

CLR250 Single-Chip 802.11n USB Client.



Dual Band High Performance 3x3 802.11n with Transmit Beam Forming

Celeno's CLR250 incorporates all the key components required to meet the needs of the growing WiFi multimedia home networking market. The powerful CLR250 USB WiFi Client is a highly integrated chip combining 802.11n MAC, baseband and radio. These unique features make the CLR250 ideal for cost sensitive, high performance Telco and Retail applications such as WiFi enabled set top boxes and TVs.

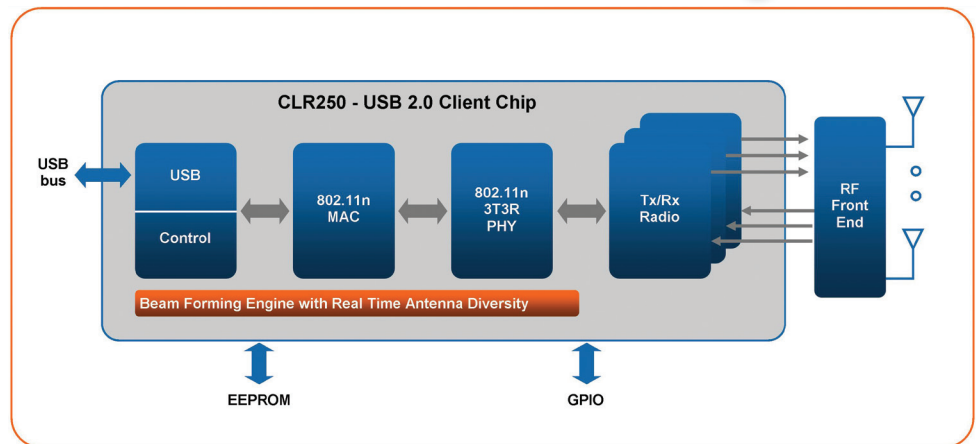
Benefits

- **Cost effective USB client architecture**
- **High performance**
 - Transmit Beam Forming
 - Up to 3 spatial streams
 - Efficient DMA engine and HW accelerators for minimum host load

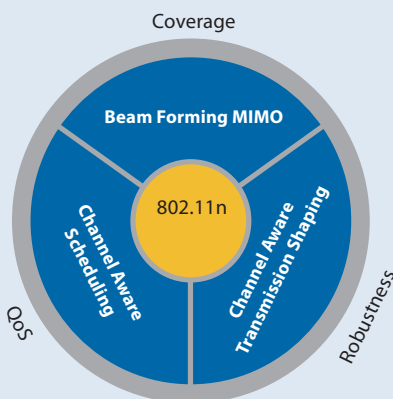


Applications

- Wireless enabled set top boxes
- Wireless TV for over the top content
- Multi room gaming
- Media players and streamers



OptimizAIR™ - Breakthrough Technology for Best Performance



Celeno CLR250 employs cross-layer optimization of special PHY, MAC and smart antenna technologies to achieve dramatic increases in range and coverage, typically exceeding off the shelf 802.11n systems' HD performance by over 500%.

Industry-first Phased-Array transmit beam forming MIMO technology delivers long reach and high HD throughput with zero packet error rate. Unlike other solutions, the CLR250 is completely channel aware with special silicon-based real-time processing that optimizes performance. It manages the radio power budget, transmission rate and detects noise levels to optimally deliver multiple HD video streams in the home.

Features

- **802.11n compliant 3T3R MAC/BB/RF**
 - 2.4GHz / 5GHz Dual Band
 - Up to 3 spatial streams
 - 20MHz/40MHz channel bandwidth
 - 450Mbps PHY data rate
 - WiFi Compliant: WPA2/WMM/WMM Power Save/WPS2
- **Integrated Celeno OptimizAIR™ technology suite**
 - Digital beam forming for up to 9 db gain
 - Real-time channel aware adaptive rate selection eliminates retransmission and packet loss
 - Dynamic antenna selection (Antenna diversity)
 - Superior interference immunity:
 - Dynamic 40/20MHz bandwidth utilization
 - Advanced PHY-level interference detection and automatic channel hopping
- **Carrier grade feature set**
 - WDS support for seamless IPTV network integration
 - WPS – WiFi Protected Setup for simple setup and security configuration
- **Operating Systems**
 - Linux

Specifications

Standards	802.11a/b/g/n/d/e/h/i
WiFi	WMM, WMM-PS, WPA, WPA2, WPS2
Encryption	AES, TKIP, WEP64/128
Baseband	3x3
RF	2.4GHz, 4.9GHz – 5.85GHz
Modulations	BPSK, QPSK, 16-QAM, 64-QAM
FEC	1/2, 2/3, 3/4, 5/6
Max PHY Rate	450Mbps
Channel Bandwidth	20MHz, 40MHz
Data Path Interfaces	USB 2.0
Package	Green/RoHS compliant 88 LD QFN (10mmx10mm)
Temperature	-10°~70° C



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