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DVB-C CNIM Front-End Solution with Towner* Tuner

Applications

- DVB-C set top boxes
- Digital cable ready TVs
- Cable modems
- MMDS receivers
- MATV receivers

Product Overview

The Intel® CE 9574 DVB-C CNIM reference design is a complete DVB-C digital cable front-end, integrating the Intel® CE 6210 QAM demodulator and the Towner* TNC5803 DVB-C can tuner* including an RF loop-through and IF section. It is intended to be used as the basis for either digital cable network interface modules (CNIMs) or "on-motherboard" set top box (STB) implementations.

This reference design allows customers to quickly and cost-effectively evaluate and implement the DVB-C standard in their STB designs. Software is supported directly by Intel and each reference design is accompanied by a complete suite of documentation and test results. This DVB-C reference design delivers excellent sensitivity and carrier to noise (C/N) performance, and the long 48-tap equalizer employed by the Intel CE 6210 QAM demodulator ensures a robust performance in difficult echo environments.

## Intel®CE 9574 DVB-C CNIM Reference Design

Received digital-cable signals are down-converted via the Towner tuner/IF module to the "on-board" Intel CE 6210 QAM demodulator for channel coding to MPEG transport stream output. The tuner's automatic gain control (AGC) is monitored, allowing the signal strength to be reported back via the device's 2-wire serial bus control.

The Intel CE 9574 DVB-C CNIM 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 demonstration and evaluation software supplied with the kit provides a display of both the QAM constellation and the equalizer tap coefficients.

Supplied as a tested[1] and characterized application board, the reference design provides a reliable, fast time-to-market DVB-C front-end solution.

For more information on the Towner TNC5803 DVB-C can tuner, please email: guoquan@towner.com.cn or call: (86)21-5488-5750.

Intel® CE 9574 DVB-C CNIM Solution
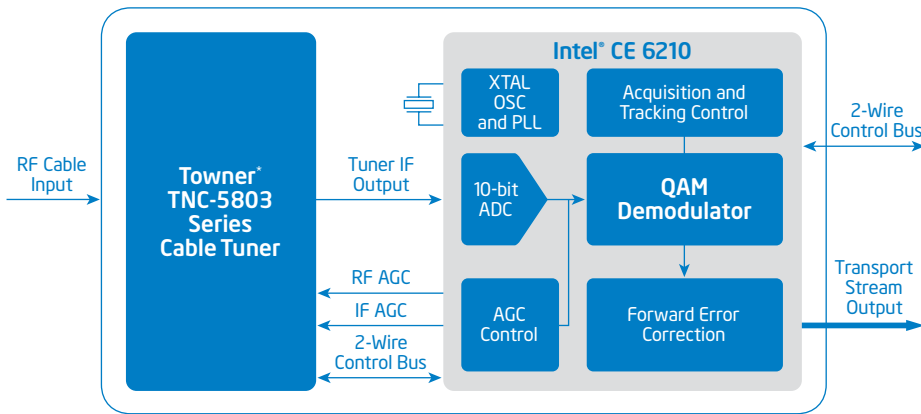
Intel® CE 9574 DVB-C CNIM Application Board Performance Summary

Parameter	Value (typ)	Units
RF frequency range	47 to 862	MHz
RF signal range	>−38 to <−62	dBm
N±1 adjacent channel protection	>10	dB
N±2 to X non-adjacent channel protection	>10	dB
Image channel protection	>50	dB
Carrier to noise	<26.5	dB
Power consumption	1.1 (operational)	W

Note: 64QAM, 6.9 Msps test conditions

Product Features

Intel® CE 9574 DVB-C CNIM Reference Design

• Constellations 16, 32, 64, 128, 256 QAM

• Symbol rates up to 7.2 MBaud

• Blind acquisition of QAM constellations

• Blind scan and acquisition of available channels

• Integrated RF signal level read-back

• Low power consumption (<1.1W)

• Full software support with minimal host overhead.

• Compact 2-layer FR4 PCB, 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 6210 data sheet and design manual

– Hardware user manuals

– Full software package

– Performance test results

Customer Support

• The Intel CE 9574 DVB-C CNIM reference design is available to qualified customers.

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