

Panasonic Shikoku Electronics Co., Ltd.

Visual Products Business Unit
Address: 247 Fukutake, Saijo, Ehime 793 - 8510 Japan
Tel: 0897 - 56 - 1216 / Fax: 0897 - 56 - 6720

Date: Apr. 28, 2005

REPORT OF MEASUREMENTS-(Part I) REQUIRED IN (X) SUBPART B (TV INTERFACE DEVICE)

EXHIBIT # : 3
FCC ID : ACJ927149AHVI
OUR REF. : PSEC-SJ05-F001
MODEL NO. : AG-VP320
Sheet 1 of 26 Sheets

Name of Manufacturer : Panasonic Shikoku Electronics Co., Ltd.

Address of Manufacturer : 247 Fukutake, Saijo, Ehime, Japan

Device Under Measurement

FCC ID : ACJ927149AHVI

Model No. : AG-VP320

Trade Name : Panasonic

Applicant : Matsushita Electric Ind. Co., Ltd.

This device is a representative model of KG-25WHGD chassis group.

Data Also Applied To

FCC ID Model No.(Trade Name)

Device Description

Name of Device : Video Cassette Recorder with DVD Player

Frequency : VHF 3 or 4 ch.

Video Line Terminals : (X) Provided, () Not Provided

RF Out Cable (0.9 m), Video/Audio out Cable (1.5 m)

Component Video Cable (1.5 m), S-Video Cable (1.5 m)

Audio out Cable (1.5 m)

Certification

On the basis of the measurement data contained in Part II, all devices bearing the aforementioned FCC ID (model No., chassis No., and trade names) are stated by the undersigned to be capable of complying with the applicable sections of Part 15 of the FCC rules governing restricted radiation devices at the time of manufacture and may be expected to continue to comply under normal conditions and with usual maintenance.

The undersigned also states that the device measured was an engineering prototype, pre production, or production unit. If changes are applied to future units and such changes adversely alter spurious radiation, an amended report of measurements will be supplied to the FCC.



K. Ishikawa
Manager

Panasonic Shikoku Electronics Co., Ltd.

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EXHIBIT # : 3
FCC ID : ACI927149AHVI
OUR REF. : PSEC-SJ05-F001
MODEL NO. : AG-VP320
Sheet 2 of 26 Sheets

Tuner: ENG56D06G1
Part 15 Subpart B, (TV Interface Device)- Part

1) 15.107 Power Line Conducted Voltage

| Freq. (MHz) | Mode | Limits (dBuV) | Interference (dBuV) | |
|-------------|---------|---------------|---------------------|----------------|
| | | | V _A | V _B |
| 0.150 | Q-Peak | 66.0 | 44.4 | 44.1 |
| 0.280 | Average | 50.6 | 38.0 | 31.7 |
| 0.398 | Average | 47.9 | 32.2 | 30.0 |
| 0.555 | Average | 46.0 | 35.6 | 33.9 |
| 0.555 | Q-Peak | 56.0 | 38.0 | 36.3 |
| 0.836 | Average | 46.0 | 28.0 | 25.6 |

(Refer to Sheet 5, 6, 25 of 26 Sheets)

2) 15.109 Radiated Emission(Including Tuner)

| Freq. (MHz) | Limits (dBuV/m) | Emission (dBuV/m) | |
|-------------|-----------------|-------------------|-------|
| | | Horiz. | Vert. |
| 270.00 | 46.0 | 37.5 | 37.9 |
| 303.76 | 46.0 | 32.4 | 35.5 |
| 316.68 | 46.0 | 37.2 | 33.0 |
| 553.00 | 46.0 | 35.2 | 39.7 |
| 626.71 | 46.0 | 30.9 | 38.1 |
| 700.39 | 46.0 | 30.5 | 36.2 |

(Refer to Sheet 7, 26 of 26 Sheets)

Note: Without Laurel Antenna
With accessories

3) 15.111(a) Antenna Power Conducted Voltage

| Freq. (MHz) | Limits (dBuV) | Conducted Voltage (dBuV) |
|-------------|---------------|--------------------------|
| 1646.0 | 51.8 | 32.6 |
| 1654.0 | 51.8 | 32.8 |
| 1658.0 | 51.8 | 33.6 |
| 1666.0 | 51.8 | 33.1 |
| 1670.0 | 51.8 | 32.4 |
| 1678.0 | 51.8 | 31.0 |

(Refer to Sheet 8 of 26 Sheets)

4) 15.115(b)(1) Output Signal Level

| Ch | Limits (dBuV) | | Level (dBuV) | |
|----|---------------|-------|--------------|-------|
| | Visual | Aural | Visual | Aural |
| 3 | 69.5 | 56.5 | 65.5 | 50.7 |
| 4 | 69.5 | 56.5 | 65.2 | 50.1 |

(Refer to Sheet 9 of 26 Sheets)

5) 15.115(b)(2) Output Terminal Conducted Interference

| Ch | Freq. (MHz) | Limits (dBuV) | Interference (dBuV) |
|----|-------------|---------------|---------------------|
| 3 | 43.34 | 39.5 | 24.1 |
| | 47.70 | 39.5 | 22.7 |
| | 50.50 | 39.5 | 28.5 |
| | 72.00 | 39.5 | 25.9 |
| | 245.0 | 39.5 | 24.4 |
| | 490.0 | 39.5 | 28.8 |
| 4 | 49.39 | 39.5 | 24.3 |
| | 53.72 | 39.5 | 21.6 |
| | 56.50 | 39.5 | 27.8 |
| | 78.00 | 39.5 | 26.5 |
| | 269.00 | 39.5 | 27.7 |
| | 538.00 | 39.5 | 27.4 |

(Refer to Sheet 10, 11 of 31 Sheets)

6) 15.115(c) Transfer SW Isolation

| Ch | Limits (dBuV) | Level (dBuV) |
|----|---------------|--------------|
| 3 | 9.5 | <3.9 |
| 4 | 9.5 | 4.8 |

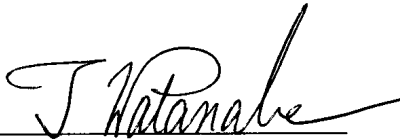
(Refer to Sheet 12 of 26 Sheets)

MEASUREMENT SITE : MKS Site
MEASUREMENT PROCEDURE : ANSI C63.4-2003

Note:(1) Detailed report: Refer to attached sheets.

I HEREBY STATE THAT: The measurements shown in Part II of this form were made in accordance with the procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

I FURTHER STATE THAT: On the basis of the measurements made, the device tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.


T. Watanabe
Engineer

Panasonic Shikoku Electronics Co., Ltd.

Visual Products Business Unit
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EXHIBIT # : 3
 FCC ID : ACJ927149AHVI
 OUR REF. : PSEC-SJ05-F001
 MODEL NO. : AG-VP320
 Sheet 3 of 26 Sheets

Tuner: TMZH2-035A
 Part 15 Subpart B, (TV Interface Device)- Part

2) 15.109 Radiated Emission(Including Tuner)

| Freq. (MHz) | Limits (dBuV/m) | Emission (dBuV/m) | |
|----------------|--------------------|-------------------|-------|
| | | Horiz. | Vert. |
| 270.00 | 46.0 | 36.8 | 38.5 |
| 303.76 | 46.0 | 33.4 | 36.4 |
| 316.68 | 46.0 | 37.5 | 32.8 |
| 553.00 | 46.0 | 35.7 | 38.8 |
| 626.71 | 46.0 | 31.1 | 38.5 |
| 700.39 | 46.0 | 30.7 | 35.4 |

(Refer to Sheet 13, 26 of 26 Sheets)

Note: Without Laurel Antenna
 With accessories

3) 15.111 Antenna Power Conducted Voltage

| Freq. (MHz) | Limits (dBuV) | Conducted Voltage (dBuV) |
|----------------|------------------|-----------------------------|
| 1018.0 | 51.8 | 38.6 |
| 1030.0 | 51.8 | 39.2 |
| 1034.0 | 51.8 | 40.7 |
| 1042.0 | 51.8 | 40.5 |
| 1046.0 | 51.8 | 38.8 |
| 1054.0 | 51.8 | 38.6 |

(Refer to Sheet 14 of 26 Sheets)

4) 15.115(b)(1) Output Signal Level

| Ch | Limits (dBuV) | | Level (dBuV) | |
|----|---------------|-------|--------------|-------|
| | Visual | Aural | Visual | Aural |
| 3 | 69.5 | 56.5 | 65.2 | 50.3 |
| 4 | 69.5 | 56.5 | 65.1 | 49.9 |

(Refer to Sheet 15 of 26 Sheets)

5) 15.115(b)(2) Output Terminal
 Conducted Interference

| Ch | Freq. (MHz) | Limits (dBuV) | Interference (dBuV) |
|----|----------------|------------------|------------------------|
| 3 | 43.33 | 39.5 | 22.0 |
| | 47.72 | 39.5 | 21.8 |
| | 50.50 | 39.5 | 28.7 |
| | 72.00 | 39.5 | 28.0 |
| | 79.13 | 39.5 | 22.3 |
| | 122.50 | 39.5 | 30.8 |
| 4 | 42.17 | 39.5 | 22.0 |
| | 49.39 | 39.5 | 21.3 |
| | 56.50 | 39.5 | 28.4 |
| | 78.00 | 39.5 | 27.0 |
| | 85.14 | 39.5 | 23.5 |
| | 134.50 | 39.5 | 29.4 |

(Refer to Sheet 16, 17 of 26 Sheets)

6) 15.115© Transfer SW Isolation

| Ch | Limits (dBuV) | Level (dBuV) |
|----|------------------|-----------------|
| 3 | 9.5 | <3.9 |
| 4 | 9.5 | <3.9 |

(Refer to Sheet 18 of 26 Sheets)

MEASUERMENT SITE : MKS Site
 MEASUERMENT PROCEDURE : ANSI C63.4-2003

Note:(1) Detailed report: Refer to attached sheets.

I HEREBY STATE THAT: The measurements shown in Part II of this form were made in accordance with the procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

I FURTHER STATE THAT: On the basis of the measurements made, the device tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.



T. Watanabe
 Engineer

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EXHIBIT # : 3
 FCC ID : ACI927149AHVI
 OUR REF. : PSEC-SJ05-F001
 MODEL NO. : AG-VP320
 Sheet 4 of 26 Sheets

Tuner: 115-V-HA35AK
 Part 15 Subpart B, (TV Interface Device)- Part
 2)15.109 Radiated Emission(Including Tuner)

| Freq. (MHz) | Limits (dBuV/m) | Emission (dBuV/m) | |
|----------------|--------------------|-------------------|-------|
| | | Horiz. | Vert. |
| 270.00 | 46.0 | 38.1 | 36.9 |
| 303.76 | 46.0 | 33.5 | 36.1 |
| 316.68 | 46.0 | 36.7 | 33.5 |
| 553.00 | 46.0 | 34.9 | 38.8 |
| 626.71 | 46.0 | 31.4 | 38.4 |
| 700.39 | 46.0 | 31.8 | 36.7 |

(Refer to Sheet 19, 26 of 26 Sheets)
 Note: Without Laurel Antenna
 With accessories

3) 15.111 Antenna Power Conducted Voltage

| Freq. (MHz) | Limits (dBuV) | Conducted Voltage (dBuV) |
|----------------|------------------|-----------------------------|
| 631.0 | 51.8 | 23.7 |
| 635.0 | 51.8 | 23.9 |
| 637.0 | 51.8 | 24.8 |
| 641.0 | 51.8 | 24.1 |
| 643.0 | 51.8 | 23.5 |
| 647.0 | 51.8 | 23.4 |

(Refer to Sheet 20 of 26 Sheets)

4) 15.115(b)(1) Output Signal Level

| Ch | Limits (dBuV) | | Level (dBuV) | |
|----|---------------|-------|--------------|-------|
| | Visual | Aural | Visual | Aural |
| 3 | 69.5 | 56.5 | 65.8 | 50.1 |
| 4 | 69.5 | 56.5 | 65.7 | 49.9 |

(Refer to Sheet 21 of 26 Sheets)

5) 15.115(b)(2) Output Terminal
 Conducted Interference

| Ch | Freq. (MHz) | Limits (dBuV) | Interference (dBuV) |
|----|----------------|------------------|------------------------|
| 3 | 43.34 | 39.5 | 24.2 |
| | 47.73 | 39.5 | 23.0 |
| | 50.50 | 39.5 | 28.8 |
| | 72.00 | 39.5 | 28.1 |
| | 79.13 | 39.5 | 20.4 |
| | 122.50 | 39.5 | 23.1 |
| 4 | 49.34 | 39.5 | 23.5 |
| | 53.70 | 39.5 | 22.1 |
| | 56.50 | 39.5 | 28.5 |
| | 78.00 | 39.5 | 26.8 |
| | 85.14 | 39.5 | 21.9 |
| | 201.75 | 39.5 | 20.5 |

(Refer to Sheet 22, 23 of 26 Sheets)

6) 15.115© Transfer SW Isolation

| Ch | Limits (dBuV) | Level (dBuV) |
|----|------------------|-----------------|
| 3 | 9.5 | <3.9 |
| 4 | 9.5 | <3.9 |

(Refer to Sheet 24 of 26 Sheets)

MEASUERMENT SITE : MKS Site
 MEASUERMENT PROCEDURE : ANSI C63.4-2003

Note:(1) Detailed report: Refer to attached sheets.

I HEREBY STATE THAT: The measurements shown in Part II of this form were made in accordance with the procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

I FURTHER STATE THAT: On the basis of the measurements made, the device tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.



T. Watanabe
 Engineer

Part 15 Subpart B, (TV Interface Device)

1) 15.107 Power Line Conducted Voltage

| Video Signal | Freq. (MHz) | Mode | Meter Reading (dBuV) | | LISN Factor (dB) | | Interference (dBuV) | | Limits (dBuV) | Margin (dB) | |
|-----------------------------------|--------------|---------|----------------------|----------------|------------------|----------------|---------------------|----------------|---------------|--------------------|----------------|
| | | | V _A | V _B | V _A | V _B | V _A | V _B | | V _A | V _B |
| Multi Burst 1 V p-p | 0.150 | Q-Peak | <u>43.2</u> | 42.8 | 0.3 | 0.3 | <u>43.5</u> | 43.1 | 66.0 | <u>22.5</u> | 22.9 |
| | 0.150 | Average | 10.0 | 9.3 | 0.3 | 0.3 | 10.3 | 9.6 | 56.0 | 45.7 | 46.4 |
| | 0.280 | Average | <u>37.3</u> | 31.2 | 0.1 | 0.1 | <u>37.4</u> | 31.3 | 50.6 | <u>13.2</u> | 19.3 |
| | 0.398 | Average | <u>31.7</u> | 30.4 | 0.1 | 0.1 | <u>31.8</u> | 30.5 | 47.9 | <u>16.1</u> | 17.4 |
| | 0.555 | Average | <u>34.6</u> | 35.7 | 0.0 | 0.0 | <u>34.6</u> | 35.7 | 46.0 | <u>11.4</u> | 10.3 |
| | 0.555 | Q-Peak | <u>37.5</u> | 35.4 | 0.0 | 0.0 | <u>37.5</u> | 35.4 | 56.0 | <u>18.5</u> | 20.6 |
| | 0.836 | Average | <u>27.6</u> | 24.9 | 0.0 | 0.0 | <u>27.6</u> | 24.9 | 46.0 | <u>18.4</u> | 21.1 |
| | 1.390 | Average | 20.5 | 20.2 | 0.0 | 0.0 | 20.5 | 20.2 | 46.0 | 25.5 | 25.8 |
| Multi Burst 5 V p-p | 0.150 | Q-Peak | <u>42.8</u> | 42.6 | 0.3 | 0.3 | <u>43.1</u> | 42.9 | 66.0 | <u>22.9</u> | 23.1 |
| | 0.150 | Average | 9.8 | 9.4 | 0.3 | 0.3 | 10.1 | 9.7 | 56.0 | 45.9 | 46.3 |
| | 0.280 | Average | <u>37.0</u> | 30.6 | 0.1 | 0.1 | <u>37.1</u> | 30.7 | 50.6 | <u>13.5</u> | 19.9 |
| | 0.398 | Average | <u>31.1</u> | 30.3 | 0.1 | 0.1 | <u>31.2</u> | 30.4 | 47.9 | <u>16.7</u> | 17.5 |
| | 0.555 | Average | <u>34.7</u> | 33.4 | 0.0 | 0.0 | <u>34.7</u> | 33.4 | 46.0 | <u>11.3</u> | 12.6 |
| | 0.555 | Q-Peak | <u>37.1</u> | 36.5 | 0.0 | 0.0 | <u>37.1</u> | 36.5 | 56.0 | <u>18.9</u> | 19.5 |
| | 0.836 | Average | <u>27.1</u> | 25.3 | 0.0 | 0.0 | <u>27.1</u> | 25.3 | 46.0 | <u>18.9</u> | 20.7 |
| | 1.390 | Average | 19.8 | 19.6 | 0.0 | 0.0 | 19.8 | 19.6 | 46.0 | 26.2 | 26.4 |
| Internal Signal (DVD Playback) | 0.150 | Q-Peak | <u>44.1</u> | 43.8 | 0.3 | 0.3 | <u>44.4</u> | 44.1 | 66.0 | <u>21.6</u> | 21.9 |
| | 0.150 | Average | 9.8 | 9.0 | 0.3 | 0.3 | 10.1 | 9.3 | 56.0 | 45.9 | 46.7 |
| | 0.280 | Average | <u>37.9</u> | 31.6 | 0.1 | 0.1 | <u>38.0</u> | 31.7 | 50.6 | <u>12.6</u> | 18.9 |
| | 0.398 | Average | <u>32.1</u> | 29.9 | 0.1 | 0.1 | <u>32.2</u> | 30.0 | 47.9 | <u>15.7</u> | 17.9 |
| | 0.555 | Average | <u>35.6</u> | 33.9 | 0.0 | 0.0 | <u>35.6</u> | 33.9 | 46.0 | <u>10.4</u> | 12.1 |
| | 0.555 | Q-Peak | <u>38.0</u> | 36.3 | 0.0 | 0.0 | <u>38.0</u> | 36.3 | 56.0 | <u>18.0</u> | 19.7 |
| | 0.836 | Average | <u>28.0</u> | 25.6 | 0.0 | 0.0 | <u>28.0</u> | 25.6 | 46.0 | <u>18.0</u> | 20.4 |
| | 1.390 | Average | 20.7 | 20.5 | 0.0 | 0.0 | 20.7 | 20.5 | 46.0 | 25.3 | 25.5 |
| RF/CATV Signal Input | 0.150 | Q-Peak | <u>43.7</u> | 43.4 | 0.3 | 0.3 | <u>44.0</u> | 43.7 | 66.0 | <u>22.0</u> | 22.3 |
| | 0.150 | Average | 9.9 | 9.0 | 0.3 | 0.3 | 10.2 | 9.3 | 56.0 | 45.8 | 46.7 |
| | 0.280 | Average | <u>37.0</u> | 31.1 | 0.1 | 0.1 | <u>37.1</u> | 31.2 | 50.6 | <u>13.5</u> | 19.4 |
| | 0.398 | Average | <u>31.4</u> | 29.8 | 0.1 | 0.1 | <u>31.5</u> | 29.9 | 47.9 | <u>16.4</u> | 18.0 |
| | 0.555 | Average | <u>33.6</u> | 32.6 | 0.0 | 0.0 | <u>33.6</u> | 32.6 | 46.0 | <u>12.4</u> | 13.4 |
| | 0.555 | Q-Peak | <u>37.4</u> | 35.7 | 0.0 | 0.0 | <u>37.4</u> | 35.7 | 56.0 | <u>18.6</u> | 20.3 |
| | 0.836 | Average | <u>27.3</u> | 26.1 | 0.0 | 0.0 | <u>27.3</u> | 26.1 | 46.0 | <u>18.7</u> | 19.9 |
| | 1.390 | Average | 21.3 | 21.4 | 0.0 | 0.0 | 21.3 | 21.4 | 46.0 | 24.7 | 24.6 |

Tuner: ENG56D06G1

EXHIBIT # : 3
FCC ID : ACJ927149AHVI
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MODEL NO. : AG-VP320
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Part 15 Subpart B, (TV Interface Device)

2) 15.107 Power Line Conducted Voltage

Note:

1. Sample calculation at

M.B., 1 V p-p, V_A 0.150 MHz Q-Peak; 43.2 + 0.3 = 43.5 (dBuV)

2. Measuring Instruments:

a) Field strength meter

- Kyoritsu Electric Work Co., Ltd.

Model : KNM-2403

(1) Detector function : CISPR Q-Peak

(2) IF band width : 9 kHz

(3) Input impedance : 50 ohms

b) Line impedance stabilized network (LISN)

- Kyoritsu Electric Work Co., Ltd.

Model : KNW-406

50 ohms / 50 uH network

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

3. The spectrum was checked from 0.15 MHz to 30 MHz.

Higher six points are underlined.

Part 15 Subpart B. (TV Interface Device)

2) 15.109 Radiated Emission (Including Tuner)

| Video Signal | Frequency (MHz) | Meter Reading Open Volt. (dBuV) | | Correction Factor (dB) Open Vol. | Emission & 3 meters(dBuV) | |
|-----------------------------------|-----------------|---------------------------------|-------|----------------------------------|---------------------------|-------|
| | | Horiz. | Vert. | | Horiz. | Vert. |
| Multi Burst 1 V p-p | 270.00 | 14.5 | 14.8 | 21.3 | 35.8 | 36.1 |
| | 303.76 | 15.1 | 17.0 | 16.8 | 31.9 | 33.8 |
| | 316.68 | 13.6 | 11.3 | 17.0 | 30.6 | 28.3 |
| | 553.00 | 10.6 | 12.6 | 22.6 | 33.2 | 35.2 |
| | 626.71 | 6.9 | 10.1 | 23.7 | 30.6 | 33.8 |
| | 700.39 | 5.5 | 9.8 | 24.9 | 30.4 | 34.7 |
| Multi Burst 5 V p-p | 270.00 | 13.5 | 14.9 | 21.3 | 34.8 | 36.2 |
| | 303.76 | 14.6 | 16.8 | 16.8 | 31.4 | 33.6 |
| | 316.68 | 14.1 | 11.4 | 17.0 | 31.1 | 28.4 |
| | 553.00 | 10.9 | 12.3 | 22.6 | 33.5 | 34.9 |
| | 626.71 | 7.3 | 10.4 | 23.7 | 31.0 | 34.1 |
| | 700.39 | 5.8 | 9.6 | 24.9 | 30.7 | 34.5 |
| Internal Signal (DVD Playback) | 270.00 | 16.2 | 16.6 | 21.3 | 37.5 | 37.9 |
| | 303.76 | 15.6 | 18.7 | 16.8 | 32.4 | 35.5 |
| | 316.68 | 20.2 | 16.0 | 17.0 | 37.2 | 33.0 |
| | 553.00 | 12.6 | 17.1 | 22.6 | 35.2 | 39.7 |
| | 626.71 | 7.2 | 14.4 | 23.7 | 30.9 | 38.1 |
| | 700.39 | 5.6 | 11.3 | 24.9 | 30.5 | 36.2 |
| RF/CATV Signal Input | 270.00 | 13.0 | 14.6 | 21.3 | 34.3 | 35.9 |
| | 303.76 | 13.9 | 16.0 | 16.8 | 30.7 | 32.8 |
| | 316.68 | 13.2 | 11.5 | 17.0 | 30.2 | 28.5 |
| | 553.00 | 10.9 | 11.6 | 22.6 | 33.5 | 34.2 |
| | 626.71 | 6.1 | 9.9 | 23.7 | 29.8 | 33.6 |
| | 700.39 | 5.6 | 8.7 | 24.9 | 30.5 | 33.6 |

Note: 1. Sample calculation at
M.B., 1 V p-p, Horiz. 270.00 MHz ; 14.5 + 21.3 = 35.8 (dBuV/m)

2. Measuring Instruments:

- a) Field strength meter - Hewlett Packard company
 Model: HP 8546A
 (1) Frequency range : 9 kHz to 6.5 GHz
 (2) RF Input : 50 ohm
 (3) IF band width : 200 Hz/ 9 kHz/ 120 kHz/ 1MHz
 (4) Detector function : Average/CISPR Q-Peak/Peak
- b) Test Signal Generator (Multi Burst) - Shibasoku Co., Ltd.
 Model: TG-5, 2U2
- c) Receiving antenna - Schwarzbeck
 Model: VHA9103 30 - 300 MHz
 Model: UHALP9108A 300 - 1000 MHz
 - The Electro-Mechanics Company
 Model: 3115 1 - 18 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Tuner: ENG56D06G1

EXHIBIT # : 3
FCC ID : ACJ927149AHVI
OUR REF. : PSEC-SJ05-F001
MODEL NO. : AG-VP320
Sheet 8 of 26 Sheets

Part 15 Subpart B, (TV Interface Device)

3) 15.111 (a) Antenna Power Conducted Voltage

| Frequency (MHz) | Meter Reading (dBuV) | Matc. Pad Loss (dB) | Interference (dBuV) |
|-----------------|----------------------|---------------------|---------------------|
| 1646.0 | 23.8 | 8.8 | 32.6 |
| 1654.0 | 24.0 | 8.8 | 32.8 |
| 1658.0 | 24.8 | 8.8 | 33.6 |
| 1666.0 | 24.3 | 8.8 | 33.1 |
| 1670.0 | 23.6 | 8.8 | 32.4 |
| 1678.0 | 22.2 | 8.8 | 31.0 |

Antenna Input Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at 1646.0 MHz; $23.8 + 8.8 = 32.6$ (dBuV)

2. Measuring Instrument:

- a) Spectrum Analyzer - ADVANTEST Co., Ltd.
Model : R3261A
(1) Detector function : Peak
(2) Band width : 100 kHz
- b) Matching Pad - Anritsu Electric Co., Ltd.
Model : MB-009
(1) Frequency range : DC – 2 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Tuner: ENG56D06G1

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Part 15 Subpart B.

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4) 15.115 (b) (1) Output Signal Level

| Video Signal | Ch | Measured Frequency(MHz) | | Meter Reading (dBuV) | | Pad Loss (dB) | Output Signal Level (dBuV) | |
|------------------------|----|-------------------------|-------|----------------------|-------|---------------|----------------------------|-------|
| | | Visual | Aural | Visual | Aural | | Visual | Aural |
| Multi Burst 1 V p-p | 3 | 61.25 | 65.75 | 63.2 | 48.4 | 2.3 | 65.5 | 50.7 |
| | 4 | 67.25 | 71.75 | 62.9 | 47.8 | 2.3 | 65.2 | 50.1 |
| Multi Burst 5 V p-p | 3 | 61.25 | 65.75 | 63.2 | 48.4 | 2.3 | 65.5 | 50.7 |
| | 4 | 67.25 | 71.75 | 62.9 | 47.8 | 2.3 | 65.2 | 50.1 |
| Internal Signal | 3 | 61.25 | 65.75 | 63.2 | 48.4 | 2.3 | 65.5 | 50.7 |
| | 4 | 67.25 | 71.75 | 62.9 | 47.8 | 2.3 | 65.2 | 50.1 |
| RF/CATV Signal | 3 | 61.25 | 65.75 | 63.2 | 48.4 | 2.3 | 65.5 | 50.7 |
| | 4 | 67.25 | 71.75 | 62.9 | 47.8 | 2.3 | 65.2 | 50.1 |

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, Visual, 3 Ch ; $63.2 + 2.3 = 65.5$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

Part 15 Subpart B. (TV Interface Device)

5) 15.115 (b) (2) Output Terminal Conducted Interference

| Video Signal | Ch | Freq. (MHz) | Meter Read. (dBuV) | Matc. Pad Loss (dB) | Att. Pad Loss(dB) | Gain of Amp.(dB) | Interference (dBuV) | | |
|------------------------|--------------------|-------------------------|--------------------|---------------------|-------------------|------------------|---------------------|------|------|
| Multi Burst 1 V p-p | 3 | 43.34 | 46.1 | 2.3 | N/A | 24.3 | 24.1 | | |
| | | 47.70 | 44.7 | 2.3 | N/A | 24.3 | 22.7 | | |
| | | 50.50 | 50.5 | 2.3 | N/A | 24.3 | 28.5 | | |
| | | 72.00 | 48.0 | 2.3 | N/A | 24.4 | 25.9 | | |
| | | 245.0 | 46.3 | 2.4 | N/A | 24.3 | 24.4 | | |
| | | 490.0 | 49.8 | 2.8 | N/A | 23.8 | 28.8 | | |
| | 4 | 49.39 | 46.3 | 2.3 | N/A | 24.3 | 24.3 | | |
| | | 53.72 | 43.6 | 2.3 | N/A | 24.3 | 21.6 | | |
| | | 56.50 | 49.8 | 2.3 | N/A | 24.3 | 27.8 | | |
| | | 78.00 | 48.6 | 2.3 | N/A | 24.4 | 26.5 | | |
| | | 269.00 | 49.6 | 2.4 | N/A | 24.3 | 27.7 | | |
| | | 538.00 | 47.8 | 2.9 | N/A | 23.3 | 27.4 | | |
| | | Multi Burst 5 V p-p | 3 | 43.34 | 46.1 | 2.3 | N/A | 24.3 | 24.1 |
| | | | | 47.70 | 44.7 | 2.3 | N/A | 24.3 | 22.7 |
| 50.50 | 50.5 | | | 2.3 | N/A | 24.3 | 28.5 | | |
| 72.00 | 48.0 | | | 2.3 | N/A | 24.4 | 25.9 | | |
| 245.0 | 46.3 | | | 2.4 | N/A | 24.3 | 24.4 | | |
| 490.0 | 49.8 | | | 2.8 | N/A | 23.8 | 28.8 | | |
| 4 | 49.39 | | 46.3 | 2.3 | N/A | 24.3 | 24.3 | | |
| | 53.72 | | 43.6 | 2.3 | N/A | 24.3 | 21.6 | | |
| | 56.50 | | 49.8 | 2.3 | N/A | 24.3 | 27.8 | | |
| | 78.00 | | 48.6 | 2.3 | N/A | 24.4 | 26.5 | | |
| | 269.00 | | 49.6 | 2.4 | N/A | 24.3 | 27.7 | | |
| | 538.00 | | 47.8 | 2.9 | N/A | 23.3 | 27.4 | | |
| | Internal Signal | | 3 | 43.34 | 46.1 | 2.3 | N/A | 24.3 | 24.1 |
| | | | | 47.70 | 44.7 | 2.3 | N/A | 24.3 | 22.7 |
| 50.50 | | 50.5 | | 2.3 | N/A | 24.3 | 28.5 | | |
| 72.00 | | 48.0 | | 2.3 | N/A | 24.4 | 25.9 | | |
| 245.0 | | 46.3 | | 2.4 | N/A | 24.3 | 24.4 | | |
| 490.0 | | 49.8 | | 2.8 | N/A | 23.8 | 28.8 | | |
| 4 | | 49.39 | 46.3 | 2.3 | N/A | 24.3 | 24.3 | | |
| | | 53.72 | 43.6 | 2.3 | N/A | 24.3 | 21.6 | | |
| | | 56.50 | 49.8 | 2.3 | N/A | 24.3 | 27.8 | | |
| | | 78.00 | 48.6 | 2.3 | N/A | 24.4 | 26.5 | | |
| | | 269.00 | 49.6 | 2.4 | N/A | 24.3 | 27.7 | | |
| | | 538.00 | 47.8 | 2.9 | N/A | 23.3 | 27.4 | | |
| | | RF/CATV Signal Input | 3 | 43.34 | 46.1 | 2.3 | N/A | 24.3 | 24.1 |
| | | | | 47.70 | 44.7 | 2.3 | N/A | 24.3 | 22.7 |
| 50.50 | 50.5 | | | 2.3 | N/A | 24.3 | 28.5 | | |
| 72.00 | 48.0 | | | 2.3 | N/A | 24.4 | 25.9 | | |
| 245.0 | 46.3 | | | 2.4 | N/A | 24.3 | 24.4 | | |
| 490.0 | 49.8 | | | 2.8 | N/A | 23.8 | 28.8 | | |
| 4 | 49.39 | | 46.3 | 2.3 | N/A | 24.3 | 24.3 | | |
| | 53.72 | | 43.6 | 2.3 | N/A | 24.3 | 21.6 | | |
| | 56.50 | | 49.8 | 2.3 | N/A | 24.3 | 27.8 | | |
| | 78.00 | | 48.6 | 2.3 | N/A | 24.4 | 26.5 | | |
| | 269.00 | | 49.6 | 2.4 | N/A | 24.3 | 27.7 | | |
| | 538.00 | | 47.8 | 2.9 | N/A | 23.3 | 27.4 | | |

Tuner: ENG56D06G1

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Part 15 Subpart B, (TV Interface Device)

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, 3 Ch., 43.34 MHz ; $46.1 + 2.3 - 24.3 = 24.1$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

d) Amplifier

- Hewlett Packard

Model : 8447F

3. The spectrum was checked from 30 MHz to 1000 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Part 15 Subpart B, (TV Interface Device)

6) 15.115 (c) Transfer Switch Isolation

| Video Signal | Ch | Meter Read.(dBuV) | Matching Pad Loss(dB) | Gain of Amp.(dB) | Pad Loss (dB) | Level (dBuV) |
|------------------------|----|-------------------|-----------------------|------------------|---------------|--------------|
| Multi Burst 1 V p-p | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | 26.9 | 2.3 | 24.4 | N/A | 4.8 |
| Multi Burst 5 V p-p | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | 26.9 | 2.3 | 24.4 | N/A | 4.8 |
| Internal Signal | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | 26.9 | 2.3 | 24.4 | N/A | 4.8 |

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, Visual, 3 Ch ; $<26.0 + 2.3 - 24.4 = <3.9$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

d) Amplifier

- Hewlett Packard

Model : 8447F

Part 15 Subpart B. (TV Interface Device)

2) 15.109 Radiated Emission (Including Tuner)

| Video Signal | Frequency (MHz) | Meter Reading Open Volt. (dBuV) | | Correction Factor (dB) Open Vol. | Emission & 3 meters(dBuV) | |
|-----------------------------------|-----------------|---------------------------------|-------|----------------------------------|---------------------------|-------|
| | | Horiz. | Vert. | | Horiz. | Vert. |
| Multi Burst 1 V p-p | 270.00 | 14.0 | 14.5 | 21.3 | 35.3 | 35.8 |
| | 303.76 | 14.0 | 16.9 | 16.8 | 30.8 | 33.7 |
| | 316.68 | 12.8 | 10.6 | 17.0 | 29.8 | 27.6 |
| | 553.00 | 10.1 | 12.4 | 22.6 | 32.7 | 35.0 |
| | 626.71 | 7.4 | 10.4 | 23.7 | 31.1 | 34.1 |
| | 700.39 | 5.5 | 8.8 | 24.9 | 30.4 | 33.7 |
| Multi Burst 5 V p-p | 270.00 | 14.3 | 14.4 | 21.3 | 35.6 | 35.7 |
| | 303.76 | 13.9 | 16.7 | 16.8 | 30.7 | 33.5 |
| | 316.68 | 13.0 | 10.8 | 17.0 | 30.0 | 27.8 |
| | 553.00 | 9.9 | 12.1 | 22.6 | 32.5 | 34.7 |
| | 626.71 | 7.4 | 10.6 | 23.7 | 31.1 | 34.3 |
| | 700.39 | 6.8 | 9.2 | 24.9 | 31.7 | 34.1 |
| Internal Signal (DVD Playback) | 270.00 | 15.5 | 17.2 | 21.3 | 36.8 | 38.5 |
| | 303.76 | 16.6 | 19.6 | 16.8 | 33.4 | 36.4 |
| | 316.68 | 20.5 | 15.8 | 17.0 | 37.5 | 32.8 |
| | 553.00 | 13.1 | 16.2 | 22.6 | 35.7 | 38.8 |
| | 626.71 | 7.4 | 14.8 | 23.7 | 31.1 | 38.5 |
| | 700.39 | 5.8 | 10.5 | 24.9 | 30.7 | 35.4 |
| RF/CATV Signal Input | 270.00 | 14.2 | 15.1 | 21.3 | 35.5 | 36.4 |
| | 303.76 | 14.4 | 16.7 | 16.8 | 31.2 | 33.5 |
| | 316.68 | 12.6 | 11.8 | 17.0 | 29.6 | 28.8 |
| | 553.00 | 10.8 | 12.5 | 22.6 | 33.4 | 35.1 |
| | 626.71 | 5.0 | 10.4 | 23.7 | 28.7 | 34.1 |
| | 700.39 | 5.1 | 9.8 | 24.9 | 30.0 | 34.7 |

Note: 1. Sample calculation at
M.B., 1 V p-p, Horiz. 270.00 MHz ; 14.0 + 21.3 = 35.3 (dBuV/m)

2. Measuring Instruments:

- a) Field strength meter - Hewlett Packard company
 Model: HP 8546A
 (1) Frequency range : 9 kHz to 6.5 GHz
 (2) RF Input : 50 ohm
 (3) IF band width : 200 Hz/ 9 kHz/ 120 kHz/ 1MHz
 (4) Detector function : Average/CISPR Q-Peak/Peak
- b) Test Signal Generator (Multi Burst) - Shibasoku Co., Ltd.
 Model: TG-5, 2U2
- c) Receiving antenna - Schwarzbeck
 Model: VHA9103 30 - 300 MHz
 Model: UHALP9108A 300 - 1000 MHz
 - The Electro-Mechanics Company
 Model: 3115 1 - 18 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Tuner: TMZH2-035A

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Part 15 Subpart B, (TV Interface Device)

3) 15.111 (a) Antenna Power Conducted Voltage

| Frequency (MHz) | Meter Reading (dBuV) | Matc. Pad Loss (dB) | Interference (dBuV) |
|-----------------|----------------------|---------------------|---------------------|
| 1018.0 | 29.8 | 8.8 | 38.6 |
| 1030.0 | 30.4 | 8.8 | 39.2 |
| 1034.0 | 31.9 | 8.8 | 40.7 |
| 1042.0 | 31.7 | 8.8 | 40.5 |
| 1046.0 | 30.0 | 8.8 | 38.8 |
| 1054.0 | 29.8 | 8.8 | 38.6 |

Antenna Input Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at 1018.0 MHz ; 29.8 + 8.8 = 38.6 (dBuV)

2. Measuring Instrument:

- a) Spectrum Analyzer
 - ADVANTEST Co., Ltd.
 - Model : R3261A
 - (1) Detector function : Peak
 - (2) Band width : 100 kHz
- b) Matching Pad
 - Anritsu Electric Co., Ltd.
 - Model : MB-009
 - (1) Frequency range : DC – 2 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Tuner: TMZH2-035A

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Part 15 Subpart B, (TV Interface Device)

4) 15.115 (b) (1) Output Signal Level

| Video Signal | Ch | Measured Frequency(MHz) | | Meter Reading (dBuV) | | Pad Loss (dB) | Output Signal Level (dBuV) | |
|------------------------|----|-------------------------|-------|----------------------|-------|---------------|----------------------------|-------|
| | | Visual | Aural | Visual | Aural | | Visual | Aural |
| Multi Burst 1 V p-p | 3 | 61.25 | 65.75 | 62.9 | 48.0 | 2.3 | 65.2 | 50.3 |
| | 4 | 67.25 | 71.75 | 62.8 | 47.6 | 2.3 | 65.1 | 49.9 |
| Multi Burst 5 V p-p | 3 | 61.25 | 65.75 | 62.9 | 48.0 | 2.3 | 65.2 | 50.3 |
| | 4 | 67.25 | 71.75 | 62.8 | 47.6 | 2.3 | 65.1 | 49.9 |
| Internal Signal | 3 | 61.25 | 65.75 | 62.9 | 48.0 | 2.3 | 65.2 | 50.3 |
| | 4 | 67.25 | 71.75 | 62.8 | 47.6 | 2.3 | 65.1 | 49.9 |
| RF/CATV Signal | 3 | 61.25 | 65.75 | 62.9 | 48.0 | 2.3 | 65.2 | 50.3 |
| | 4 | 67.25 | 71.75 | 62.8 | 47.6 | 2.3 | 65.1 | 49.9 |

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, Visual, 3 Ch ; $62.9 + 2.3 = 65.2$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

Part 15 Subpart B, (TV Interface Device)

5) 15.115 (b) (2) Output Terminal Conducted Interference

| Video Signal | Ch | Freq. (MHz) | Meter Read. (dBuV) | Matc. Pad Loss (dB) | Att. Pad Loss(dB) | Gain of Amp.(dB) | Interference (dBuV) | |
|------------------------|-------------------------|-------------|--------------------|---------------------|-------------------|------------------|---------------------|------|
| Multi Burst 1 V p-p | 3 | 43.33 | 44.0 | 2.3 | N/A | 24.3 | 22.0 | |
| | | 47.72 | 43.8 | 2.3 | N/A | 24.3 | 21.8 | |
| | | 50.50 | 50.7 | 2.3 | N/A | 24.3 | 28.7 | |
| | | 72.00 | 50.1 | 2.3 | N/A | 24.4 | 28.0 | |
| | | 79.13 | 44.4 | 2.3 | N/A | 24.4 | 22.3 | |
| | | 122.50 | 52.8 | 2.3 | N/A | 24.3 | 30.8 | |
| | 4 | 42.17 | 44.0 | 2.3 | N/A | 24.3 | 22.0 | |
| | | 49.39 | 43.3 | 2.3 | N/A | 24.3 | 21.3 | |
| | | 56.50 | 50.4 | 2.3 | N/A | 24.3 | 28.4 | |
| | | 78.00 | 49.1 | 2.3 | N/A | 24.4 | 27.0 | |
| | | 85.14 | 45.6 | 2.3 | N/A | 24.4 | 23.5 | |
| | | 134.50 | 51.4 | 2.3 | N/A | 24.3 | 29.4 | |
| | Multi Burst 5 V p-p | 3 | 43.33 | 44.0 | 2.3 | N/A | 24.3 | 22.0 |
| | | | 47.72 | 43.8 | 2.3 | N/A | 24.3 | 21.8 |
| 50.50 | | | 50.7 | 2.3 | N/A | 24.3 | 28.7 | |
| 72.00 | | | 50.1 | 2.3 | N/A | 24.4 | 28.0 | |
| 79.13 | | | 44.4 | 2.3 | N/A | 24.4 | 22.3 | |
| 122.50 | | | 52.8 | 2.3 | N/A | 24.3 | 30.8 | |
| 4 | | 42.17 | 44.0 | 2.3 | N/A | 24.3 | 22.0 | |
| | | 49.39 | 43.3 | 2.3 | N/A | 24.3 | 21.3 | |
| | | 56.50 | 50.4 | 2.3 | N/A | 24.3 | 28.4 | |
| | | 78.00 | 49.1 | 2.3 | N/A | 24.4 | 27.0 | |
| | | 85.14 | 45.6 | 2.3 | N/A | 24.4 | 23.5 | |
| | | 134.50 | 51.4 | 2.3 | N/A | 24.3 | 29.4 | |
| Internal Signal | | 3 | 43.33 | 44.0 | 2.3 | N/A | 24.3 | 22.0 |
| | | | 47.72 | 43.8 | 2.3 | N/A | 24.3 | 21.8 |
| | 50.50 | | 50.7 | 2.3 | N/A | 24.3 | 28.7 | |
| | 72.00 | | 50.1 | 2.3 | N/A | 24.4 | 28.0 | |
| | 79.13 | | 44.4 | 2.3 | N/A | 24.4 | 22.3 | |
| | 122.50 | | 52.8 | 2.3 | N/A | 24.3 | 30.8 | |
| | 4 | 42.17 | 44.0 | 2.3 | N/A | 24.3 | 22.0 | |
| | | 49.39 | 43.3 | 2.3 | N/A | 24.3 | 21.3 | |
| | | 56.50 | 50.4 | 2.3 | N/A | 24.3 | 28.4 | |
| | | 78.00 | 49.1 | 2.3 | N/A | 24.4 | 27.0 | |
| | | 85.14 | 45.6 | 2.3 | N/A | 24.4 | 23.5 | |
| | | 134.50 | 51.4 | 2.3 | N/A | 24.3 | 29.4 | |
| | RF/CATV Signal Input | 3 | 43.33 | 44.0 | 2.3 | N/A | 24.3 | 22.0 |
| | | | 47.72 | 43.8 | 2.3 | N/A | 24.3 | 21.8 |
| 50.50 | | | 50.7 | 2.3 | N/A | 24.3 | 28.7 | |
| 72.00 | | | 50.1 | 2.3 | N/A | 24.4 | 28.0 | |
| 79.13 | | | 44.4 | 2.3 | N/A | 24.4 | 22.3 | |
| 122.50 | | | 52.8 | 2.3 | N/A | 24.3 | 30.8 | |
| 4 | | 42.17 | 44.0 | 2.3 | N/A | 24.3 | 22.0 | |
| | | 49.39 | 43.3 | 2.3 | N/A | 24.3 | 21.3 | |
| | | 56.50 | 50.4 | 2.3 | N/A | 24.3 | 28.4 | |
| | | 78.00 | 49.1 | 2.3 | N/A | 24.4 | 27.0 | |
| | | 85.14 | 45.6 | 2.3 | N/A | 24.4 | 23.5 | |
| | | 134.50 | 51.4 | 2.3 | N/A | 24.3 | 29.4 | |

Tuner: TMZH2-035A

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Part 15 Subpart B, (TV Interface Device)

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, 3 Ch., 43.33 MHz ; $44.0 + 2.3 - 24.3 = 22.0$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

d) Amplifier

- Hewlett Packard

Model : 8447F

3. The spectrum was checked from 30 MHz to 1000 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Tuner: TMZH2-035A

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Part 15 Subpart B, (TV Interface Device)

6) 15.115 (c) Transfer Switch Isolation

| Video Signal | Ch | Meter Read.(dBuV) | Matching Pad Loss(dB) | Gain of Amp.(dB) | Pad Loss (dB) | Level (dBuV) |
|------------------------|----|-------------------|-----------------------|------------------|---------------|--------------|
| Multi Burst 1 V p-p | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| Multi Burst 5 V p-p | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| Internal Signal | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, Visual, 3 Ch ; $<26.0 + 2.3 - 24.4 = <3.9$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

d) Amplifier

- Hewlett Packard

Model : 8447F

Part 15 Subpart B. (TV Interface Device)

2) 15.109 Radiated Emission (Including Tuner)

| Video Signal | Frequency (MHz) | Meter Reading Open Volt. (dBuV) | | Correction Factor (dB) Open Vol. | Emission & 3 meters(dBuV) | |
|-----------------------------------|-----------------|---------------------------------|-------|----------------------------------|---------------------------|-------|
| | | Horiz. | Vert. | | Horiz. | Vert. |
| Multi Burst 1 V p-p | 270.00 | 14.9 | 15.1 | 21.3 | 36.2 | 36.4 |
| | 303.76 | 14.9 | 16.0 | 16.8 | 31.7 | 32.8 |
| | 316.68 | 13.7 | 10.8 | 17.0 | 30.7 | 27.8 |
| | 553.00 | 8.5 | 13.5 | 22.6 | 31.1 | 36.1 |
| | 626.71 | 9.0 | 9.2 | 23.7 | 32.7 | 32.9 |
| | 700.39 | 8.6 | 7.9 | 24.9 | 33.5 | 32.8 |
| Multi Burst 5 V p-p | 270.00 | 15.1 | 15.2 | 21.3 | 36.4 | 36.5 |
| | 303.76 | 15.7 | 16.4 | 16.8 | 32.5 | 33.2 |
| | 316.68 | 14.8 | 11.5 | 17.0 | 31.8 | 28.5 |
| | 553.00 | 9.7 | 13.7 | 22.6 | 32.3 | 36.3 |
| | 626.71 | 8.2 | 9.8 | 23.7 | 31.9 | 33.5 |
| | 700.39 | 9.6 | 8.8 | 24.9 | 34.5 | 33.7 |
| Internal Signal (DVD Playback) | 270.00 | 16.8 | 15.6 | 21.3 | 38.1 | 36.9 |
| | 303.76 | 16.7 | 19.3 | 16.8 | 33.5 | 36.1 |
| | 316.68 | 19.7 | 16.5 | 17.0 | 36.7 | 33.5 |
| | 553.00 | 12.3 | 16.2 | 22.6 | 34.9 | 38.8 |
| | 626.71 | 7.7 | 14.7 | 23.7 | 31.4 | 38.4 |
| | 700.39 | 6.9 | 11.8 | 24.9 | 31.8 | 36.7 |
| RF/CATV Signal Input | 270.00 | 13.0 | 14.9 | 21.3 | 34.3 | 36.2 |
| | 303.76 | 14.8 | 15.0 | 16.8 | 31.6 | 31.8 |
| | 316.68 | 13.7 | 13.0 | 17.0 | 30.7 | 30.0 |
| | 553.00 | 9.3 | 11.4 | 22.6 | 31.9 | 34.0 |
| | 626.71 | 8.6 | 10.3 | 23.7 | 32.3 | 34.0 |
| | 700.39 | 8.7 | 9.4 | 24.9 | 33.6 | 34.3 |

Note: 1. Sample calculation at
M.B., 1 V p-p, Horiz. 270.00 MHz ; 14.9 + 21.3 = 36.2 (dBuV/m)

2. Measuring Instruments:

- a) Field strength meter - Hewlett Packard company
 Model: HP 8546A
 (1) Frequency range : 9 kHz to 6.5 GHz
 (2) RF Input : 50 ohm
 (3) IF band width : 200 Hz/ 9 kHz/ 120 kHz/ 1MHz
 (4) Detector function : Average/CISPR Q-Peak/Peak
- b) Test Signal Generator (Multi Burst) - Shibasoku Co., Ltd.
 Model: TG-5, 2U2
- c) Receiving antenna - Schwarzbeck
 Model: VHA9103 30 - 300 MHz
 Model: UHALP9108A 300 - 1000 MHz
 - The Electro-Mechanics Company
 Model: 3115 1 - 18 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

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Part 15 Subpart B, (TV Interface Device)

3) 15.111 (a) Antenna Power Conducted Voltage

| Frequency (MHz) | Meter Reading (dBuV) | Matc. Pad Loss (dB) | Interference (dBuV) |
|-----------------|----------------------|---------------------|---------------------|
| 631.0 | 14.9 | 8.8 | 23.7 |
| 635.0 | 15.1 | 8.8 | 23.9 |
| 637.0 | 16.0 | 8.8 | 24.8 |
| 641.0 | 15.3 | 8.8 | 24.1 |
| 643.0 | 14.7 | 8.8 | 23.5 |
| 647.0 | 14.6 | 8.8 | 23.4 |

Antenna Input Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at 631.0 MHz ; 14.9 + 8.8 = 23.7 (dBuV)

2. Measuring Instrument:

- a) Spectrum Analyzer
 - ADVANTEST Co., Ltd.
 - Model : R3261A
 - (1) Detector function : Peak
 - (2) Band width : 100 kHz
- b) Matching Pad
 - Anritsu Electric Co., Ltd.
 - Model : MB-009
 - (1) Frequency range : DC – 2 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

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Part 15 Subpart B, (TV Interface Device)

4) 15.115 (b) (1) Output Signal Level

| Video Signal | Ch | Measured Frequency(MHz) | | Meter Reading (dBuV) | | Pad Loss (dB) | Output Signal Level (dBuV) | |
|------------------------|----|-------------------------|-------|----------------------|-------|---------------|----------------------------|-------|
| | | Visual | Aural | Visual | Aural | | Visual | Aural |
| Multi Burst 1 V p-p | 3 | 61.25 | 65.75 | 63.5 | 47.8 | 2.3 | 65.8 | 50.1 |
| | 4 | 67.25 | 71.75 | 63.4 | 47.6 | 2.3 | 65.7 | 49.9 |
| Multi Burst 5 V p-p | 3 | 61.25 | 65.75 | 63.5 | 47.8 | 2.3 | 65.8 | 50.1 |
| | 4 | 67.25 | 71.75 | 63.4 | 47.6 | 2.3 | 65.7 | 49.9 |
| Internal Signal | 3 | 61.25 | 65.75 | 63.5 | 47.8 | 2.3 | 65.8 | 50.1 |
| | 4 | 67.25 | 71.75 | 63.4 | 47.6 | 2.3 | 65.7 | 49.9 |
| RF/CATV Signal | 3 | 61.25 | 65.75 | 63.5 | 47.8 | 2.3 | 65.8 | 50.1 |
| | 4 | 67.25 | 71.75 | 63.4 | 47.6 | 2.3 | 65.7 | 49.9 |

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, Visual, 3 Ch ; 63.5 + 2.3 = 65.8 (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

5) 15.115 (b) (2) Output Terminal Conducted Interference

| Video Signal | Ch | Freq. (MHz) | Meter Read. (dBuV) | Matc. Pad Loss (dB) | Att. Pad Loss(dB) | Gain of Amp.(dB) | Interference (dBuV) | | |
|------------------------|--------------------|-------------------------|--------------------|---------------------|-------------------|------------------|---------------------|------|------|
| Multi Burst 1 V p-p | 3 | 43.34 | 46.2 | 2.3 | N/A | 24.3 | 24.2 | | |
| | | 47.73 | 45.0 | 2.3 | N/A | 24.3 | 23.0 | | |
| | | 50.50 | 50.8 | 2.3 | N/A | 24.3 | 28.8 | | |
| | | 72.00 | 50.2 | 2.3 | N/A | 24.4 | 28.1 | | |
| | | 79.13 | 42.5 | 2.3 | N/A | 24.4 | 20.4 | | |
| | | 122.50 | 45.1 | 2.3 | N/A | 24.3 | 23.1 | | |
| | 4 | 49.34 | 45.5 | 2.3 | N/A | 24.3 | 23.5 | | |
| | | 53.70 | 44.1 | 2.3 | N/A | 24.3 | 22.1 | | |
| | | 56.50 | 50.5 | 2.3 | N/A | 24.3 | 28.5 | | |
| | | 78.00 | 48.9 | 2.3 | N/A | 24.4 | 26.8 | | |
| | | 85.14 | 44.0 | 2.3 | N/A | 24.4 | 21.9 | | |
| | | 201.75 | 42.5 | 2.3 | N/A | 24.3 | 20.5 | | |
| | | Multi Burst 5 V p-p | 3 | 43.34 | 46.2 | 2.3 | N/A | 24.3 | 24.2 |
| | | | | 47.73 | 45.0 | 2.3 | N/A | 24.3 | 23.0 |
| 50.50 | 50.8 | | | 2.3 | N/A | 24.3 | 28.8 | | |
| 72.00 | 50.2 | | | 2.3 | N/A | 24.4 | 28.1 | | |
| 79.13 | 42.5 | | | 2.3 | N/A | 24.4 | 20.4 | | |
| 122.50 | 45.1 | | | 2.3 | N/A | 24.3 | 23.1 | | |
| 4 | 49.34 | | 45.5 | 2.3 | N/A | 24.3 | 23.5 | | |
| | 53.70 | | 44.1 | 2.3 | N/A | 24.3 | 22.1 | | |
| | 56.50 | | 50.5 | 2.3 | N/A | 24.3 | 28.5 | | |
| | 78.00 | | 48.9 | 2.3 | N/A | 24.4 | 26.8 | | |
| | 85.14 | | 44.0 | 2.3 | N/A | 24.4 | 21.9 | | |
| | 201.75 | | 42.5 | 2.3 | N/A | 24.3 | 20.5 | | |
| | Internal Signal | | 3 | 43.34 | 46.2 | 2.3 | N/A | 24.3 | 24.2 |
| | | | | 47.73 | 45.0 | 2.3 | N/A | 24.3 | 23.0 |
| 50.50 | | 50.8 | | 2.3 | N/A | 24.3 | 28.8 | | |
| 72.00 | | 50.2 | | 2.3 | N/A | 24.4 | 28.1 | | |
| 79.13 | | 42.5 | | 2.3 | N/A | 24.4 | 20.4 | | |
| 122.50 | | 45.1 | | 2.3 | N/A | 24.3 | 23.1 | | |
| 4 | | 49.34 | 45.5 | 2.3 | N/A | 24.3 | 23.5 | | |
| | | 53.70 | 44.1 | 2.3 | N/A | 24.3 | 22.1 | | |
| | | 56.50 | 50.5 | 2.3 | N/A | 24.3 | 28.5 | | |
| | | 78.00 | 48.9 | 2.3 | N/A | 24.4 | 26.8 | | |
| | | 85.14 | 44.0 | 2.3 | N/A | 24.4 | 21.9 | | |
| | | 201.75 | 42.5 | 2.3 | N/A | 24.3 | 20.5 | | |
| | | RF/CATV Signal Input | 3 | 43.34 | 46.2 | 2.3 | N/A | 24.3 | 24.2 |
| | | | | 47.73 | 45.0 | 2.3 | N/A | 24.3 | 23.0 |
| 50.50 | 50.8 | | | 2.3 | N/A | 24.3 | 28.8 | | |
| 72.00 | 50.2 | | | 2.3 | N/A | 24.4 | 28.1 | | |
| 79.13 | 42.5 | | | 2.3 | N/A | 24.4 | 20.4 | | |
| 122.50 | 45.1 | | | 2.3 | N/A | 24.3 | 23.1 | | |
| 4 | 49.34 | | 45.5 | 2.3 | N/A | 24.3 | 23.5 | | |
| | 53.70 | | 44.1 | 2.3 | N/A | 24.3 | 22.1 | | |
| | 56.50 | | 50.5 | 2.3 | N/A | 24.3 | 28.5 | | |
| | 78.00 | | 48.9 | 2.3 | N/A | 24.4 | 26.8 | | |
| | 85.14 | | 44.0 | 2.3 | N/A | 24.4 | 21.9 | | |
| | 201.75 | | 42.5 | 2.3 | N/A | 24.3 | 20.5 | | |

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Part 15 Subpart B, (TV Interface Device)

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, 3 Ch., 43.34 MHz ; $46.2 + 2.3 - 24.3 = 24.2$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

d) Amplifier

- Hewlett Packard

Model : 8447F

3. The spectrum was checked from 30 MHz to 1000 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Tuner: 115-V-HA35AK

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Part 15 Subpart B, (TV Interface Device)

6) 15.115 (c) Transfer Switch Isolation

| Video Signal | Ch | Meter Read.(dBuV) | Matching Pad Loss(dB) | Gain of Amp.(dB) | Pad Loss (dB) | Level (dBuV) |
|------------------------|----|-------------------|-----------------------|------------------|---------------|--------------|
| Multi Burst 1 V p-p | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| Multi Burst 5 V p-p | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| Internal Signal | 3 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |
| | 4 | <26.0 | 2.3 | 24.4 | N/A | <3.9 |

RF Output Impedance: 75 ohms (Unbalanced)

Note:

1. Sample calculation at

M.B., 1 V p-p, Visual, 3 Ch ; $<26.0 + 2.3 - 24.4 = <3.9$ (dBuV)

2. Measuring Instrument:

a) Spectrum Analyzer

- Anritsu Electric Co., Ltd.

Model : MS62B

(1) Detector function : Peak

(2) Band width : 100 kHz

b) Matching Pad

- Anritsu Electric Co., Ltd.

Model : MP614A

(1) Frequency range : 10 - 1200 MHz

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

d) Amplifier

- Hewlett Packard

Model : 8447F

Part 15 Subpart B, (TV Interface Device)

15.107 POWER LINE CONDUCTED VOLTAGE

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -

(Arrangement of interface cable on the test table)



15 Subpart B. (TV Interface Device)

15.109 RADIATED EMISSION
- CONFIGURATION OF THE EQUIPMENT UNDER TEST -
(Arrangement of interface cable on the test table)

