

APPENDIX A – Test Data

Summary of Test Results



Test Date(s): November 12, 2004

Test Engineer:



Table A-1. Summary of Test Results

FCC Part 15 Section	Description	Result
15.107	Conducted Emissions	PASS
15.109	Radiated Spurious Emissions	PASS

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A1

APPENDIX A – Test Data (Cont.)

Radiated Test Data/Plots

FREQ (MHz)	Level (dBm)	AFCL (dB/m)	POL (H/V)	Height (m)	Azimuth (° angle)	F/S (uV/M)	Margin (dB)
72.77	-81.03	6.63	V	2.6	120	42.71	-7.4
135.40	-86.23	12.63	V	2.2	330	46.82	-10.1
157.89	-89.35	14.15	V	2.6	90	38.95	-11.7
203.11	-88.54	16.64	H	1.5	225	56.94	-8.4
304.62	-90.96	20.77	H	1.6	180	69.23	-9.2
432.62	-92.38	24.48	H	1.4	90	90.21	-6.9



Table A-2. Radiated Measurements at 3-meters

Sample #1 S/N: 4XJ1010S111

NOTES:

1. All modes of operation were investigated and the worst-case emissions are reported.
2. The radiated limits are shown on Figure A-1. Above 1 GHz the limit is 500µV/m.

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- 1 All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (NIST).
 - 2 AFCL = Antenna Factor (Roberts dipole) and Cable Loss (30 ft. RG58C/U).
 - 3 Measurements using CISPR quasi-peak mode. Above 1GHz, peak detector function mode is used with a resolution bandwidth of 1MHz and a video bandwidth of 1MHz. The peak level complies with the average limit. Peak mode is used with linearly polarized horn antenna and low-loss microwave cable.

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A2

APPENDIX A – Test Data (Cont.)

Radiated Test Data/Plots

FREQ (MHz)	Level (dBm)	AFCL (dB/m)	POL (H/V)	Height (m)	Azimuth (° angle)	F/S (uV/M)	Margin (dB)
72.96	-80.85	6.66	V	2.5	120	43.70	-7.2
135.48	-85.53	12.64	V	2.1	330	50.75	-9.4
152.40	-87.36	13.77	V	2.4	90	46.82	-10.1
203.21	-88.24	16.65	H	1.4	225	58.93	-8.1
304.83	-92.17	20.77	H	1.4	180	60.31	-10.4
423.38	-95.06	24.26	H	1.5	90	64.62	-9.8



Table A-2. Radiated Measurements at 3-meters

Sample #2 S/N: 4XJ1011S111

NOTES:

1. All modes of operation were investigated and the worst-case emissions are reported.
2. The radiated limits are shown on Figure A-1. Above 1 GHz the limit is 500µV/m.

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- 1 All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (NIST).
 - 2 AFCL = Antenna Factor (Roberts dipole) and Cable Loss (30 ft. RG58C/U).
 - 3 Measurements using CISPR quasi-peak mode. Above 1GHz, peak detector function mode is used with a resolution bandwidth of 1MHz and a video bandwidth of 1MHz. The peak level complies with the average limit. Peak mode is used with linearly polarized horn antenna and low-loss microwave cable.

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A3

APPENDIX A – Test Data (Cont.)

Radiated Test Data/Plots

FREQ (MHz)	Level (dBm)	AFCL (dB/m)	POL (H/V)	Height (m)	Azimuth (° angle)	F/S (uV/M)	Margin (dB)
56.83	-79.22	4.33	V	2.3	45	40.32	-7.9
118.44	-86.65	11.36	V	2.5	160	38.51	-11.8
157.93	-86.05	14.16	V	2.1	90	56.94	-8.4
203.08	-87.64	16.64	H	1.3	225	63.15	-7.5
304.54	-90.16	20.76	H	1.4	180	75.91	-8.4
432.64	-93.08	24.48	H	1.6	90	83.23	-7.6



Table A-2. Radiated Measurements at 3-meters

Sample #3 S/N: 4XJ1009S111

NOTES:

1. All modes of operation were investigated and the worst-case emissions are reported.
2. The radiated limits are shown on Figure A-1. Above 1 GHz the limit is 500µV/m.

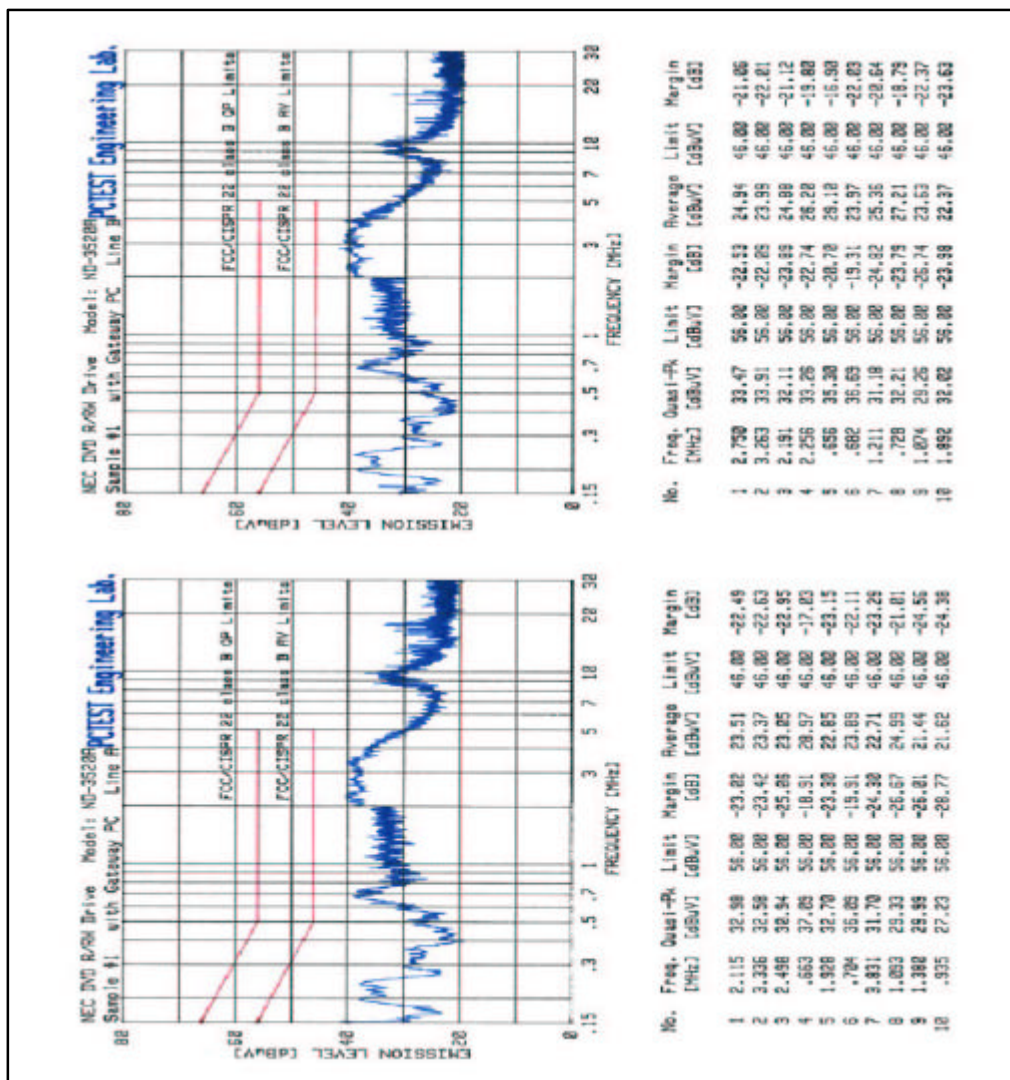
-
- 1 All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (NIST).
 - 2 AFCL = Antenna Factor (Roberts dipole) and Cable Loss (30 ft. RG58C/U).
 - 3 Measurements using CISPR quasi-peak mode. Above 1GHz, peak detector function mode is used with a resolution bandwidth of 1MHz and a video bandwidth of 1MHz. The peak level complies with the average limit. Peak mode is used with linearly polarized horn antenna and low-loss microwave cable.

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A4

APPENDIX A – Test Data (Cont.)

Line-Conducted Test Data



Plot A-1. Line-Conducted Test Plot



Sample #1 S/N: 4XJ1010S111

Notes:

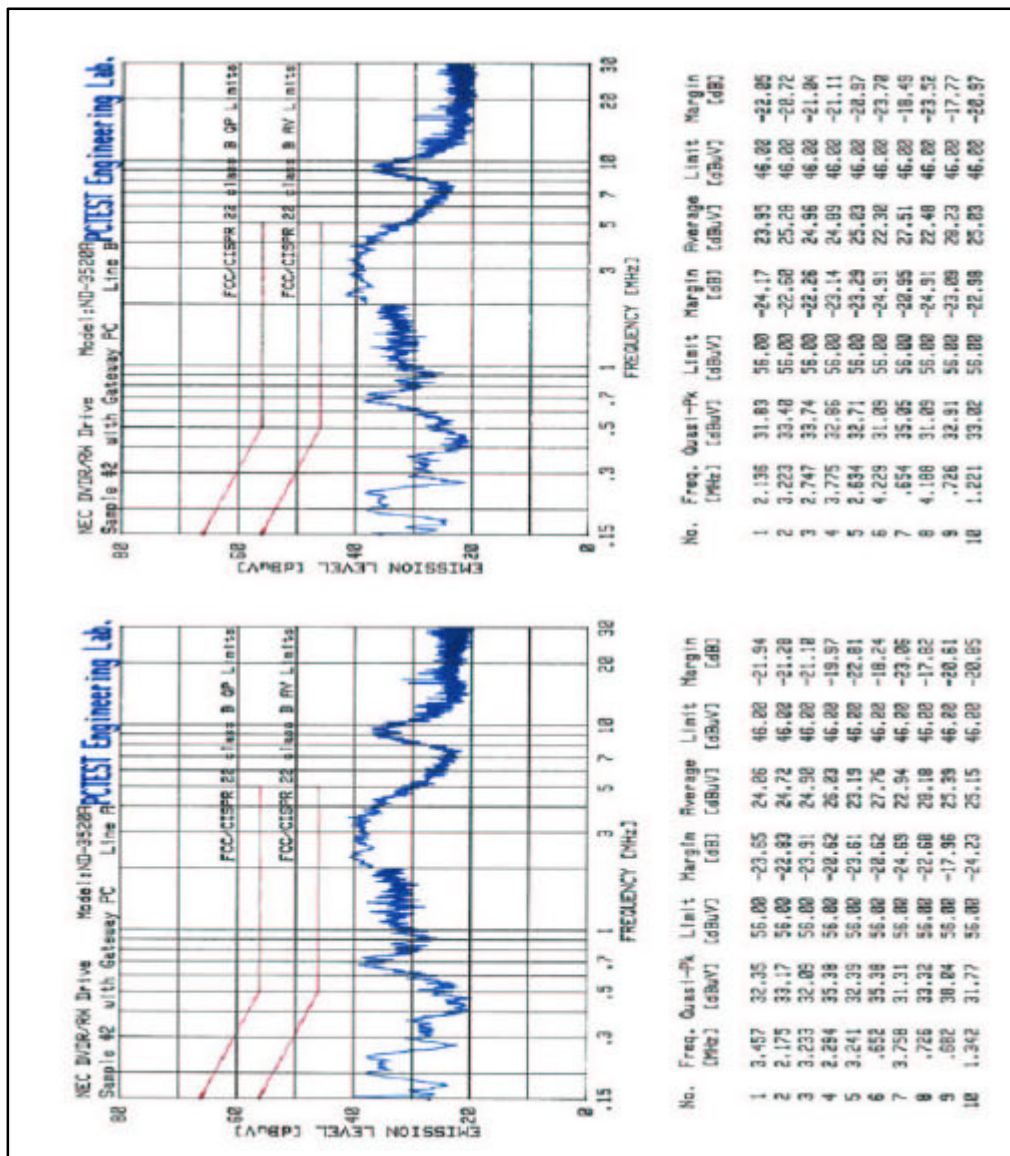
- All Modes of operation were investigated and the worst-case emissions are reported.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in EN55022.
- Line A = Phase; Line B = Neutral
- Deviations to the Specifications: *None.*

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A5

APPENDIX A – Test Data (Cont.)

Line-Conducted Test Data



Plot A-2. Line-Conducted Test Plot



Sample #2 S/N: 4XJ1011S111

Notes:

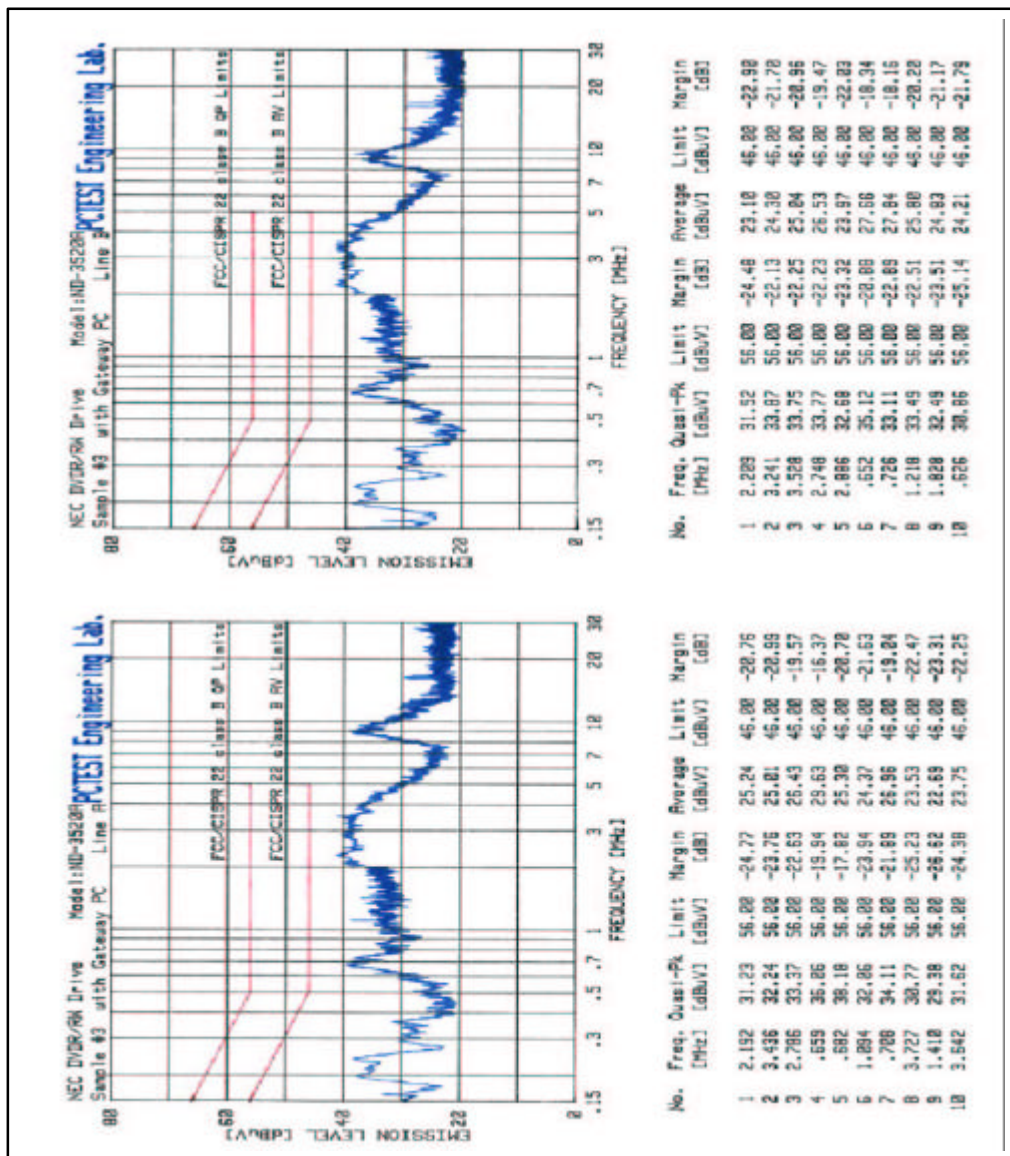
- All Modes of operation were investigated and the worst-case emissions are reported.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in EN55022.
- Line A = Phase; Line B = Neutral
- Deviations to the Specifications: *None.*

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A6

APPENDIX A – Test Data (Cont.)

Line-Conducted Test Data



Plot A-3. Line-Conducted Test Plot



Sample #3 S/N: 4XJ1009S111

Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in EN55022.
3. Line A = Phase; Line B = Neutral
4. Deviations to the Specifications: *None.*



PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A7

APPENDIX A – Test Data (Cont.)

Test Support Equipment Used

1. NEC Internal DVD R/RW Drive	FCC ID: A3DND-3520A (EUT) 0.6 m. unshielded analog audio cable 0.6 m. unshielded digital audio cable	S/N: 4XJ1010S111 4XJ1011S111 4XJ1009S111
2. GATEWAY Mid Tower PC	Model: MFATXPNT-MDSB-4100-ACP04 1.8 m. unshielded AC power cord	S/N: 0031627700
3. H/P THINKJET Printer	FCC ID: DS16XU2225C 1.8 m. unshielded AC power cord 1.5 m. shielded parallel cable	S/N: 2604S10169
5. LOGITECH Mouse	Model: JNZ211443 1.8 m. shielded data cable	S/N: HCA31609334
6. GATEWAY Keyboard	Model: SK1510 1.8 m. shielded cable	S/N: C924775
7. ZOOM Modem	FCC ID: BDNV34MINI-EXT 1.8 m. unshielded DC power cord 1.2 m. shielded serial cable	S/N: 3117M4X40211
8. SONY Monitor	Model: SDM-X53 1.8 m. shielded D-SUB cable 1.8 m. unshielded AC power cord	S/N: N/A

Note: See Attachment G – Test Setup Photographs, for actual system test setup.

PCTEST PT. 15. REPORT		MEASUREMENT REPORT FCC Part 15B		Reviewed by: Quality Manager
Filename: B. 241029592.A3D	Test Dates: Nov. 12, 2004	EUT: Internal DVD R/ RW Drive	FCC ID: A3DND-3520A	Page A8