

Product Brief

Intel® CE 9528 DVB-T TNIM Reference Design

Consumer Electronics

Applications

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

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



Product Overview

The Intel® CE 9528 TNIM reference design is a complete DVB-T digital terrestrial front-end solution integrating the Intel® CE 6355 NorDig Unified high-performance COFDM demodulator and the Xceive* XC3028 analog/digital hybrid tuner* with integrated analog radio and TV receiver. It is designed specifically for digital terrestrial motherboard integrated digital TV's and PC-TV applications. This solution has a low bill of materials because there is no SAW channel filter required.

This reference design allows customers to quickly and cost-effectively evaluate and implement the DVB-T standard in their product design. Software is supported directly by Intel and each reference design is accompanied by a comprehensive documentation and test results. This DVB-T reference design offers excellent signal-handling performance and low power consumption.

Intel® CE 9528 DVB-T Reference Design with Xceive* Tuner

The Intel® CE 9528 DVB-T TNIM reference design front-end application board provides a small, highly integrated TV receiver solution for combined analog radio, TV and DVB-T digital TV receivers. Target applications are iDTVs and PC-TVs requiring hybrid digital/analog operation.

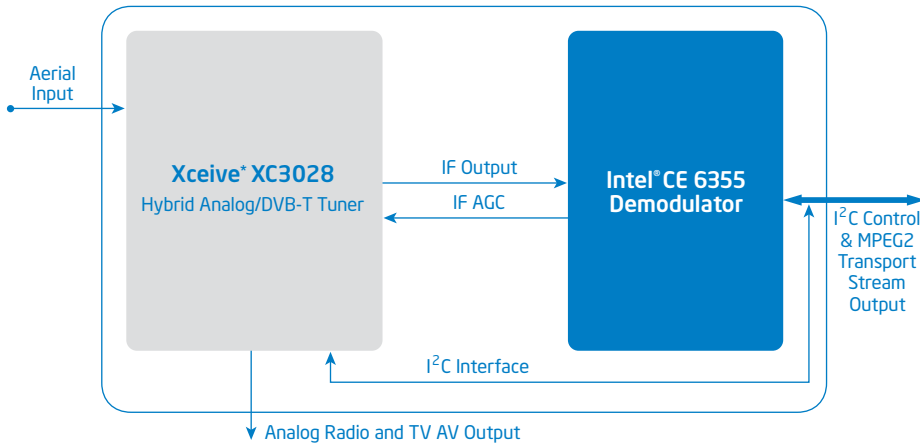
Received digital terrestrial signals are down-converted via the Xceive tuner to a low IF and fed to the Intel® CE 6355 COFDM demodulator for channel coding to MPEG transport stream output.

The Intel CE 9528 DVB-T TNIM reference design kit is supplied with an Intel® CE 9594 interface board, which only requires a single +5 V supply, all other power rails are generated on board. The Intel CE 9528 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 hybrid analog/DVB-T digital front-end solution.

For further information on the Xceive XC3028 tuner please contact sales@xceive.com or visit <http://www.xceive.com>.

Application Diagram



Intel® CE 9528 DVB-T TNIM Application Board Performance Summary

Parameter	Value (typ)	Units
RF frequency range	474 to 858	MHz
RF signal range	-77 to >-5	dBm
Co-channel analog interference	5	dB
N±1 adjacent channel protection	>34 (PAL) >20 (DVB-T)	dB
N±2 to X non-adjacent channel protection	>45 (PAL) >30 (DVB-T)	dB
Image channel protection	N+1 (PAL) N+1 (DVB-T)	dB
Carrier to noise	19.6	dB
Power consumption	1.6 (operational) 40 (standby)	W (opr.) mW (stnd.)
Blind scan time—UHF mode	12 (2 K mode)	sec
9 digital with 5 analog channels present	18 (2/8 K mode)	

Note: 64QAM, 3/4 code rate, 1/4 guard band, 8K mode, CH45 UHF 8MHz channel

Product Features

Intel® CE 9528 DVB-T TNIM Reference Design

- DVB-T compliant
- Excellent blind-channel scan times
 - UHF 2 K only—9 digital with 5 analog channels present—less than 12 seconds
 - UHF 2 K/8 K—9 digital with 5 analog channels present—less than 18 seconds
- On-chip automatic:
 - Lost signal re-acquisition (no external programming required)
 - Co-channel and adjacent-channel interference suppression
- Excellent single-frequency network support
- Integrated RF signal level read-back
- On-chip active-impulse noise filtering
- No SAW channel filter required
- Low power consumption (<1.6 W)
- Hardware and software power-down mode for PC cards
- Small single-sided component application board reference design
- Includes serial bus to PC adapter, via Intel® CE 9594 Interface Card
- 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

- The Intel CE 9528 DVB-T TNIM reference design is available to qualified customers.

For more information, visit the Intel Consumer Electronics home page at: www.intel.com/go/consumerelectronics

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