DVB-S2 front end chipset provides a low power, high performance and extremely cost effective solution that will meet the most stringent requirements.



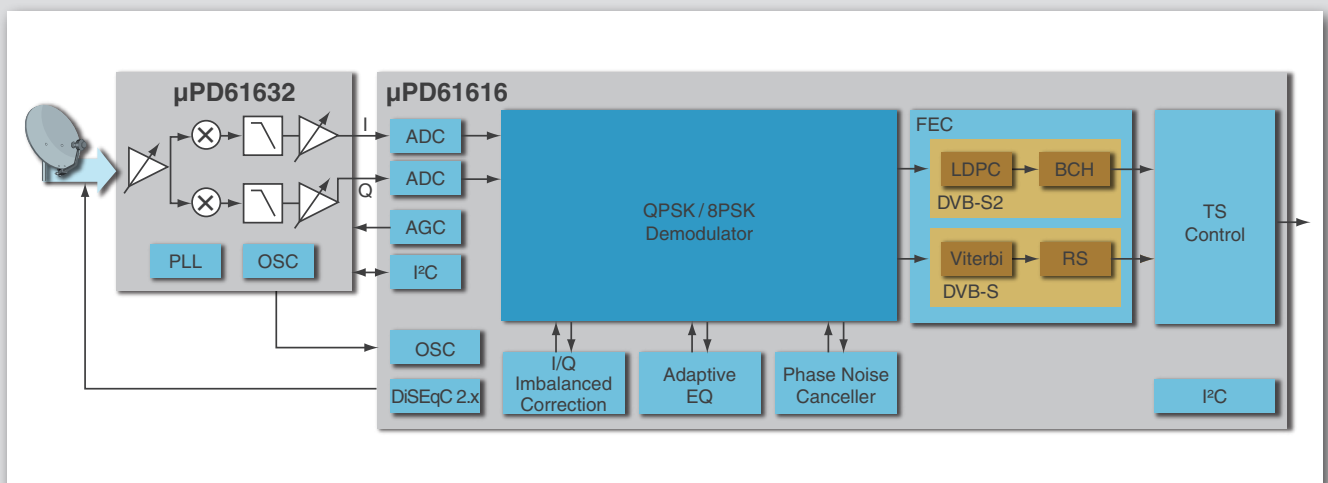
μ PD61632 is a high performance L-band (950 MHz – 2150 MHz) direct conversion silicon tuner. It integrates LNA functionality to the proven silicon tuner architecture providing differential I/Q outputs to the demodulator.

μ PD61616 is a low power, high performance and cost effective QPSK (Quadrature Phase Shift Keying) & 8PSK demodulator with integrated FEC (Forward Error Correction) that supports DVB-S & DVB-S2 specifications. Its function is to demodulate the I & Q signals and to cancel out the live broadcast interference in order to provide an error-free transport stream to the MPEG decoder.

Applications

This front end solution is targeted at DVB-S2 Set Top Boxes, Digital Video Recorders & TVs. It provides high performance reception of digital satellite signals that comply with the DVB-S2 (ETSI EN302307) & DVB-S (ETSI EN 300 421) specifications. The integration and performance level of μ PD61632 combined with the superior equalization performance of μ PD61616 enables error free audio & video reception even in the harshest environments. Signal acquisition, fading conditions or signal loss are handled automatically by the on-chip controller to reduce the CPU burden.

Block Diagram



Benefits

Main benefits from the solution are:

- Fast and reliable blind scan of the 950 MHz – 2150 MHz band
- State of the art receiving performance to help securing deployment
- Low power consumption of the chipset (800 mW typical)
- Small packages to reduce PCB footprint and achieving attractive designs.

Renesas is able to provide customers with an evaluation board and control software in order to enable evaluation of performance, features and integration. Reference schematics and layout, as well as embedded C driver are available as well to ease the design phase.

These features enable the design of cost effective, eco friendly, small size, responsive and reliable consumer products within short design cycles.

Features

μPD61632

Direct conversion L band silicon tuner

- Receiving range: 950 MHz up to 2150 MHz
- Large selectable baseband bandwidth
- Low phase noise
- LNA integrated
- Crystal output to feed μPD61616
- Single 2.5 V supply
- Power saving mode
- Low power consumption (400 mW typical)
- 28-pin VQFN 5 mm x 5 mm package

μPD61616

DVB-S2/DVB-S channel decoder

- DVB-S2 (ETSI EN 302 307) and DVB-S (ETSI EN 300 421) compliant
- 8PSK/QPSK demodulator
- 1 to 45 MS/s symbol rate in DVB-S mode
- 1 to 31 MS/s symbol rate in DVB-S2 mode
- Wide frequency offset capture range
- Tolerates high noise and distortions levels
- C/N & BER indicators
- On-chip controller to perform quick & reliable tune and scan
- Power saving mode
- Low power consumption (400 mW typical in DVB-S2 mode)
- DiSEqC TM 2.x compliant
- GPIO & PWM flexible output
- 80-pin LQFP 12 mm x 12 mm package

Ordering Information

| Devices | Part number | Package |
|--------------------|------------------|-------------|
| DVB-S2 tuner | μPD61632K9-3FE-A | 28-pin VQFN |
| DVB-S2 demodulator | μPD61616GK-8EU-A | 80-pin LQFP |

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

