

TR/SD

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January 20, 1999
QTK98-F010A
731 Confirmation No: EA92876

Federal Communications Commission
Equipment Authorization Branch
7435 Oakland Mills Road
Columbia, MD 21046

Attn.: Ms. Jaunice Green, Legal Instrument Examiner

Subject: Supplement to Original Application for Certification of Class B Computing Peripheral
FCC ID: IOUNSH810S01 / Ethernet Switch & Plug Hub, Model NSH810 Series

Dear Ms. Green:

Please be advised National Datacomm Corporation's application for equipment authorization, dated December 19, 1998 was assigned for technical review on January 12, 1999 and was assigned Form 731 Confirmation Number EA92876.

Attached, find our additional test data performed while the subject ethernet hub was system tested with one-of-the host PC systems located on the same test table while the other host PC system was located remote from the test table. Kindly place this additional test data into our already filed application.

Should you have any questions or comments, please contact the undersigned. Thank you for your attention and cooperation in this matter.

Sincerely yours,



Richard Mullen
Manager
Safety & Compliance Consulting

FCC LABORATORY
JAN 22 1999

Model Number : NSH810SERIES

Report # : 98B005F-D1
FCC ID. : IOUNSH810S01

QTK98-F010A

**Test Report
Application for Certification
Additional Test data
On Behalf Of
National Datacomm Corporation
Plug-n-Switch
Model : NSH810SERIES
FCC ID : IOUNSH810S01**

Prepared For:
National Datacomm Corporation
2F, No.28, Industry East 9th Rd., Science Park

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Test Report
Application for Certification
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On Behalf Of
National Datacomm Corporation
Plug-n-Switch
Model : NSH810SERIES
FCC ID : IOUNSH810S01

Prepared For:
National Datacomm Corporation
2F, No.28, Industry East 9th Rd., Science Park
Hsin-Chu, Taiwan, R.O.C.

Report By : Quietek Corporation
No.75-1, Wang-Yeh Valley, Yung-Hsing,
Chung-Lin, Hsin-Chu County,
Taiwan, R.O.C.
Tel : (03) 592-8858
Fax : (03) 592-8859

The test results are traceable to the national or international standards
Test results given in this report only relate to the specimen(s) tested or measured.
This report shall not be reproduced excepted in full, without the written consent of Quietek.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

1. Test Report Certification

Applicant : National Datacomm Corporation
Manufacturer : National Datacomm Corporation

EUT Description

(A) Model Name : Plug-n-Switch / *ETHERNET Hub*
(B) Model No. : NSH810SERIES
(C) Serial Number : Proto Type
(D) FCC ID : IOUNSH810S01
(E) Power : 120V/60HZ AC

MEASUREMENT STANDARD USED :

CISPR 22 Limits and methods of measurement of radio disturbance characteristics of information technology equipment: 1993

MEASUREMENT PROCEDURE USED :

ANSI C63.4 Methods of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9KHz to 40GHZ. : 1992

The device described above was tested by QuietTek Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the CISPR 22 limits for both radiated and conducted emissions. The measurement results are contained in this test report and QuietTek Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the CISPR 22 limits.

Sample Received Date : Jan, 04, 1999

Test Date : Jan, 04, 1999

Documented by : Amy Hung

Test Engineer:

Approve & Authorized Signer:

JACK WU

JACK WU

Gene Chang

GENE CHANG



2. General Information

2.1 Production Description

Description : Plug-n-Switch& GO
Model Number : **NSH810SERIES**
Serial Number : Proto Type
FCC ID : IOUNSH810S01
Applicant : **National Datacomm Corporation**
Address : 2F, No.28, Industry East 9th Rd., Science Park Hisn-Chu ,
Taiwan, R.O.C.
Manufacturer : **National Datacomm Corporation**
Address : 2F, No.28, Industry East 9th Rd., Science Park Hisn-Chu ,
Taiwan, R.O.C.
Adapter with cable : AKII , M/N: A15D3-05MP
Non-Shielded, Undetachable, 1.2m
Input: 100-240Vac, 50-60Hz, 40-50VA
Output: +5V / 3.0A
Power Cord : Shielded, Detachable, 1.5m

Mode Difference: Model : 10Mbps and 100Mbps dual speeds

Remarks: The Plug-n-Switch (EUT) is a Lab Hub with light same ports. During the test,
Two ports of EUT are connected to two PCs with Lan card with 10m shielded cable
separately. Other parts were connected to 1m shielded cable.

2.2 Tested System Details

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

2.2.1 The types for all peripheral devices

Host Personal Computer

Model Number : DCS
Serial Number : SKJ8H
Manufacturer : DELL
FCC ID : EZKZERL
Lan Card : Intel Corporation
FCC ID : EJMNPDSPD035

Host Personal Computer

Model Number : Vectra VE 5/200 MMX Series 4DT
Serial Number : SG81002279
Manufacturer : HP
FCC ID : DoC
Lan Card : Netgear,
FA310TX, S/N: FA31014942

Monitor (1)

Model Number : CM752ET-311
Serial Number : T8D003312
FCC ID : DoC
Manufacturer : HITACHI

Monitor (2)

Model Number : CM752ET-311
Serial Number : T8F005799
FCC ID : DoC
Manufacturer : HITACHI

Keyboard (1)

Model Number : 6311-TW2C
FCC ID. : Doc
Serial Number : N/A
Manufacturer : ACER

Keyboard (2)

Model Number : 6311-TW2C
FCC ID. : Doc
Serial Number : N/A
Manufacturer : ACER

Mouse (1)

Model Number : M-S34
Serial Number : LZB75078428
FCC ID : DZL211029
Manufacturer : HP

Mouse (2)

Model Number : M-S34
Serial Number : LZB71178588
FCC ID : DZL211029
Manufacturer : HP

CONDUCTED EMISSION DATA

Date of Test	: Jan. 04, 1999	Temperature	: 22 °C
EUT	: Plug-n-Switch& GO	Humidity	: 63 %
Test Mode	: Normal	Detector Mode	: Quasi-Peak & Average

Frequency MHz	Cable Loss dB	LISN Factor dB	Reading Level Line1 dBuV	Measurement Level Line1 dBuV	Limits dBuV
* 0.178	0.01	0.10	58.48		64.58
0.234	0.02	0.10	42.93	43.05	62.30
0.300	0.04	0.10	42.73	42.87	60.25
0.361	0.05	0.10	45.68	45.83	58.70
4.040	0.19	0.16	39.09	39.44	56.00
22.571	0.37	0.50	40.15	41.01	60.00

Average:

* 0.178	0.01	0.10	42.40	42.51	64.58
0.235	0.02	0.10	25.90	26.02	52.29
0.300	0.04	0.10	30.10	30.24	50.25
0.361	0.05	0.10	27.00	27.15	48.70
4.066	0.19	0.16	15.20	15.55	46.00
22.560	0.37	0.50	32.60	33.46	50.00

Remarks :

1. " * " means that this data is the worse emission level.
2. All readings are Quasi-peak and average values.

CONDUCTED EMISSION DATA

Date of Test	Jan. 04, 1999	Temperature	22 °C
EUT	Plug-n-Switch& GO	Humidity	63 %
Test Mode	Normal	Detector Mode	Quasi-Peak & Average

Frequency MHz	Cable Loss dB	LISN Factor dB	Reading Level Line2 dBuV	Measurement Level Line2 dBuV	Limits dBuV
0.185	0.01	0.10	50.22	50.33	64.24
0.242	0.03	0.10	47.36	47.49	62.03
0.358	0.05	0.10	45.97	46.12	58.78
*0.419	0.05	0.10	51.04	51.19	57.47
0.480	0.06	0.10	45.70	45.86	56.34
4.060	0.19	0.16	41.30	41.65	56.00

Average:

0.185	0.01	0.10	33.20	33.31	54.24
0.242	0.03	0.10	32.20	32.33	52.03
0.358	0.05	0.10	26.30	26.45	48.78
*0.419	0.05	0.10	30.70	30.85	47.47
0.480	0.06	0.10	28.40	28.56	46.34
4.060	0.19	0.16	19.60	19.95	46.00

Remarks :

1. " * " means that this data is the worse emission level.
2. All readings are Quasi-peak values.

Radiated Emission Data

Date of Test	Jan. 04, 1999	Temperature	22 °C
EUT	Plug-n-Switch& GO	Humidity	63 %
Test Mode	Normal	Detector Mode	Quasi-Peak & Average

Frequency	Cable	Ant	Reading Level	Emission Level	Limits	Ant	Table
MHz	Loss	Factor	Horizontal	Horizontal	dBuV/m	cm	deg
	dB	dB/m	dBuV/m	dBuV/m			
700.000	5.84	19.10	3.21	28.15	37.00	400	44
750.000	6.10	19.99	3.70	29.79	37.00	400	142
775.000	6.23	20.10	3.91	30.24	37.00	400	112
* 825.000	6.49	20.45	5.44	32.38	37.00	400	55
850.000	6.62	20.60	2.58	29.80	37.00	400	106
900.000	6.88	20.80	2.46	30.15	37.00	400	105

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worse emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss

Radiated Emission Data

Date of Test	Jan. 04, 1999	Temperature	22 °C
EUT	Plug-n-Switch& GO	Humidity	63 %
Test Mode	Normal	Detector Mode	Quasi-Peak & Average

Frequency MHz	Cable Loss dB	Ant Factor dB/m	Reading Level	Emission Level	Limits	Ant cm	Table deg
			Vertical dBuV/m	Vertical dBuV/m			
* 75.000	1.58	6.83	15.26	23.67	30.00	207	35
225.000	3.03	9.68	6.57	19.27	30.00	100	151
700.000	5.84	18.60	2.17	26.61	37.00	300	62
750.000	6.10	19.04	2.18	27.32	37.00	217	57
775.000	6.23	19.05	3.21	28.49	37.00	177	112
825.000	6.49	19.70	3.19	29.38	37.00	221	25

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * ", means this data is the worse emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss