National Enhance Technology Corp.

Test Report

Model Number：NV-202

Product Name：VDSL2 LAN extender

Test Type：Performance test

Test by：Aska

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Date：2015/03/09

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◆ Test Environments:

Test Items	Descriptions
VDSL2 extender x 1	NV-202 (CO Mode)
CPE Device	NV-202 / NV-202P (CPE Mode)
Operation System	Windows XP
Ethernet Cable	Cat 5e. UTP RJ-45 8P8C Ethernet Cable
Loop Simulator	Simulator Card (24AWG)
Room temperature	25 degree C

Test A conditions:

Test Items	Descriptions
Noise injection	None
Spectrum: **300K~30MHz**	VDSL 2 Low Band Mode / Config CO side pin2 OFF via DIP Switch
SNRM: **9db**	Config CO side pin3 ON via DIP Switch
Interleave / INP: **8ms/ INP=2**	Config CO side pin4 ON via DIP Switch

Test B conditions:

Test Items	Descriptions
Noise injection	None
Spectrum: **500K~30MHz**	VDSL 2 High Band Mode / Config CO side pin2 ON via DIP Switch
SNRM: **9db**	Config CO side pin3 ON via DIP Switch
Interleave / INP: **8ms/ INP=2**	Config CO side pin4 ON via DIP Switch

◆ NV-202 with NV-202/NV-202P Performance table

■ Test A procedure:

- ◆ Connect all devices.
- ◆ Test low band mode (Spectrum: **300K~30MHz**) performance. (Config CO side pin2 OFF via DIP Switch)

Note: SNRM value is 6db (Pin3 off) and Interleave/INP value is 1ms/0(Pin4 off).

- ◆ Test SNRM(**9 db**) performance.(Config CO side pin3 ON via DIP Switch)

Note: Low band mode enable (Pin2 off) , and Interleave delay/INP value is 1ms/0(Pin4 off).

- ◆ Test Interleave / INP (**8ms/ INP=2)** performance. (Config CO side pin4 ON via DIP Switch)

Note: Low band mode enable (Pin2 off), and SNRM mode value is 6db(Pin3 off).

SNRM 6db		
Cable Length (meters)	US [Mbps]	DS [Mbps]
100	100	100
200	100	100
300	100	100
400	72.91	73.30
600	46.99	44.25
800	28.58	26.87
1000	23.04	22.03
1200	16.81	16.82
1400	12.33	16.53
1600	5.72	15.90
1800	4.65	15.08
2000	2.50	14.92
2200	2.05	13.36
2400	1.94	11.52
2600	1.80	9.010
2800	1.73	7.14
3000	1.65	5.43

SNRM 9db		
Cable Length (meters)	US [Mbps]	DS [Mbps]
100	100	100
200	100	100
300	88.44	86.93
400	64.03	64.93
600	43.38	36.40
800	25.12	23.90
1000	20.35	18.83
1200	14.35	14.70
1400	9.91	14.71
1600	4.91	12.82
1800	2.45	13.07
2000	1.82	11.65
2200	1.74	10.10
2400	1.57	8.53
2600	1.55	6.61
2800	1.36	4.91
3000	1.31	3.18

Interleave delay:8ms/INP=2		
Cable Length (meters)	US [Mbps]	DS [Mbps]
100	100	100
200	100	100
300	95.03	94.51
400	71.97	74.51
600	49.47	42.71
800	30.79	26.27
1000	24.44	20.16
1200	17.55	16.07
1400	11.81	14.54
1600	5.720	13.73
1800	3.720	13.14
2000	2.74	11.79
2200	1.84	10.36
2400	1.75	8.79
2600	1.70	7.04
2800	1.28	4.59
3000	1.30	4.22

Notes:

- ◆ DS: Downstream; US: Upstream. Actual Data Rate Unit: Mbps
- ◆ The performance data above is for reference only, the actual data rate will vary depending on the quality of the copper wire and environment factors.

■ **Test B procedure:**

1. Connect all device.
2. Test high band mode(Spectrum: **500K~30MHz**) performance. (Config CO side pin2 ON via DIP Switch).

Note: SNRM value is 6db(Pin3 off) and Interleave/INP value is 1ms/0(Pin4 off).

3. Test SNRM(**9 db**) performance.(Config CO side pin3 ON via DIP Switch)

Note: High band mode enable(Pin2 on) , and Interleave delay/INP value is 1ms/0(Pin4 off).

4. Test Interleave / INP(**8ms/ INP=2)** performance. (Config CO side pin4 ON via DIP Switch)

Note: High band mode enable(Pin2 on), and SNRM mode value is 6db(Pin3 off).

SNRM 6db		
Cable Length (meters)	US [Mbps]	DS [Mbps]
100	100	100
200	100	100
300	100	90.41
400	74.06	75.61
600	42.18	44.17
800	24.60	29.97
1000	19.14	27.39
1200	14.34	18.51
1400	14.3	13.78
1600	11.11	7.98
1800	8.74	7.12
2000	8.34	6.07
2200	5.48	5.72
2400	3.39	5.27
2600	1.72	4.78
2800	0.71	4.42

SNRM 9db		
Cable Length (meters)	US [Mbps]	DS [Mbps]
100	100	100
200	100	100
300	95.76	83.44
400	63.76	65.78
600	38.49	34.17
800	18.60	29.30
1000	16.01	17.75
1200	12.72	13.02
1400	12.92	9.50
1600	9.33	6.11
1800	6.75	5.57
2000	5.30	5.07
2200	3.07	4.82
2400	1.65	4.33
2600	0.65	3.43
2700	0.34	3.60

Interleave delay:8ms/INP=2		
Cable Length (meters)	US [Mbps]	DS [Mbps]
100	100	100
200	100	100
300	100	88.14
400	73.34	72.81
600	41.66	42.64
800	20.36	30.77
1000	18.54	26.29
1200	14.16	18.14
1400	12.22	11.57
1600	9.91	6.89
1800	8.66	5.22
2000	6.090	5.55
2200	3.80	5.01
2400	2.04	4.56
2600	1.07	3.91
2800	0.24	2.44

Notes:

- DS: Downstream; US: Upstream. Actual Data Rate Unit: Mbps
- The performance data above is for reference only, the actual data rate will vary depending on the quality of the copper wire and environment factors.