Product Description of BEC 8920NE

The EUT is a high-performance, single-chip Multimedia Multiservice ADSL2+/VDSL2 Gateway that enables the realization of a cost-effective multimode ADSL2+/VDSL2 router or gateway supporting wire speed small packet routing concurrent with multiport Ethernet switching, IEEE 802.11n wireless networking.The EUT is Powered by 12V DC source.

Circuit Description of BEC 8920NE

Main Processor
Part Name:BCM63168
Location:U101
Function: Integrated 2x2 MIMO IEEE 802.11n Radio supporting 2.4 GHz band operation，Integrated multimode ADSL2+/VDSL2 transceiver and AFE，External AFE interface for supporting 6-band VDSL2 and 2-line ATM/PTM bonding，Four integrated 10/100 Auto-MDIX Fast Ethernet (FE) PHY transceivers, or one integrated 10/100/1000 Auto-MDIX Gigabit Ethernet PHY transceiver with Energy Efficient Ethernet (EEE) support

Line Driver
Part Name:BCM6302 and BCM6306
Location:U40,U902
Function:a ADSL2+/VDSL2 line driver.

DDR2 Module
Part Name:H5PS5162GFR/ NT5TU32M16DG-AC
Location: U201
Function:DDR2 for application running as working clock is 400MHz.

SPI Flash
Part Name:SFL064A
Location:U211
Function: Memory for software.

Antenna
Part Name:3dbi@2.4GHz
Location:J701 J702
IEEE 802.11 b/g/n compatible，3dbi Peak Gain

BEC 8920NE Wireless N Bonding VDSL/ADSL Modem Router

Features

- VDSL/ADSL Bonding

- 802.11b/g/n Wireless AP integrated

- 2T2R Wireless Link Rate up to 300Mbps

- Built-In 4-Fast Ethernet Ports Switch

- VDSL 12A & 12B Fallback to ADSL2+

- Advanced Broadcom Solution based

- 1-Gigabit Ethernet Port for WAN or LAN

- 2-USB2.0 Host Ports Integrated

- Integrated with TR-069 Client

- Support Annex M and Annex L

Specification

VDSL and ADSL Features

- Full-rate ANSI T1.413 issue 2
- ITU-T G.992.1 (G.dmt)
- ITU -TG.992.2 (G.lite)
- ITU-T G.992.3 (G. dmt.bis), Annex L and Annex M
- ITU-T G.992.4 (G.lite.bis)
- ITU-T G.992.5 (ADSL2+), Annex L and Annex M
- ITU-T G.993.2(G.vdsl2) (Profile 8a, 8b, 8c, 8d, 12a,12b)
- ITU-T G.994.1 (G.hs) and G.993.1 VDSL
- Support Band Plan 997 and 998
- ADSL and VDSL bonding
- Data Transmission Rate
  - Upstream: Up to 50 Mbps
  - Downstream: Up to 50 Mbps.
- Rate Adaptive at 32 Kbps steps
- Interoperable with all major DSLAM equipments

ATM and PPP Features

- RFC2684 Bridge and Routed LLC& VC
- RFC2364 PPP over ATM ALL5
- RFC2516 PPP over Ethernet
- RFC2225/RFC1577 Classical IP over ATM
- RFC1483 Transparent Bridge
- RFC 1483/2684 Bridged Ethernet
- ATM Forum UNI 3.1/4.0, ATM Adaptation Layer Type 5-AAL5
- VPI Range (0-255) and VCI range (32-65535)
- UBR, CBR, VBR-rt, VBR-nrt
- F4/F5 OAM Loopback
- AIS and RDI OAM cells
- Supports 16 PVCs

Wireless Features

- Complies with IEEE802.11n, IEEE 802.11g and IEEE 802.11b
- 11n: Up to 300Mbps (dynamic)
- Provides WPA/WPA2 and WPA-PSK/WPA2-PSK authentication and TKIP/AES encryption security
- Multi SSID
- Access Control List
- Provides 64/128-bit WEP encryption security
- Wireless operating range: Indoor up to 100m, Outdoor up to 300m
- Wireless transmit power: 23dBm
- Antenna power: 3dBi

Network Protocols

- Static IP, Dynamic RIPv1, RIPv2 support

- MTU Adjustment
- Network Address Translation (NAT)
- PVC Port Mapping (Ethernet ports)
- Port Forwarding
- NAT Application Level Gateway for popular applications
- DHCP Server/Relay/client
- DNS Relay Agent
- DMZ support
- DDNS support
- SNMP v1, v2 support
- UPnP (Universal Plug and Play)
- TR069 CWMP
- PPP Auto Reconnect and configurable timeouts
- PPP Auto Reconnect on WAN Access/PPP on Demand
- IGMP v.1/v.2 snooping and Support IGMP Multicast
- ALG for SIP and H.323

Management Support

- Web Based GUI
- Upgrade or update via FTP/HTTP
- Command Line Interface via serial interface or Telnet
- Diagnostic Test
- Firmware upgrade-able for future feature enhancement
- Supports Remote Access Control

Security support
- PAP/CHAP Authentication for PPP mode
- NAT for basic Firewall support
- State Packet Inspection (SPI) for Firewall with denial-of-service (DoS) protection
- ALG (Application-level gateway) for NAT/PAT support
- 2 Level (User/Admin) Password Authentication to Router
- IP Filtering and MAC Filtering
- Parental control

VPN Pass-Through
- IPSec/PPTP/L2TP Pass-through

QoS
- Classification Rules
- Priority Queuing
- 802.1p

Operating System Support

- Windows 98 / 98 SE, 2000, ME, XP, NT, Vista, 7
- Macintosh
- Linux

Ports

- 2 DSL Line Port (RJ11)
- 2 USB Host ports
- 4 Fast Ethernet LAN Ports (RJ45)
- 1 Gigabit Ethernet port

LED Indicators

- PWR,ETH1,ETH2,ETH3,ETH4,GE,WLAN,DSL1,DSL2,INET

Environment

- Operating Temperature: 0°C~40°C
- Storage Temperature: -30°C~60
- Operating Humidity: 10%~90% non-condensing
- Storage Humidity: 5%~90% non-condensing