

Model Name
DSL-G2252 v.T1
VDSL2 4-port 11n Wireless IAD

External Specification

Version: 1.0.0

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1 Product Description

The VDSL2 N300 4-port Wireless Router/DSL-G2252 4-port FE+1GE WAN port+ (2*2)11n+1*USB2.0 Ethernet Router with one FXS port is a versatile, high-speed remote router for home and the small office.

2 Product Specifications and Features

2.1 H/W Features

2.1.1 Specification

Interfaces (TR-068 compliant)	
LAN	4x 10/100Base-TX MDI/MDIX RJ-45 port Compliant with following standards: 1. IEEE 802.3/802.3u 2. Hardware based 10/100, full/half, flow control autonegotiation 3. Non-blocking wire speed reception and transmission 4. Full duplex IEEE 802.3x flow control and half duplex back-pressure flow control 5. Broadcast storm protection 6. Automatic address learning, address aging and address migration 7. Integrated address Look-Up Engine, 1 K absolute MAC addresses supported

WAN	<p>1x inner pair RJ-11 VDSL2 port</p> <p>Data Rate:</p> <p>Downstream: Max up to 100Mbps</p> <p>Upstream: Max up to 50Mbps</p> <p>Rate Adaptation:</p> <p>Data rate auto-negotiate in 32 kbps increments</p> <p>Performance:</p> <p>TR-067 Interop performance compliant</p> <p>TR-100 Interop performance compliant</p> <p>1 x Giga Ethernet WAN port :</p> <p>1 x 10/100/1000Base-TX MDI/MDIX RJ-45 port</p> <p>Compliant with following standards:</p> <ol style="list-style-type: none">1. IEEE 802.3/802.3u2. Hardware based 10/100/1000, full/half, flow control autonegotiation3. Non-blocking wire speed reception and transmission4. Full duplex IEEE 802.3x flow control and half duplex back-pressure flow control5. Broadcast storm protection6. Automatic address learning, address aging and address migration7. Integrated address Look-Up Engine, 1 K absolute MAC addresses supported
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2.1.2

Wireless

Wireless	
2.4G 2T2R	<ul style="list-style-type: none">● Data Rate: 802.11n:300Mbps (Max.) 802.11g:54Mbps (Max.) 802.11b:11Mbps (Max.)● Frequency : 802.11b/g/n ISM band: 802.11n 20MHz/40MHz 2.412G~2.462GHz: (FCC) North America (CH1~CH11) 2.412G~2.472GHz: (ETSI/TELEC) EU/Japan(CH1~CH13)● WIFI Power : (Tolerance +/- 1dB) IEEE 802.11n MCS0~15: 14 dBm IEEE 802.11g 6~54Mbps:14 dBm IEEE 802.11b 1~11Mbps: 16 dBm● Sensitivity 802.11b: -86 dBm typical @ 11Mbps 802.11g: -72 dBm typical @ 54Mbps 802.11n : -67 dBm typical with 20MHz 802.11n : -65 dBm typical with 40MHz● Throughput 802.11n No Security: >=140 Mbps WPA-PSK / WPA2-PSK AES: >= 130 Mbps 802.11g No Security: >=20 Mbps All security mode: >= 20 Mbps

2.1.3 LED indicators

Location	LED Indicative	Color	Status	Description
	Power	Green/Red	Green	Power on
			Light off	Power off
			Red	Power on self test/ Device Malfunction (not bootable) and device malfunction
	LAN1~4	Green	Solid Light	Device connected to LAN port
			Blinking	LAN Activity present
			Light off	No Activity
	WLAN	Green	Solid Light	Wireless enable
			Blinking	Date transmission
			Light off	Wireless disable
	WPS	Green	Solid Light	WPS device connected
			Light off	No WPS device connected
			Blinking	Negotiating
	USB	Green	Solid Light	Usb connected
			Light off	No usb connected
			Blinking	Date transmission
	DSL/WAN	Green	Solid Light	DSL good sync.
			Blinking	DSL attempting sync.
			Light off	No carrier signal
	Internet	Green/Red	Solid Light	IP connected
			Light off	Power off
	FXS	Green	Solid Light	Device is connected and running
			Light off	No device is connected

2.2 S/W Features

Feature Item	Feature	Detailed Description
ADSL Compliance	T1.413i2, G.992.1 (G.dmt), G.992.2 (G.lite)	
	Annex A (Annex B and C are optional)	
	G.992.3 (G.bis/ADSL2)	ADSL and ADSL2 dual mode PHY
	G.992.5 (ADSL2+)	ADSL2+
	Annex L (Reach Extended ADSL2)	
	Annex M	
VDSL Compliance	G.993.2	Vdsl profiles supported: 8a/b/c/d , 12a/b, 17a
		US0
		Diagnostics mode/DELT
		Dying GASP
		PhyR
		Virtual Noise
	Both Annex A and Annex B	Both Annex A and Annex B band plans
WIFI Compliance	IEEE 802.11b/g/n	
	Support 2x2 antennas	
	Support 2-stream spatial multiplexing up to 270Mbps	(Can upgrade to 300Mbps)

	Support MCS 0-15 and MCS 32 modulation and coding rates	
	Support 20M and 40M channels	
	Support for STBC in both TX and RX	
Network Protocols and Features	RFC2684 VC-MUX, LLC/SNAP encapsulations for bridged or routed packet	VC-MUX for any connection type
	RFC2364 PPP over AAL5	RFC2364 LLC/NLPID encapsulation for PPPoA
	802.1q/1p VLAN over RFC2684 Bridge encapsulation	802.1q header insertion toward WAN and de-insertion toward LAN over RFC2684 bridge mode over AAL5. Supports multiple VLANs on multiple PVCs and mapping VLANs, PVCs and physical LAN port to multiple bridges.
	PPPoA	Support AUTO, PAP, CHAP, MS-CHAP authentication Added static IP address assignment.
	PPPoE	Support AUTO, PAP, CHAP, MS-CHAP authentication Added static IP address assignment.
	Multiple PPPoE sessions on single PVC	Allows multiple PPPoE sessions on one PVC.
	PPPoE pass-through	Supports concurrent PPPoE clients inside the modem and PPPoE clients on the LAN devices

PPPoE - filtering of non-PPPoE packets between WAN and LAN	Previously only filtered non-PPPoE packet from LAN to WAN, now works in both directions.
Auto-clean-up remote staled PPP sessions at BRAS	Clean up staled PPP sessions (PPPoE and PPPoA) at ISP BRAS after ADSL link goes down then up or after modem reboots, if scratch pad is enabled on top boot flash.
IPoA	
MER (a.k.a IP over Ethernet over AAL5)	
WAN to WAN traffic blocking in bridge mode	
Second IP address on LAN interface	Only public IP address and no DHCP on second IP address.
ARP	
DNS relay	
DNS server fallback in DNS Relay	Launch dnsprobe process when both primary and secondary DNS's are assigned. Probe primary DNS status and fallback to secondary DNS. When primary DNS is up again, switch back to primary DNS.
DHCP server	
DHCP client	
DHCP Relay	DHCP relay agent for IPoA and MER type of WAN connections.
NAPT	
IGMP Proxy	IGMP v1/v2
IGMP Snooping	IGMPv1/v2 snooping in bridge mode. Added blocking mode.
RIP v1/v2	Enable RIP over multiple WAN interfaces

	Dynamic DNS	Automatic update WAN IP address when it is changed to dyndns.org and/or TZO DDNS operator.
	LAN port to VC mapping	Supports traffic mapping between a group of LAN port to a PVC.
	Ethernet as WAN interface.	Added Ethernet as WAN interface to support PPPoE or IP over Ethernet.
	Multiple Protocol VLAN Mux	Support multiple protocols on single PVC using VLAN ID
	Multiple Service PVC	Support PPPoE, Bridge, and MER services over a single PVC
Firewall	Stateful Inspection	SPI Fire Wal
	Denial of Service attack	Passed DOS attacks: ARP Attack, Ping Attack, Ping of Death, Land, SYNC, Smurf, Unreachable, Tear Drop
	TCP/IP/Port/interface filtering rules	Support both incoming and outgoing filtering.
	MAC Layer Filtering	Added IGMP in protocol menu. Filter MAC frames based on protocol type, source/destination MAC address, direction
	Day-time Parental Control	
VPN	IPsec VPN(optional)	Support VPN connection to remote VPN gateway.
QoS	IP/Bridge/802.1p QoS	Supported both routed and bridged mode PVCs for packet level QoS: classification rules, priority queuing using ATM TX queues, IP TOS/Precedence, 802.1p marking. Added DiffServ DSCP marking and src/dest MAC addresses classification.
Configuration	Web based GUI	

and Management	Embedded web server	
	Download image via HTTP or tftp client	
	Download image via FTP server	
	Download image via TFTP server	
	Command Line Interface via serial port, telnet, or ssh	added dumpcfg, sntp commands. Added option to tftp, adsl, wan, ppp commands. Upgrade sshd to version 0.46.
	Menu-driven CLI via serial port or telnet	Added dump configuration.
	Universal Plug and Play (UPnP) Internet Gateway Device (IGDv1.0)	V2.14L.02: Upgraded UPnP with latest version. Added support for ADSL IGD. Enable/disable UPnP without reboot.
	SNMP v1/v2c agent(optional)	
	SNMP MIBs: rfc2662 ADSL line MIB, rfc2515 ATM MIB, MIB-II	Support GET only except GET/SET for system MIB and ifAdminStatus in ifTable.
	Date/time update from SNTP Internet Time Server	Automatic synchronize date and time with Internet Time Servers and local time zone setup. Display Date/time in device info and syslog. Added SNTP command.
	Daylight saving zone	

	TR-69(optional)	Support parameters,digest/certificate/SSL security. Support proprietary parameters implementation without tr69c framework sources	273
	Code support	G.711(A law & u Law), G.723.1, G.726, G.729,etc	
	Silence suppression	Support Silence suppression	
VOIP	Echo cancellation for G.165/G.168		
	Support G.711a/u,G.729		
	Dtmf for RFC2833		
	T.38 fax		
	T.30 fax bypass through to G.711		
	Caller id display: Fsk, Fsk TypeII		
	Supported supply service for local		
	VAD/CNG for supported codecs		

3 Mechanic & ID Design

3.1 Outlook

The color of housing is TBD



3.1.1 Power

12V/ 1.5A

3.1.2 Operation Temperature

- 0°C to 45°C

3.1.3 Storage Temperature

- -4°F to 149°F (-20°C to 70°C)

3.1.4 Humidity

- 5% ~ 95% non-condensing

4 Certification Requirements

4.1 EMC/RF Certificates and Test Reports

Request	EMI/EMC Test Report	Class A	Class B	Region & Country requirements
	CE Report (89/336/EEC(EN55022/24), 2004/108/EC)			EU
	FCC report(FCC CFR 47 Part 15 B)			US
	IC report(ICES-003)			Canada
	IC report(ICES-006)			Canada
	C-Tick Report(AS/NZS CISPR 22)			New Zealand & Australia
	VCCI Report(CISPR 22)			JAPAN
	MIC report			KOREA
	Anatel			Brazil
	BSMI			Taiwan
	CCC			China
	Other's			

4.2 Telecom Certificates and Test Reports

Request	Telecom. Test Report	Telecom (RJ-11 Port link to PSTN)	Region requirements
	CE Report (R&TTE:1999/5/EC) TBR-21		European union(EU)
	FCC Report (FCC CFR 47, Part 68)		US /FCC ID(3P7XXXXXX..)
	IC Report (CS-03)		Canada /IC ID (4216AXXX...)
	A-Tick Report		New Zealand & Australia

	NCC(PSTN01)		Taiwan
	Anatel		Brazil
	BSMI		Taiwan
	CCC		China
	Other's		

4.3 Safety Certificates and Test Reports

Request	Certifications	Standards	Region requirements
	CE LVD report (LVD:73/23/EEC)	EN60950-1: 2001	European Union
	UL/cUL Listed Mark	UL/CSA 60950-1	US / Canada
	CSA International Mark	IEC60950-1 UL60950-1 CSA60950-1 EN 60950-1	World US Canada European Union
	CB Report	IEC60950-1: 2001 EN60950-1 :2001	World European Union
	Other's requirements		