

<u>APPENDIX A – Test Data</u> <u>Summary of Test Results</u>

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

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<u>APPENDIX A – Test Data (Cont.)</u>

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	Н	1.5	225	56.94	-8.4
304.62	-90.96	20.77	Н	1.6	180	69.23	-9.2
432.62	-92.38	24.48	Н	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 $500\mu V/m$.

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.

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All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (NIST).

AFCL = Antenna Factor (Roberts dipole) and Cable Loss (30 ft. RG58C/U).



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	Н	1.4	225	58.93	-8.1
304.83	-92.17	20.77	Н	1.4	180	60.31	-10.4
423.38	-95.06	24.26	Н	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 $500\mu V/m$.

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.

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All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (NIST).

AFCL = Antenna Factor (Roberts dipole) and Cable Loss (30 ft. RG58C/U).



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	Н	1.3	225	63.15	-7.5
304.54	-90.16	20.76	Н	1.4	180	75.91	-8.4
432.64	-93.08	24.48	Н	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 $500\mu V/m$.

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.

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AFCL = Antenna Factor (Roberts dipole) and Cable Loss (30 ft. RG58C/U).



Line-Conducted Test Data

53 è ********** 2 C Line BRIEST PREQUENCY DINES Model: Gateury PC List 2222222222 *** DVD BASH Drive . Collect - Pk 11 17 Suple #1 25.25 14.12 15.25 er! l un 9 500 Linita 68 B CB B RV Linit (dBw) 20 **** Madel: ND-35289PCEST S. PCC-C19PR E 24

Plot A-1. Line-Conducted Test Plot

Sample #1 S/N: 4XJ1010S111

FREQUENCY

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in

Linit

Outs 1-Pk [dBuy]

E E

2.115 3.336 2.498 1.928 1.928 1.933 1.382 1.382

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Notes:

with Gateway DVD RARM Brive

- 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
- Deviations to the Specifications: None.

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Line-Conducted Test Data

83 8 È Node | 1/10-3528PCTEST REQUENCY Lieit (dBuV) 2222222222 Gateury -Cuss I-Pk NEC DVDRAM Drive 12 w Sample #2 12 88 SH OP Linits 23.52.52 23.52.53 23.53.54 23.54 83 2 9999999999 WadelIND-35289 zzzzzzzzzzz FCC-CISPR 2542222242 Gatsuay PC Limit 2222222222 Cuss 1-Pk [4Buv] ٠. PINE IN with with 'n NEC DATRORM Sample 42 3,241,73 in in - N. T. T. C. C. C. C. C. EWIRSTON LEVEL (ABLV)

Plot A-2. Line-Conducted Test Plot

Sample #2 S/N: 4XJ1011S111

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.

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Line-Conducted Test Data

-22.98 -28.96 -18.34 -18.34 -18.15 -28.28 -28.28 -21.73 20 8 2 Model:ND-35286 1000 1 8 CABAN1 [48.W] 222222222 DVDR-SM Drive No ole 63 with Gategay 88888888888 m; Sample #3 m 2.283 3.241 3.528 2.886 5.886 5.52 7.56 1.218 1.218 1.828 1 12 - N m 4 m m r m m m 200 -28.78 -19.57 -19.57 -19.63 -28.78 -28.78 -28.78 -28.78 -28.78 82 5 è 00 Line RMEST ***** FREGLENCY B S Lint: [dBu/] 22222222222 Gateusy **** -Oussi-Pk [dBuy] Dr Ive = w DVDR/6W le 43 NEC ė 83

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.

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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.

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