



EMC

TEST REPORT

REPORT NO. : F87030904A
MODEL NO. : NS620
DATE OF TEST : Sept. 22, 1998

PREPARED FOR: TAINET COMMUNICATION SYSTEM CORP.

ADDRESS : 3F, NO. 6, 23 ALLEY, 91 LANE, NEI HU RD.
SEC. 1, TAIPEI, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

12F, NO.1, SEC.4, NAN-KING EAST RD.,
TAIPEI, TAIWAN, R.O.C.

This test report consists of 14 pages in total. It may be duplicated completely for legal use with the allowance of the applicant. It shall not be reproduced except in full, without the written approval of our laboratory. It should not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. government. The test result in the report only applies to the tested sample.



TABLE OF CONTENTS

1. CERTIFICATION.....	3
2. GENERAL INFORMATION	4
2.1 GENERAL DESCRIPTION OF EUT	4
2.2 DESCRIPTION OF SUPPORT UNITS	5
2.3 TEST METHODOLOGY AND CONFIGURATION.....	5
3. TEST INSTRUMENTS	6
3.1 TEST INSTRUMENTS (EMISSION).....	6
3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION.....	7
4. TEST RESULTS (EMISSION)	8
4.1 RADIO DISTURBANCE	8
4.1.1 EUT OPERATION CONDITION	8
4.1.2 TEST DATA OF CONDUCTED EMISSION	9
4.1.3 TEST DATA OF RADIATED EMISSION.....	10
5. PHOTOGRAPHS OF THE TEST CONFIGURATION WITH MINIMUM MARGIN...	12
6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT	14

**1. CERTIFICATION**

Issue Date: Sept. 23, 1998

Product : HDSL
Trade Name : TAINET
Model No. : NS620
Applicant : TAINET COMMUNICATION SYSTEM CORP.
Standard : FCC Part 15, Subpart B, Class B
ANSI C63.4-1992
CISPR 22: 1993 +A1+A2

We hereby certify that one sample of the designation has been tested in our facility on Sept. 22, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of the applicable standards.

TESTED BY: San Lin, DATE: 9/23/98
(San Lin)

CHECKED BY: Sharon Hsiung, DATE: 9/23/98
(Sharon Hsiung)

APPROVED BY: Mike Su, DATE: 9/23/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

Accredited Laboratory



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	HDSL
Model No.	:	NS620
Power Supply Type	:	Switching
Power Cord	:	Nonshielded (1.8m)
Data Cable	:	Shielded (1.5m)

Note: The EUT is high performance twisted pair transmission technology. Designed for the local loop, from subscriber premises to area exchange central office, the System fully complies with the ETSI RTR/TM-03036 standard.

For more detailed features, please refer to ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT or User's Manual.



2.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories are used to form representative test configuration during the tests.

No.	Product	Brand	Model No.	FCC ID	I/O Cable
1	PERSONAL COMPUTER	HP	D4572A	DoC approved	Nonshielded Power (1.8m)
2	COLOR MONITOR	ADI	PD-959	DoC approved	Shielded Signal (1.5m) Nonshielded Power (1.8m)
3	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.5m) Nonshielded Power (1.8m)
4	KEYBOARD	BTC	5140	E5XKBM10410	Shielded Signal (1.2m)
5	MOUSE	HP	C1413A	B94C1413X	Shielded Signal (1.5m)
6	INTERNET ADVISOR	HP	J2302B	N/A	BNC cable (10m) Nonshielded Power (1.8m)
7	HDSL	TAINET	NS620	N/A	Nonshielded signal (20m) Nonshielded Power (1.8m)

Note: 1. Support unit 6 acted as remote server and send data to EUT. Support unit 7 acted as remote client and received data from EUT.
 2. A 75 ohm resistor load was connected to the EUT via a cable (2m).
 3. A RS232 cable (1.2m) was connected between the EUT and support unit 1.

2.3 TEST METHODOLOGY AND CONFIGURATION

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4:1992. Radiated testing was performed at an antenna to EUT distance of 10 m on an open area test site. Please refer to the photos of test configuration in Item 5.



3. TEST INSTRUMENTS

3.1 TEST INSTRUMENTS (EMISSION)

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8594A	3144A00308	Sept. 3, 1999
HP Preamplifier	8447D	2944A08119	Jan. 20, 1999
ROHDE & SCHWARZ TEST RECEIVER	ESVP	893496/030	July 15, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE Bilog Antenna	CBL6112	2086	Dec. 26, 1998
EMCO Turn Table	1060	1195	N/A
EMCO Tower	1051	1163	N/A
Open Field Test Site	Site 2	ADT-R02	Sept. 26, 1998

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's document NIS81.

2. The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.

CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESH3	893495/006	July 15, 1999
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 16, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	July 14, 1999
EMCO-L.I.S.N.	3825/2	9204-1964	July 14, 1999
Shielded Room	Site 2	ADT-C02	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's document NIS81.

2. The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.



3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

LIMIT OF RADIATED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30 - 230	40	30
230 - 1000	47	37

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

LIMIT OF CONDUCTED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



4. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Frequency Range : 0.15 - 30 MHz (Conducted Emission)
30 - 1000 MHz (Radiated Emission)
Input Voltage : 120 Vac, 60 Hz
Temperature : 28 °C
Humidity : 50 %
Atmospheric Pressure : 1060 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -24.70 dB at 1.550 MHz Minimum passing margin of radiated emission: -3.1 dB at 37.72 & 212.99 MHz

4.1.1 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. PC runs a test program to enable all functions.
3. Internet advisor sends data to EUT and another HDSL receives data from EUT.
4. Repeat steps 2-4.



4.1.2 TEST DATA OF CONDUCTED EMISSION

EUT: **HDSL**MODEL: **NS620**

6 dB Bandwidth: 10 kHz

TEST PERSONNEL: *Lan Jin*

Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.200	38.20	-	37.90	-	63.61	53.61	-25.4	-	-25.7	-
0.330	26.60	-	26.90	-	59.45	49.45	-32.9	-	-32.6	-
0.810	26.90	-	26.60	-	56.00	46.00	-29.1	-	-29.4	-
1.550	28.60	-	31.30	-	56.00	46.00	-27.4	-	-24.7	-
6.880	30.50	-	28.80	-	60.00	50.00	-29.5	-	-31.2	-
12.550	33.50	-	30.20	-	60.00	50.00	-26.5	-	-29.8	-

- Remarks:
1. "*": Undetectable
 2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 4. The emission level of other frequencies were very low against the limit.
 5. Margin value = Emission level - Limit value



4.1.3 TEST DATA OF RADIATED EMISSION

EUT: **HDSL**MODEL: **NS620**

ANTENNA: CHASE BILOG CBL6112

POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *San Lin*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
192.51	12.4	13.6	26.0	30.0	-4.0
200.69	12.9	12.7	25.6	30.0	-4.4
205.57	13.1	12.9	26.0	30.0	-4.0
212.99	13.4	11.5	24.9	30.0	-5.1
267.31	16.6	13.9	30.5	37.0	-6.5
400.01	20.9	2.0	22.9	37.0	-14.1

REMARKS :

1. Emission level (dBuV/m) = Correction Factor(dB/m) + Meter Reading (dBuV).
2. Correction Factor(dB/m) = Ant. Factor(dB/m)+Cable loss(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value



TEST DATA OF RADIATED EMISSION

EUT: **HDSL**MODEL: **NS620**

ANTENNA: CHASE BILOG CBL6112

POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *San Lin*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
37.72	14.9	12.0	26.9	30.0	-3.1
122.85	15.2	9.9	25.1	30.0	-4.9
130.80	15.1	11.0	26.1	30.0	-3.9
186.88	12.6	11.8	24.4	30.0	-5.6
200.67	13.2	13.6	26.8	30.0	-3.2
212.99	13.6	13.3	26.9	30.0	-3.1
224.24	14.1	12.5	26.6	30.0	-3.4
267.30	15.7	11.8	27.5	37.0	-9.5

REMARKS :

1. Emission level (dBuV/m) = Correction Factor(dB/m) + Meter Reading (dBuV).
2. Correction Factor(dB/m) = Ant. Factor(dB/m)+Cable loss(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value



6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT

*** Specifications.**

- Fully compliant with ETSI RTR / TM-03036 standard
- Range up to 4.5 km (2.8 miles) over 4-wire (0.5mm) 24 AWG copper cable
- Full E1 functionally supporting G.703 and G-704.2 Mbps interfaces
- N x 64 Kbps (N=1 to 31) digital interface
- Digital interfaces: RS-530, V.35, X.21 / V.11, V.36 (RS-449)
- Flexible time-slots routing
- Field configurable to serve as LTU (exchange side) or NTU (customer side)
- Embedded channel for control and diagnostics of both central and remote units
- Several power supply alternatives, including remote power feeding
- Support of various applications, such as point to point, point to multi-point, fractional operation, N x 64 Kbps to 2048 Kbps
- 16-slot rack-mount shelf and single slot supervisory enclosure
- Embedded SNMP agent
- SNMP-based network management
- Setup and monitoring via front panel LCD or supervisory port



EMC

TEST REPORT

REPORT NO. : F87030904A
MODEL NO. : NS620
DATE OF TEST : Sept. 22, 1998

PREPARED FOR: TAINET COMMUNICATION SYSTEM CORP.

ADDRESS : 3F, NO. 6, 23 ALLEY, 91 LANE, NEI HU RD.
SEC. 1, TAIPEI, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

12F, NO.1, SEC.4, NAN-KING EAST RD.,
TAIPEI, TAIWAN, R.O.C.

This test report consists of 14 pages in total. It may be duplicated completely for legal use with the allowance of the applicant. It shall not be reproduced except in full, without the written approval of our laboratory. It should not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. government. The test result in the report only applies to the tested sample.



TABLE OF CONTENTS

1. CERTIFICATION.....	3
2. GENERAL INFORMATION	4
2.1 GENERAL DESCRIPTION OF EUT	4
2.2 DESCRIPTION OF SUPPORT UNITS	5
2.3 TEST METHODOLOGY AND CONFIGURATION.....	5
3. TEST INSTRUMENTS	6
3.1 TEST INSTRUMENTS (EMISSION).....	6
3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION.....	7
4. TEST RESULTS (EMISSION)	8
4.1 RADIO DISTURBANCE	8
4.1.1 EUT OPERATION CONDITION	8
4.1.2 TEST DATA OF CONDUCTED EMISSION	9
4.1.3 TEST DATA OF RADIATED EMISSION.....	10
5. PHOTOGRAPHS OF THE TEST CONFIGURATION WITH MINIMUM MARGIN...	12
6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT	14

**1. CERTIFICATION**

Issue Date: Sept. 23, 1998

Product : HDSL
Trade Name : TAINET
Model No. : NS620
Applicant : TAINET COMMUNICATION SYSTEM CORP.
Standard : FCC Part 15, Subpart B, Class B
ANSI C63.4-1992
CISPR 22: 1993 +A1+A2

We hereby certify that one sample of the designation has been tested in our facility on Sept. 22, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of the applicable standards.

TESTED BY: San Lin, DATE: 9/23/98
(San Lin)

CHECKED BY: Sharon Hsiung, DATE: 9/23/98
(Sharon Hsiung)

APPROVED BY: Mike Su, DATE: 9/23/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION**NVLAQ[®]**

Accredited Laboratory



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	HDSL
Model No.	:	NS620
Power Supply Type	:	Switching
Power Cord	:	Nonshielded (1.8m)
Data Cable	:	Shielded (1.5m)

Note: The EUT is high performance twisted pair transmission technology. Designed for the local loop, from subscriber premises to area exchange central office, the System fully complies with the ETSI RTR/TM-03036 standard.

For more detailed features, please refer to ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT or User's Manual.



2.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories are used to form representative test configuration during the tests.

No.	Product	Brand	Model No.	FCC ID	I/O Cable
1	PERSONAL COMPUTER	HP	D4572A	DoC approved	Nonshielded Power (1.8m)
2	COLOR MONITOR	ADI	PD-959	DoC approved	Shielded Signal (1.5m) Nonshielded Power (1.8m)
3	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.5m) Nonshielded Power (1.8m)
4	KEYBOARD	BTC	5140	E5XKBM10410	Shielded Signal (1.2m)
5	MOUSE	HP	C1413A	B94C1413X	Shielded Signal (1.5m)
6	INTERNET ADVISOR	HP	J2302B	N/A	BNC cable (10m) Nonshielded Power (1.8m)
7	HDSL	TAINET	NS620	N/A	Nonshielded signal (20m) Nonshielded Power (1.8m)

Note: 1. Support unit 6 acted as remote server and send data to EUT. Support unit 7 acted as remote client and received data from EUT.

2. A 75 ohm resistor load was connected to the EUT via a cable (2m).

3. A RS232 cable (1.2m) was connected between the EUT and support unit 1.

2.3 TEST METHODOLOGY AND CONFIGURATION

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4:1992. Radiated testing was performed at an antenna to EUT distance of 10 m on an open area test site. Please refer to the photos of test configuration in Item 5.



3. TEST INSTRUMENTS

3.1 TEST INSTRUMENTS (EMISSION)

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8594A	3144A00308	Sept. 3, 1999
HP Preamplifier	8447D	2944A08119	Jan. 20, 1999
ROHDE & SCHWARZ TEST RECEIVER	ESVP	893496/030	July 15, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE Bilog Antenna	CBL6112	2086	Dec. 26, 1998
EMCO Turn Table	1060	1195	N/A
EMCO Tower	1051	1163	N/A
Open Field Test Site	Site 2	ADT-R02	Sept. 26, 1998

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's document NIS81.

2. The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.

CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESH3	893495/006	July 15, 1999
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 16, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	July 14, 1999
EMCO-L.I.S.N.	3825/2	9204-1964	July 14, 1999
Shielded Room	Site 2	ADT-C02	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's document NIS81.

2. The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.



3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

LIMIT OF RADIATED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30 - 230	40	30
230 - 1000	47	37

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

LIMIT OF CONDUCTED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



4. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Frequency Range : 0.15 - 30 MHz (Conducted Emission)
30 - 1000 MHz (Radiated Emission)
Input Voltage : 120 Vac, 60 Hz
Temperature : 28 °C
Humidity : 50 %
Atmospheric Pressure : 1060 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -24.70 dB at 1.550 MHz Minimum passing margin of radiated emission: -3.1 dB at 37.72 & 212.99 MHz

4.1.1 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. PC runs a test program to enable all functions.
3. Internet advisor sends data to EUT and another HDSL receives data from EUT.
4. Repeat steps 2-4.



4.1.2 TEST DATA OF CONDUCTED EMISSION

EUT: HDSL

MODEL: NS620

6 dB Bandwidth: 10 kHz

TEST PERSONNEL: *San Lin*

Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.200	38.20	-	37.90	-	63.61	53.61	-25.4	-	-25.7	-
0.330	26.60	-	26.90	-	59.45	49.45	-32.9	-	-32.6	-
0.810	26.90	-	26.60	-	56.00	46.00	-29.1	-	-29.4	-
1.550	28.60	-	31.30	-	56.00	46.00	-27.4	-	-24.7	-
6.880	30.50	-	28.80	-	60.00	50.00	-29.5	-	-31.2	-
12.550	33.50	-	30.20	-	60.00	50.00	-26.5	-	-29.8	-

- Remarks:
1. "*": Undetectable
 2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 4. The emission level of other frequencies were very low against the limit.
 5. Margin value = Emission level - Limit value



4.1.3 TEST DATA OF RADIATED EMISSION

EUT: **HDSL**MODEL: **NS620**

ANTENNA: CHASE BILOG CBL6112

POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *San Lin*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
192.51	12.4	13.6	26.0	30.0	-4.0
200.69	12.9	12.7	25.6	30.0	-4.4
205.57	13.1	12.9	26.0	30.0	-4.0
212.99	13.4	11.5	24.9	30.0	-5.1
267.31	16.6	13.9	30.5	37.0	-6.5
400.01	20.9	2.0	22.9	37.0	-14.1

- REMARKS :
1. Emission level (dBuV/m) = Correction Factor(dB/m) + Meter Reading (dBuV).
 2. Correction Factor(dB/m) = Ant. Factor(dB/m) + Cable loss(dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level - Limit value



TEST DATA OF RADIATED EMISSION

EUT: HDSL

MODEL: NS620

ANTENNA: CHASE BILOG CBL6112

POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *San lin*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data dBuV	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
37.72	14.9	12.0	26.9	30.0	-3.1
122.85	15.2	9.9	25.1	30.0	-4.9
130.80	15.1	11.0	26.1	30.0	-3.9
186.88	12.6	11.8	24.4	30.0	-5.6
200.67	13.2	13.6	26.8	30.0	-3.2
212.99	13.6	13.3	26.9	30.0	-3.1
224.24	14.1	12.5	26.6	30.0	-3.4
267.30	15.7	11.8	27.5	37.0	-9.5

- REMARKS :
1. Emission level (dBuV/m) = Correction Factor(dB/m) + Meter Reading (dBuV).
 2. Correction Factor(dB/m) = Ant. Factor(dB/m) + Cable loss(dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level - Limit value



6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT

* Specifications.

- Fully compliant with ETSI RTR / TM-03036 standard
- Range up to 4.5 km (2.8 miles) over 4-wire (0.5mm) 24 AWG copper cable
- Full E1 functionally supporting G.703 and G-704.2 Mbps interfaces
- N x 64 Kbps (N=1 to 31) digital interface
- Digital interfaces: RS-530, V.35, X.21 / V.11, V.36 (RS-449)
- Flexible time-slots routing
- Field configurable to serve as LTU (exchange side) or NTU (customer side)
- Embedded channel for control and diagnostics of both central and remote units
- Several power supply alternatives, including remote power feeding
- Support of various applications, such as point to point, point to multi-point, fractional operation, N x 64 Kbps to 2048 Kbps
- 16-slot rack-mount shelf and single slot supervisory enclosure
- Embedded SNMP agent
- SNMP-based network management
- Setup and monitoring via front panel LCD or supervisory port