

# CE Test Report

Product Name : Stackable Gigabit Ethernet Switch

Model No. : DGS-3224SR, DGS-3324SRI, DGS-3324SR, DPS-500, DPS-900

Applicant : D-Link Corporation

Address : No. 8, Li-Hsing Seventh Road, Science-Based  
Industrial Park, Hsin-Chu, Taiwan, R.O.C.

Date of Receipt : Sep. 25, 2003

Date of Test : Sep. 29, 2003

Report No. : 039H048E

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

# Test Report Certification

Test Date: Sep. 29, 2003

Report No. : 039H048E



Accredited by TUV, DNV, Nemko and NIST (NVLAP)

Product Name : Stackable Gigabit Ethernet Switch  
Applicant : D-Link Corporation  
Address : No. 8, Li-Hsing Seventh Road, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C.  
Manufacturer : Alpha Networks Inc.  
Model No. : DGS-3224SR, DGS-3324SRI, DGS-3324SR, DPS-500, DPS-900  
Rated Voltage : AC 230V/50Hz  
Trade Name : D-Link  
Measurement Standard : EN 55022:1998+A1:2000 Class A  
EN 61000-3-2:1995, Amendment 1:1998, Amendment 2:1998  
EN 61000-3-3:1995, EN 55024:1998+A1:2001  
Measurement Procedure : EN 55022:1998+A1:2000,  
EN 61000-3-2:1995, Amendment 1: 1998, Amendment 2: 1998,  
EN 61000-3-3:1995, IEC 61000-4-2:1995,  
IEC 61000-4-3:1995, IEC 61000-4-4:1995, IEC 61000-4-5:1995,  
IEC 61000-4-6:1996, IEC 61000-4-8:1993, IEC 61000-4-11:1994  
Test Result : Complied

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuietTek Corporation.

Documented By : Joyce Lin  
(Joyce Lin)



Tested By : Winson Wen  
(Winson Wen)



Approved By : Kevin Wang  
(Kevin Wang)



## TABLE OF CONTENTS

Description	Page
1. General Information .....	6
1.1. EUT Description .....	6
1.2. Tested System Details .....	7
1.3. Configuration of tested System .....	8
1.4. EUT Exercise Software .....	8
1.5. Test Facility .....	9
2. Conducted Emission .....	10
2.1. Test Equipment .....	10
2.2. Test Setup .....	10
2.3. Limits .....	10
2.4. Test Procedure .....	11
2.5. Test Specification .....	11
2.6. Test Result .....	11
3. Radiated Emission .....	12
3.1. Test Equipment .....	12
3.2. Test Setup .....	12
3.3. Limits .....	13
3.4. Test Procedure .....	13
3.5. Test Specification .....	13
3.6. Test Result .....	13
4. Power Harmonics, Voltage Fluctuation and Flicker .....	14
4.1. Test Equipment .....	14
4.2. Test Setup .....	14
4.3. Limits .....	14
4.4. Test Procedure .....	16
4.5. Test Specification .....	16
4.6. Test Result .....	16
5. Electrostatic Discharge (ESD) .....	17
5.1. Test Equipment .....	17
5.2. Test Setup .....	17
5.3. Test Level .....	17
5.4. Test Procedure .....	18
5.5. Test Specification .....	18
5.6. Test Result .....	18
6. Radiated Susceptibility (RS) .....	19
6.1. Test Equipment .....	19
6.2. Test Setup .....	19

---

6.3.	Test Level.....	19
6.4.	Test Procedure.....	20
6.5.	Test Specification.....	20
6.6.	Test Result.....	20
7.	Electrical Fast Transient/Burst (EFT/B) .....	21
7.1.	Test Equipment .....	21
7.2.	Test Setup.....	21
7.3.	Test Level.....	21
7.4.	Test Procedure.....	22
7.5.	Test Specification.....	22
7.6.	Test Result.....	22
8.	Surge .....	23
8.1.	Test Equipment .....	23
8.2.	Test Setup.....	23
8.3.	Test Level.....	23
8.4.	Test Procedure.....	24
8.5.	Test Specification.....	24
8.6.	Test Result.....	24
9.	Conducted Susceptibility (CS).....	25
9.1.	Test Equipment .....	25
9.2.	Test Setup.....	25
9.3.	Test Level.....	26
9.4.	Test Procedure.....	26
9.5.	Test Specification.....	26
9.6.	Test Result.....	26
10.	Power Frequency Magnetic Field .....	27
10.1.	Test Equipment .....	27
10.2.	Test Setup.....	27
10.3.	Test Level.....	27
10.4.	Test Procedure.....	28
10.5.	Test Specification.....	28
10.6.	Test Result.....	28
11.	Voltage Dips and Interruption .....	29
11.1.	Test Equipment .....	29
11.2.	Test Setup.....	29
11.3.	Test Level.....	29
11.4.	Test Procedure.....	30
11.5.	Test Specification.....	30
11.6.	Test Result.....	30
12.	Performance Criteria of Immunity Tests.....	31

---

---

13.	EMC Reduction Method During Compliance Testing.....	33
14.	Test Result.....	34
14.1.	Test Data of Conducted Emission.....	35
14.2.	Test Data of Radiated Emission.....	41
14.3.	Test Data of Power Harmonics, Voltage Fluctuation and Flicker.....	43
14.4.	Test Data of Electrostatic Discharge.....	47
14.5.	Test Data of Radiated Susceptibility.....	49
14.6.	Test Data of Electrical Fast Transient.....	51
14.7.	Test Data of Surge.....	53
14.8.	Test Data of Conducted Susceptibility.....	55
14.9.	Test Data of Power Frequency Magnetic Field.....	57
14.10.	Test Data of Voltage Dips and Interruption.....	59

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

Reference : Laboratory of License

## 1. General Information

### 1.1. EUT Description

Product Name : Stackable Gigabit Ethernet Switch  
Trade Name : D-Link  
Model No. : DGS-3224SR, DGS-3324SRI, DGS-3324SR, DPS-500, DPS-900  
SIO Cable : Shielded, 0.5m, 3Pcs.  
Power Cable : Non-shielded, 1.8m

Note:

1. This EUT is a Stackable Gigabit Ethernet Switch.
2. Regarding to the different construction of the EUT, the model number were shown in the table as following:

Model Number	Description
DGS-3224SRI	a layer3 switch that can be stacked as star topology
DGS-3324SR	a layer3 switch that can be stacked as ring topology
DGS-3224SR	the layer2 version of DGS-3324SR
DPS-500	the RPS device for the three model above
DPS-900	a device that can contain 8 DPS-500

3. Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

EMI Mode: Mode 1: DC Input

Mode 2: AC Input

EMS Mode: Mode 1: DC Input

Mode 2: AC Input

## 1.2. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards ) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
(1)	Switch	D-LINK	DGS-3324SRI	V004563843	Non-shielded, 1.8m
(2)	Power Supply	D-LINK	DPS-900	N/A	Non-shielded, 1.8m
(3)	PC	ASUS	P2L97	92M1Y03978	Non-shielded, 1.8m
(4)	Monitor	SYNCO	15CP	N/A	Non-shielded, 1.8m
(5)	Keyboard	ACER	6311-TW4C/6	N/A	--
(6)	Mouse	MITAC	M-S34	LZE94300553	--
(7)	LAN Card	D-LINK	500-TX	N/A	--

	Signal Cable Type	Signal cable Description
A.	RS-232 Cable	Non-Shielded, 1.8m
B.	Loopback Cable	Non-Shielded, 3.0m,12Pcs
C.	LAN Cable	Non-Shielded, 5m, 2Pcs
D.	Power Line	Non-Shielded, 1.0m, two ferrite cores bonded.
E.	SIO Cable	Shielded, 0.5m,
F.	SIO Cable	Shielded, 0.5m
G.	VGA Cable	Shielded, 1.6m
H.	Keyboard Cable	Shielded, 1.8m
I.	Mouse Cable	Shielded, 1.8m