



XWAY™ WAVE100 Family

Single-Chip IEEE 802.11 b/g/n Solution for Home Gateways

The Infineon® XWAY™ WAVE100 Family is a single-chip solution for access points compliant to the new 802.11n (b/g backward compatible) draft as well as the 802.11b/g WLAN standard. Both chips integrate Baseband, Media Access Controller (MAC), RF, Low Noise Amplifier (LNA) and Power Amplifier (PA) functionality in a single-chip.

The XWAY™ WAVE100 Family has the industry's lowest numbers of external components with no need for external memory. This results in a RBOM which is about 25% lower than existing solutions in the market.

An innovative integrated calibration circuit supports on-the-fly calibration during standard operation mode and helps reduce the manufacturing calibration time to a minimum. Thus, no expensive RF test equipment and no external trimming are necessary.

The chip comes with SDIO/SPI or PCI interface. Especially when used in combination with the XWAY™ AMAZON-SE ADSL2+ single-chip for a low-cost xDSL WLAN router, the SDIO variant frees up the USB 2.0 Host interface of XWAY™ AMAZON-SE for other tasks e.g. connecting a hard disk, printer or 3G dongle. The PCI variant can be easily used in combination with XWAY™ ARX100 Family for full-featured WLAN gateways or together with XWAY™ GRX100 Family for Ethernet based router/gateway solutions.

The XWAY™ WAVE100 comes in a small footprint PG-VQFN-108 package with a body size of 12x12mm. Compared to available mini-PCI solutions in the market, 70% smaller board space is possible.

Main Features

- Single-chip IEEE 802.11 b/g/n
- Integrated baseband, MAC, RF, LNA and PA
- Frequency range 2.3-2.7GHz
- 20 MHz & 40 MHz bandwidth
- Single 3.3V supply
- Integrated Balun & matching network
- On-chip power amplifier (PA) with up to 17.5 dBm output power
- Integrated calibration circuit for time and cost-efficient production testing
- Best-in-class sensitivity
- On-the-fly trimming with integrated temperature and supply monitoring
- Integrated PLL and VCO with output clocks for Ethernet and router devices
- SDIO/SPI and PCI interface
- Compliant to European Union Code of Conduct (CoC) requirements
- Lowest RBOM
- Small footprint VQFN-108 package

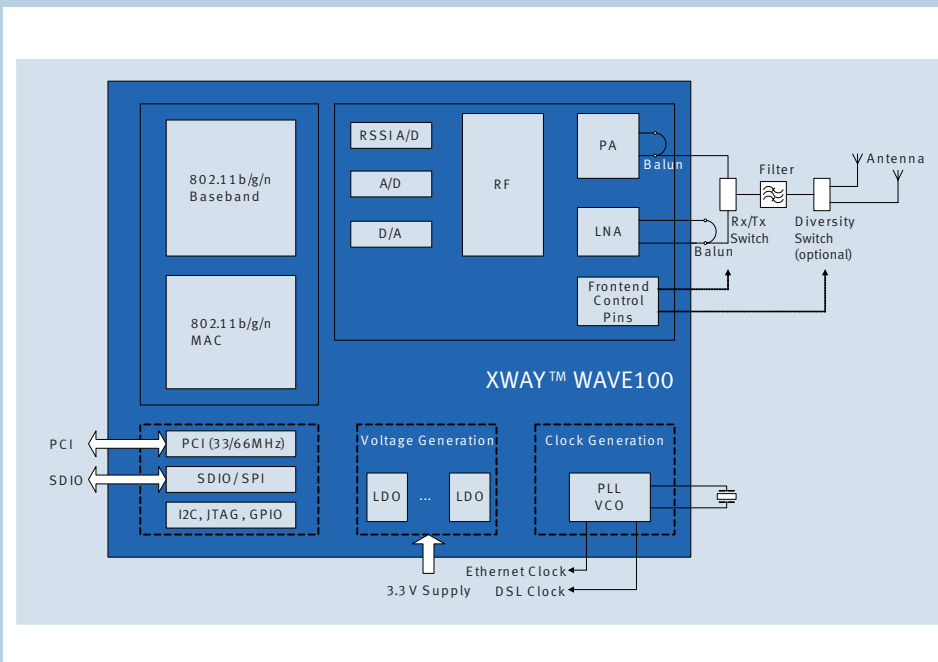
Applications

- Wireless LAN Router
- Home Gateway

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XWAY™ WAVE100 Family Block Diagram



IEEE Standards

- **Modulations:**
 - DBPSK, DQPSK, CCK, OFDM
- **Security:**
 - 802.11i, WEP, WPA, WPA2, WiFi protected setup, 4 BSSID with 32 MAC addresses each
- **Quality of Service:**
 - 802.11e, WMM, WMM-PS, VLAN, frame classification, WMM-AC extended EAP
- **Power Management:**
 - WMM-PS (802.11e)
- **MAC:**
 - Aggregation A-MPDU (11n), MSDU
- **Baseband:**
 - STBC (Rcv), Short Guard Interval
- **Additional Standards supported:**
 - 802.1X, 802.11k, w, h, j

Product Summary

XWAY™ WAVE100 Family				
Application	Home Gateways			
Package	PG-VQFN-108			
Frequency in GHz	2.4GHz			
Product Name	WAVE12A		WAVE11A	
Standard IEEE	802.11n		802.11b/g	
Sales Code	PSB 1752	PSB 1750	PSB 1652	PSB 1650
Interface	SDIO	PCI	SDIO	PCI

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