



## STi7109 802.11n Wireless IPTV Set-top Box Development Kit

Using Metalink's WLANPlus™ 802.11n wireless connectivity, the flexible Development Kit enables rapid system development of Wireless IP STBs, Digital Media Adaptors, PVRs, wireless HDTV and more. The seamless 802.11n wireless connectivity allows meeting the new requirements of the connected home environment.

Combining STMicroelectronics' STi7109 High Definition single-chip set-top box decoder support with Metalink's unique CE grade wireless performance provides the best of breed home multimedia solution. It enables sharing and enjoying the full suite of AV formats while benefiting from the full merits of convenient and flexible wireless connectivity at wire line quality.

### STi7109 Features

- Linux and WindowsCE capable
- Transport stream merger and router
- Advanced video decoder
  - H.264/AVC HP@L4 and MPEG2 MP@HL
  - Microsoft VC1, WMV9
  - Supports DVB and DirecTV streams
- Support all Conditional Access and DRM systems and integrate data encryption/decryption engine
- DVI and HDMI output
- SPDIF output
- Dual PAL/NTSC/SECAM encoders
- Programmable audio decoder
  - MPEG1 I/II, MP3,
  - Dolby Digital AAC LC
  - WMA/WMA Pro
  - DTS, AC3
- Connectivity solutions
  - USB 2.0 host controller
  - 100BT Ethernet controller
  - Serial ATA interface

### STMicroelectronics' Software development and evaluation platform

ST provides a comprehensive suite of hardware and software tools to enable rapid product development. Complete schematics of the reference design are available together with source code for STAPI software drivers. Moreover, pin compatibility across the STi710x range ensures that today's hardware designs can be re-used with minimal design effort.

## Metalink's 802.11n Wireless Connectivity

WLANPlus is an optimal high-throughput wireless interface for various consumer electronics products such as Residential Gateways, DTV, HDTV, Set Top Boxes, Media Adaptors, Digital Video Recorders (DVR), Portable display appliances, and game consoles. With the use of Metalink's WLANPlus mPCI card, wireless connectivity to 802.11n draft compliant devices as well as to legacy 802.11 a/b/g devices is guaranteed. WLANPlus enables sending and receiving multiple HDTV streams over a robust and reliable wireless link, providing seamless connection between the video source (live or stored) and the display device.

## Metalink's WLANPlus Key Features

- Compliant with the IEEE 802.11n approved draft
- Backward compatibility with legacy devices - 802.11 a/b/g
  - Supports Mixed-mode to enhance performance while interoperating with legacy devices
- Enhanced MAC Efficiency
  - Up to 210 Mbps effective throughput (payload) using
  - Frame Aggregation and Block Acknowledge
- Dual Band support - 2.4 GHz and 5 GHz
- Fast Link Adaptation for throughput maximization under QoS and delay constraints
- PHY transmission rates of up to 300 Mbps
  - 2x3 MIMO delivers extended throughput and QoS
  - Maximum Likelihood (ML) Slicer doubles coverage area
  - Channel bonding, supports 20 Mhz and 40 MHz channels
  - Advanced Coding (LDPC) extends coverage area by up to 70%
- Advanced Security Scheme, 802.11i-compliant
- Advanced QoS Scheme, 802.11e-compliant

### Technical Specifications

|                     |  |
|---------------------|--|
| Frequency Band:     | 2.400 - 2.485 GHz<br>4.900 - 5.950 GHz   |
| Network Standards:  | 802.11n<br>802.11a/b/g   |
| Data Rates:         | 802.11a - 6 to 54 Mbps<br>802.11b - 1 to 11 Mbps<br>802.11g - 6 to 54 Mbps<br>802.11n - up to 300 Mbps       |
| Modulation Modes:   | (OFDM) - BPSK, QPSK,<br>16QAM and 64QAM<br>(DSSS) - DBPSK, DQPSK, CCK  |
| Channel Code (FEC): | Convolution Code<br>Advance Coding (LDPC)  |
| Security:           | Compatible with 802.11i<br>64 bit/128 bit key WEP, AES, TKIP,<br>WPA, WPA2                                   |
| QoS:                | Compatible with 802.11e<br>EDCA, EDCA w/Admission Control<br>Direct Link Setup (DLS)<br>Fast Link Adaptation |

