Product Brief

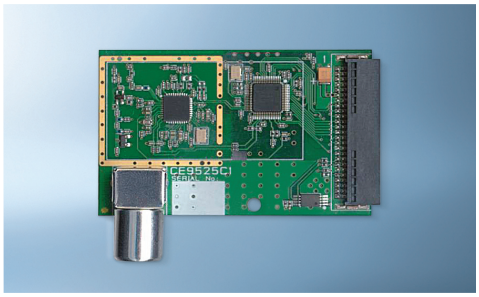
Intel® CE 9525
DVB-T Front-End Solution

Demodulators and Tuners

Applications

- DVB-T set top boxes
- DVB-T integrated digital TV
- PC DVB-T receiver cards
- PC DVB-T USB "plug and play" modules
- Hand-held TV receivers
- Portable DVB-T receivers

DVB-T Digital Terrestrial Front-end Solution with MaxLinear* Tuner



Product Overview

The Intel® CE 9525 reference design is a complete DVB-T digital terrestrial front end integrating the Intel® CE 6355 NorDig Unified high-performance COFDM demodulator and the MaxLinear* MxL500X terrestrial tuner. It is designed specifically for digital terrestrial motherboard set top box integrated Digital TV's and PC-TV applications.

This highly integrated front-end solution allows customers to quickly and cost-effectively evaluate and implement the DVB-T standard in their product designs. Software is supported directly by Intel and the design is accompanied by comprehensive documentation and test results. This compact, low-power DVB-T front-end solution offers NorDig Unified signal-handling performance.

The Intel CE 9525 reference design specifically addresses the challenges of terrestrial TV product size, power and performance.

Intel® CE 9525 DVB-T Reference Design with MaxLinear* Tuner

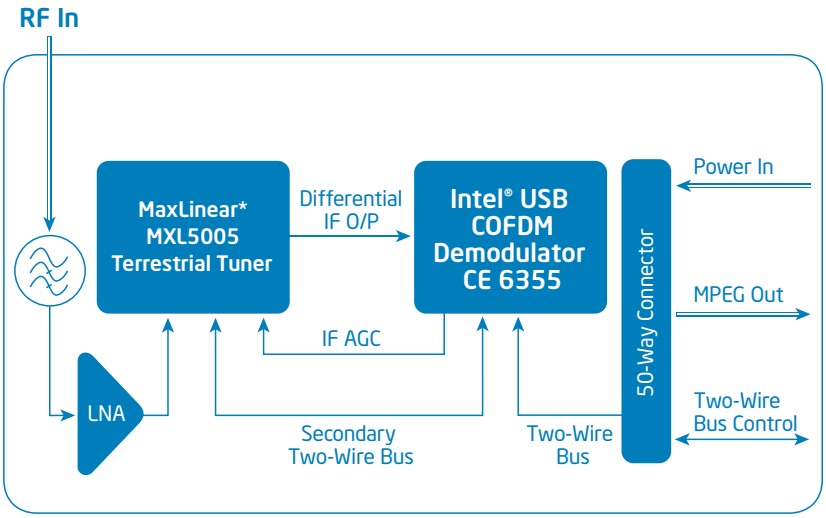
The Intel CE 9525 DVB-T TNIM reference design front-end application board provides a small, highly integrated TV receiver solution for DVB-T terrestrial applications such as set top boxes, integrated digital TVs and PC-TVs. Digital terrestrial signals are down-converted by the MaxLinear tuner to a low IF and fed to the Intel CE 6355 COFDM demodulator for channel coding to transport-stream output.

Intel® CE 9500 DVB-T TNIM Application Board Performance Summary

Parameter	Value (typ)	Units
RF frequency range	170 to 230 474 to 858	MHz
RF signal range	–81 to > -10	dBm
N±1 adjacent channel protection	30 (DVB-T) 38 (PAL)	dB
N±2 to X non-adjacent channel protection	38 (DVB-T) 43 (PAL)	dB
Carrier to noise	19	dB
Blind scan time—UHF mode 9 digital with 5 analog channels present	12 (2 K mode) 18 (2/8 K mode)	sec

Note: 64QAM, 3/4 code rate, 1/4 guard band, 8K mode, 8MHz channel

Block Diagram



The Intel CE 9525 DVB-T TNIM reference design kit is supplied with only a single +5 volt supply, since all other power rails are generated onboard. The Intel CE 9525 DVB-T reference design front-end solution is optimized for real in-field terrestrial environmental conditions. Supplied as a tested and characterized application board, the reference design provides a reliable, fast time-to-market DVB-T digital front-end solution.

For more information on the MaxLinear MxL500X tuners please contact sales@maxlinear.com or visit www.maxlinear.com.

Product Features

- DVB-T EN300 744 compliant.
- Tested to NorDig Unified 1.0.2 performance
- Low power consumption < 900mW
- Automatic co-channel and adjacent-channel interference suppression
  - On-chip active impulse noise filtering, software controlled
  - On-chip automatic lost signal re-acquisition
- Excellent blind channel scan times
  - UHF 2K only (9 digital channels in the presence of 5 analog) less than 12s
  - UHF 2K/8K (9 digital channels in the presence of 5 analog) less than 18s
- RF level detect facility via a separate ADC
- No SAW filter required
- Programmable 6, 7 and 8MHz channel operation
- External clock or single low-cost 20.48 MHz crystal
- Low driver software overhead due to on-chip state-machine control
  - Power down mode under software control
  - Channel bit error rates, and uncorrected block count
  - RF level, BER and C/N0 signal indicators
- Very compact single-sided component application board reference design
- Support material available:
  - Schematics and layout artwork
  - Intel CE 6355 data sheet and design manual
  - Hardware user manuals
  - Full software package
  - Performance test results

Customer Support

Contact your current sales representative for availability and customer support details.

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