



**FCC Certification Test Report**  
**for**  
**Pelican Accessories**  
**O7X-G3-1**

**January 17, 2003**

Prepared for:

**Pelican Accessories**  
**1840 East 27th Street**  
**Vernon, CA 90058**

Prepared By:

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**7560 Lindbergh Drive**  
**Gaithersburg, Maryland 20879**



## **FCC Certification Test Program**

**FCC Certification Test Report  
for the  
Pelican Accessories  
K9993P/PL-7008 Nintendo® Game Cube™ Wireless Controller  
O7X-G3-1**

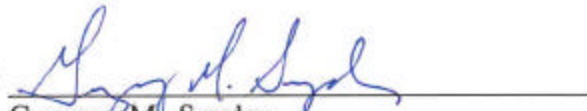
**January 17, 2003**

WLL JOB# 7150

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## **Abstract**

This report has been prepared on behalf of Pelican Accessories to support the attached Application for Equipment Authorization. The test report and application are submitted for a Intentional Radiator under Part 15.249 of the FCC Rules and Regulations. This Federal Communication Commission (FCC) Certification Test Report documents the test configuration and test results for a Pelican Accessories K9993P/PL-7008 Nintendo® Game Cube™ Wireless Controller.

Testing was performed on an Open Area Test Site (OATS) of Washington Laboratories, Ltd, 7560 Lindbergh Drive, Gaithersburg, MD 20879. Site description and site attenuation data have been placed on file with the FCC's Sampling and Measurements Branch at the FCC laboratory in Columbia, MD. Washington Laboratories, Ltd. has been accepted by the FCC and approved by NIST NVLAP (NVLAP Lab Code: 200066-0) as an independent FCC test laboratory.

The Pelican Accessories K9993P/PL-7008 Nintendo® Game Cube™ Wireless Controller complies with the limits for a Intentional Radiator device under Part 15.249 of the FCC Rules and Regulations.

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## **1 Introduction**

### **1.1 Compliance Statement**

The Pelican Accessories K9993P/PL-7008 Nintendo® Game Cube™ Wireless Controller complies with the limits for an Intentional Radiator device under Part 15.249 of the FCC Rules and Regulations.

This test report reflects the testing performed for the certification of the K9993H. Separate testing was performed for the digital and receiver portion under the DoC process.

### **1.2 Test Scope**

Tests for radiated and conducted emissions were performed. All measurements were performed according to the 1992 version of ANSI C63.4. The measurement equipment conforms to ANSI C63.2 Specifications for Electromagnetic Noise and Field Strength Instrumentation.

### **1.3 Contract Information**

Customer: Pelican Accessories  
1840 East 27th Street  
Vernon, CA 90058

Quotation Number: 60114

### **1.4 Test Dates**

Testing was performed from August 27, 2002 to October 10, 2002.

### **1.5 Test and Support Personnel**

Washington Laboratories, LTD Chad Beattie, Ken Gemmell, Thuan Ta

## 1.6 Abbreviations

|       |                                         |
|-------|-----------------------------------------|
| A     | Ampere                                  |
| Ac    | alternating current                     |
| AM    | Amplitude Modulation                    |
| Amps  | Amperes                                 |
| b/s   | bits per second                         |
| BW    | Bandwidth                               |
| CE    | Conducted Emission                      |
| cm    | centimeter                              |
| CW    | Continuous Wave                         |
| dB    | decibel                                 |
| dc    | direct current                          |
| EMI   | Electromagnetic Interference            |
| EUT   | Equipment Under Test                    |
| FM    | Frequency Modulation                    |
| G     | giga - prefix for $10^9$ multiplier     |
| Hz    | Hertz                                   |
| IF    | Intermediate Frequency                  |
| k     | kilo - prefix for $10^3$ multiplier     |
| M     | Mega - prefix for $10^6$ multiplier     |
| m     | Meter                                   |
| $\mu$ | micro - prefix for $10^{-6}$ multiplier |
| NB    | Narrowband                              |
| LISN  | Line Impedance Stabilization Network    |
| RE    | Radiated Emissions                      |
| RF    | Radio Frequency                         |
| rms   | root-mean-square                        |
| SN    | Serial Number                           |
| S/A   | Spectrum Analyzer                       |
| V     | Volt                                    |

## 2 Equipment Under Test

### 2.1 EUT Identification & Description

The Pelican Accessories K9993P/PL-7008 Nintendo® Game Cube™ Wireless Controller is part of a wireless controller system for the Nintendo® Game Cube™ video game console. The K9993P/PL-7008 replaces the hard-wired controller, and transmits and receives commands to the Pelican system interface host (the K9993H “dongle”, separate certification).

The RF controller pad is battery powered and has 8 selectable channels. Channels are selectable via slide switches on the controller. One slide switch is provided to allow the selection of band A or band B while the other switch allows the selection of four channels within each band. Table 1 lists the channels and frequencies along with other characteristics.

**Table 1. Device Summary**

| ITEM                    | DESCRIPTION                                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer:           | Pelican Accessories                                                                                                                      |
| FCC ID Number           | O7X-G3-1                                                                                                                                 |
| EUT Name:               | Nintendo® Game Cube™ Wireless Controller                                                                                                 |
| Model:                  | K9993P/PL-7008                                                                                                                           |
| FCC Rule Parts:         | §15.249                                                                                                                                  |
| Frequency Range:        | 2 Bands; 4 Channels:<br>Band A: CH1 ~903, CH2 ~923.5, CH3 ~916.5, CH4 ~909.5 MHz<br>Band B: CH1 ~906, CH2 ~926.5, CH3 ~920, CH4 ~913 MHz |
| Maximum Output Power:   | <1mW                                                                                                                                     |
| Modulation:             | FSK                                                                                                                                      |
| Occupied Bandwidth:     | 240 kHz                                                                                                                                  |
| Keying:                 | Manual                                                                                                                                   |
| Type of Information:    | Control                                                                                                                                  |
| Number of Channels:     | 8                                                                                                                                        |
| Power Output Level      | Fixed                                                                                                                                    |
| Antenna Type            | Integral                                                                                                                                 |
| Interface Cables:       | None                                                                                                                                     |
| Power Source & Voltage: | 3Vdc provided by two (2) 1.5v AA batteries                                                                                               |

### 2.2 Test Configuration

The K9993P/PL-7008 was configured with a Nintendo® Game Cube™ and a companion game interface K9993H (Dongle). The video game device was connected to a television set and a sample game was set to run in normal mode.

### 2.3 Testing Algorithm

The K9993P/PL-7008 was operated continuously by transmitting play commands to the interface/game console.



The K9993P/PL-7008, Nintendo® Game Cube™ and television were powered on a game was inserted into the Nintendo® Game Cube™. Once communication was established the K9993P/PL-7008 continuously transmitted to the K9993H connected to the Nintendo® Game Cube™ console. All controller pad buttons were pressed to determine the worst case duty cycle operation. It was verified that there was no difference in duty cycle or bandwidth for pressing different buttons.

Worst case emission levels are provided in the test results data.

## 2.4 Test Location

All measurements herein were performed at Washington Laboratories, Ltd. test center in Gaithersburg, MD. Site description and site attenuation data have been placed on file with the FCC's Sampling and Measurements Branch at the FCC laboratory in Columbia, MD. Washington Laboratories, Ltd. has been accepted by the FCC and approved by NIST NVLAP (NVLAP Lab Code: 200066-0) as an independent FCC test laboratory.

## 2.5 Measurements

### 2.5.1 References

ANSI C63.2 Specifications for Electromagnetic Noise and Field Strength Instrumentation

ANSI C63.4 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

Land Mobile FM or PM Communications Equipment Measurement and Performance Standards (ANSI/TIA/EIA-603-93)

## 2.6 Measurement Uncertainty

All results reported herein relate only to the equipment tested. For the purposes of the measurements performed by Washington Laboratories, the measurement uncertainty is  $\pm 2.3$  dB. This has been calculated for a *worst-case situation* (radiated emissions measurements performed on an open area test site).

The following measurement uncertainty calculation is provided:

$$\text{Total Uncertainty} = (A^2 + B^2 + C^2)^{1/2}/(n-1)$$

where:

A = Antenna calibration uncertainty, in dB = 2 dB

B = Spectrum Analyzer uncertainty, in dB = 1 dB

C = Site uncertainty, in dB = 4 dB

n = number of factors in uncertainty calculation = 3

Thus, Total Uncertainty =  $0.5 (2^2 + 1^2 + 4^2)^{1/2} = \pm 2.3$  dB.

### 3 Test Equipment

Table 2 shows a list of the test equipment used for measurements along with the calibration information.

**Table 2: Test Equipment List**

| Manufacturer & Model                     | Description                 | Serial Number | Property Number | Calibration Due Date |
|------------------------------------------|-----------------------------|---------------|-----------------|----------------------|
| A.H. Systems<br>SAS-200/518              | Log Periodic Antenna        | 117           | 00001           | 3/1/03               |
| Antenna Research Associates<br>DRG-118/A | Horn Antenna                | 1010          | 00004           | 11/28/02             |
| Antenna Research Associates<br>LPB-2520  | Biconilog Antenna<br>Site 2 | 1044          | 00007           | 6/19/03              |
| Hewlett Packard<br>8449B                 | Pre-Amplifier               | 3008A00729    | 00066           | 1/31/03              |
| Hewlett Packard<br>8564E                 | Spectrum Analyzer           | 3643A00657    | 00067           | 4/18/03              |
| Hewlett Packard<br>85650A                | Q.P. Adapter (Site 2)       | 2811A01283    | 00068           | 7/05/03              |
| Hewlett Packard<br>85685A                | RF Preselector (Site 2)     | 3221A01395    | 00071           | 5/17/03              |
| Hewlett Packard<br>8568B                 | Spectrum Analyzer (Site 2)  | 2928A04750    | 00072           | 7/03/03              |
| Solar Electronics<br>8012-50-R-24-BNC    | LISN                        | 8379493       | 00124           | 7/05/03              |

## 4 Test Results

### 4.1 Duty Cycle Correction

Measurements may be adjusted where pulsed RF is utilized to find the average level associated with a quantity. This calculation is applied to limits for pulsed licensed and unlicensed devices.

On time =  $N_1L_1 + N_2L_2 + \dots + N_{N-1}L_{N-1} + N_NL_N$ , where  $N_1$  is number of type 1 pulses,  $L_1$  is length of type 1 pulses, etc.

- For Licensed Transmitters basic formula can be stated as  $20\log[\text{Duty Cycle}]$
- For Unlicensed Intentional Radiators under 47CFR Part 15, all duty cycle measurements compared to a 100 millisecond period
- i.e. duty cycle = on time/100 milliseconds or period, whichever is less
- Restating the basic formula:
  - o Duty cycle =  $(N_1L_1 + N_2L_2 + \dots + N_{N-1}L_{N-1} + N_NL_N)/100$  or T, whichever is less

Where T is the period of the pulse train.

The following Figures show the plots of the modulated carrier. The spectrum analyzer was set to Zero Span and the video triggered to collect the pulse train of the modulation. Calculations of the duty cycle correction factor were obtained from time data provided by the plots.

The worst case 100ms duty cycle was captured for the operation of the K9993P/PL-7008. Different buttons were depressed to assure that the worst case duty cycle was captured. Figure 1 shows the worst case 100ms along with the pulse train of the transmitter. Figure 2 is a measurement of the pulse width.

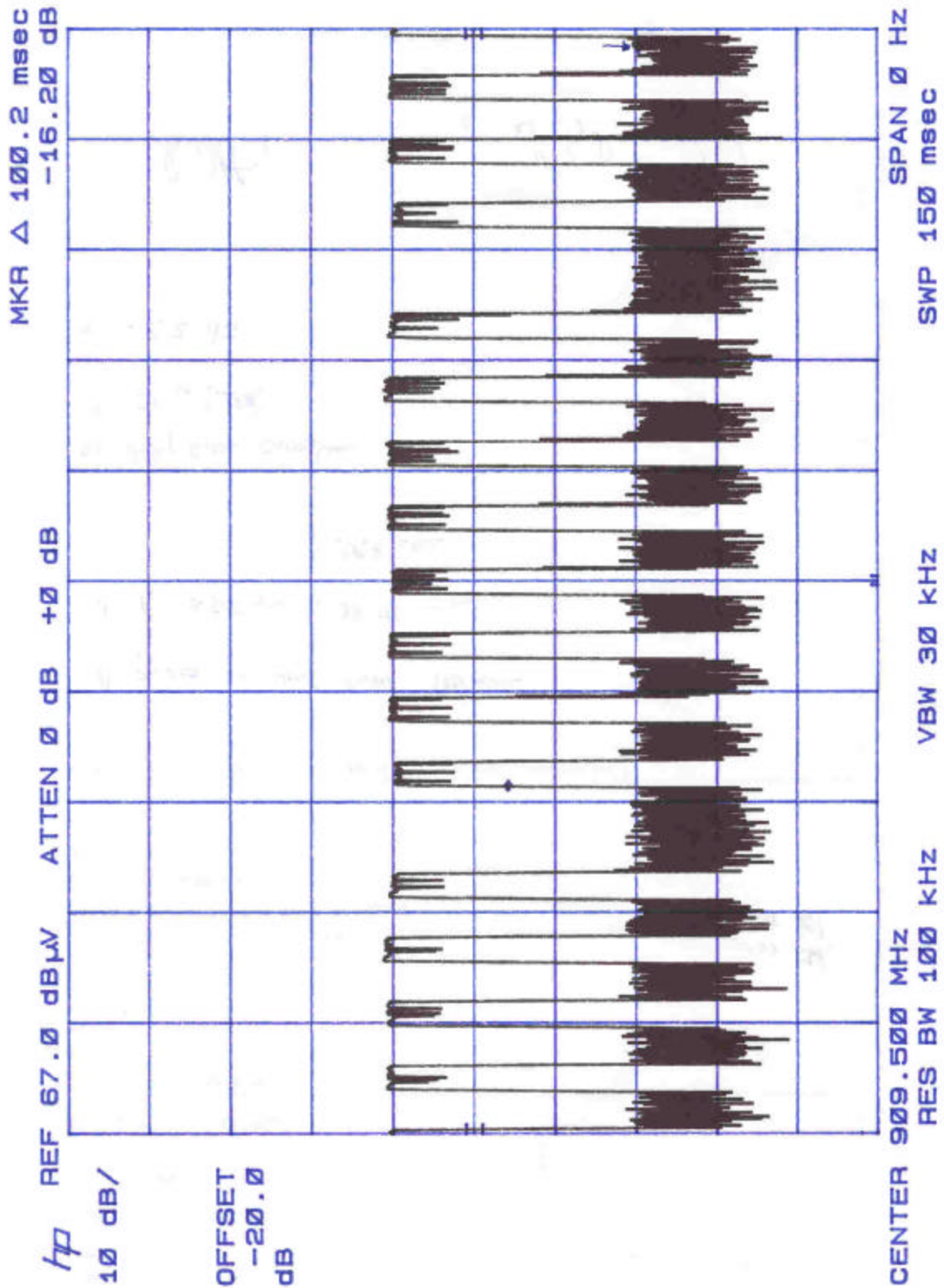


Figure 1. Duty Cycle Plot – Worst Case 100ms and Pulse Train

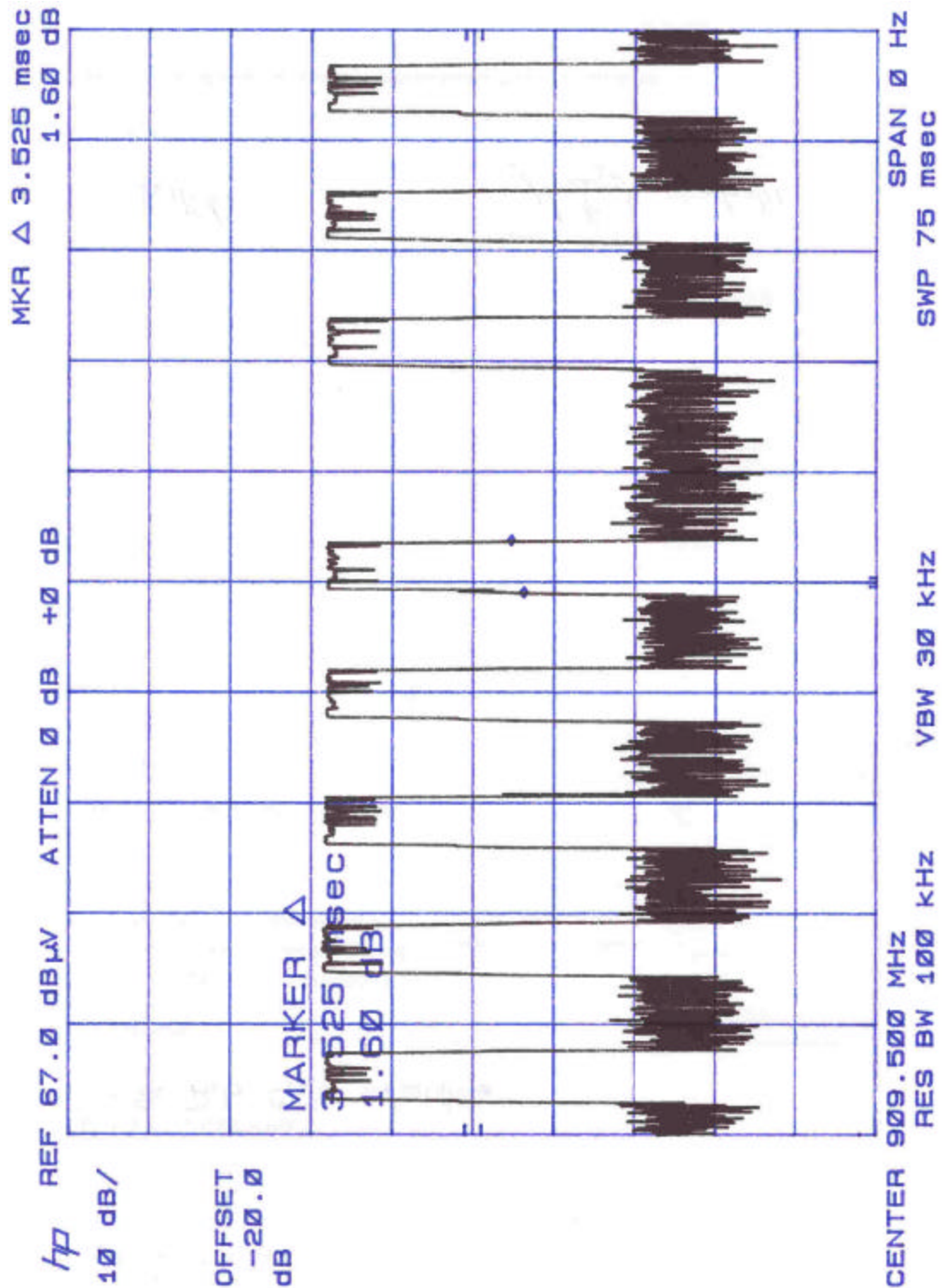


Figure 2. Duty Cycle Plot – Pulse Width

From the data in Figure 1 and Figure 2, the following calculations are made.

On Time Per 100ms (worst case):

$$11 \times 3.525\text{ms} = 38.78\text{ms}$$

Duty cycle calculation:

$$38.77\text{ms}/100\text{ms} = 38.77 \text{ on time} = -8.2\text{dB duty cycle correction.}$$

#### **4.2 Occupied Bandwidth: (FCC Part §2.1049)**

Occupied bandwidth was performed by coupling the output of the EUT to the input of a spectrum analyzer.

At full modulation, the occupied bandwidth was measured for a low, middle and high channel as shown in Figures 3 through 5:

:

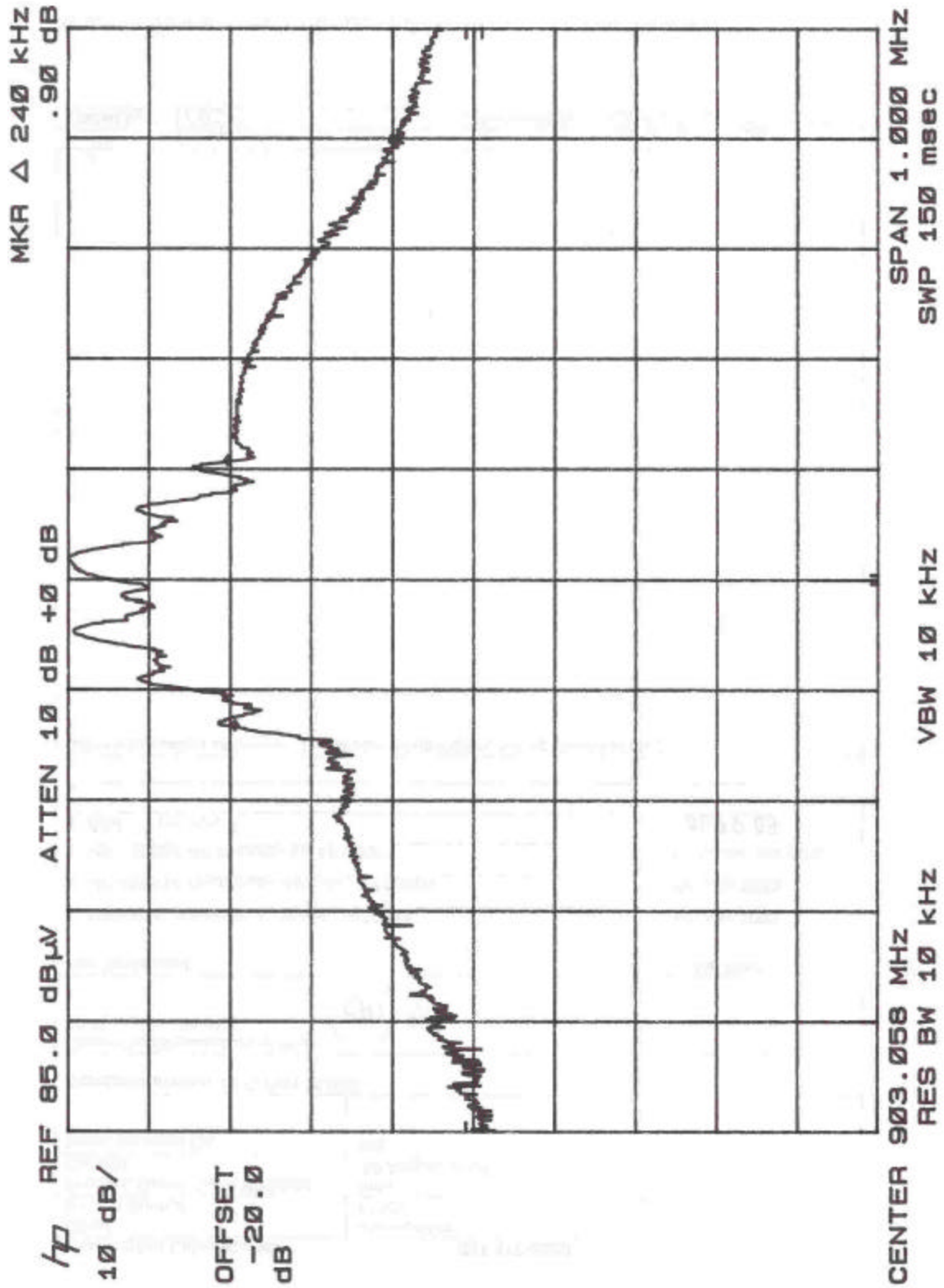


Figure 3. Occupied Bandwidth, Low Channel



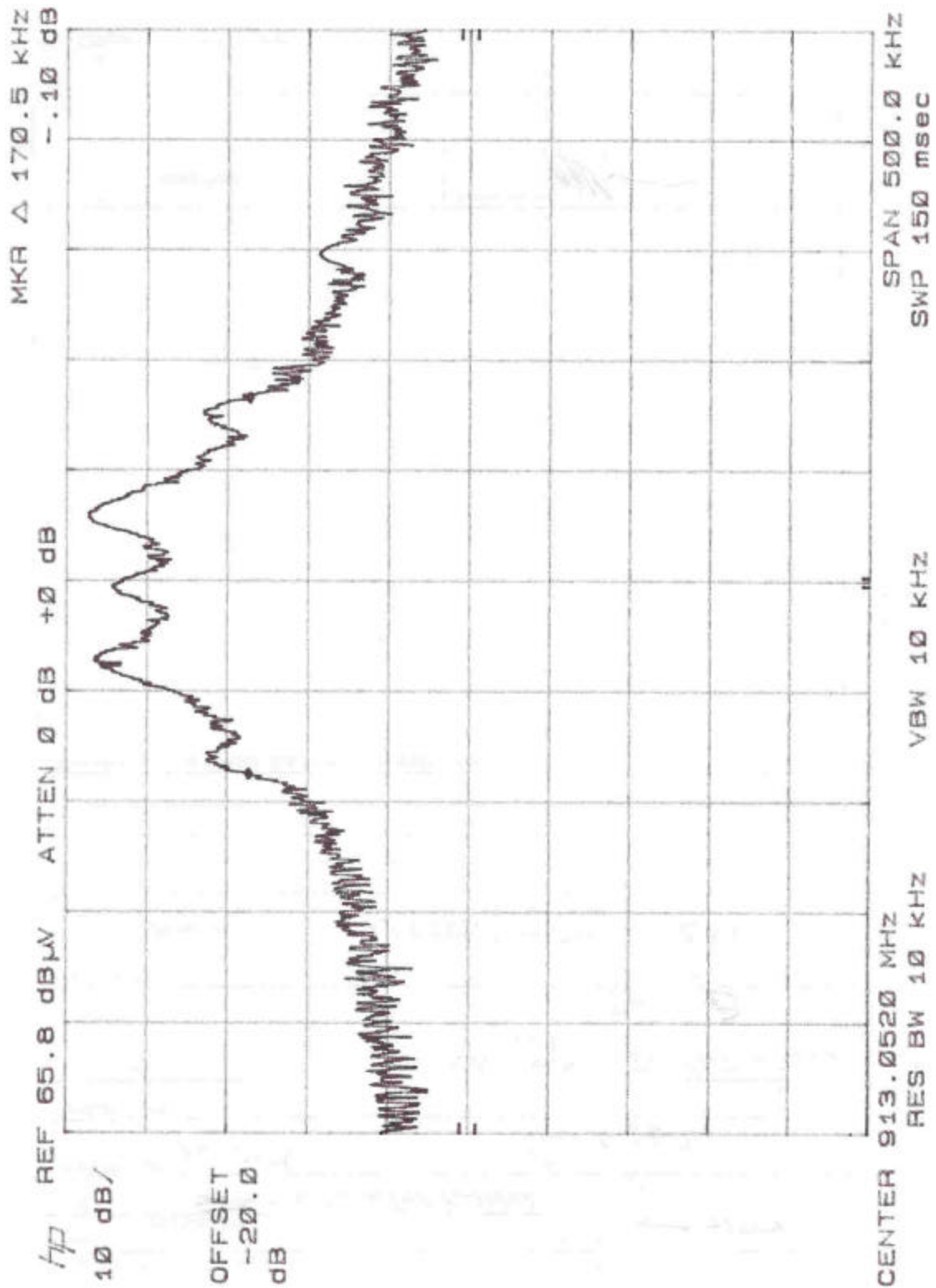


Figure 4. Occupied Bandwidth, Mid Channel



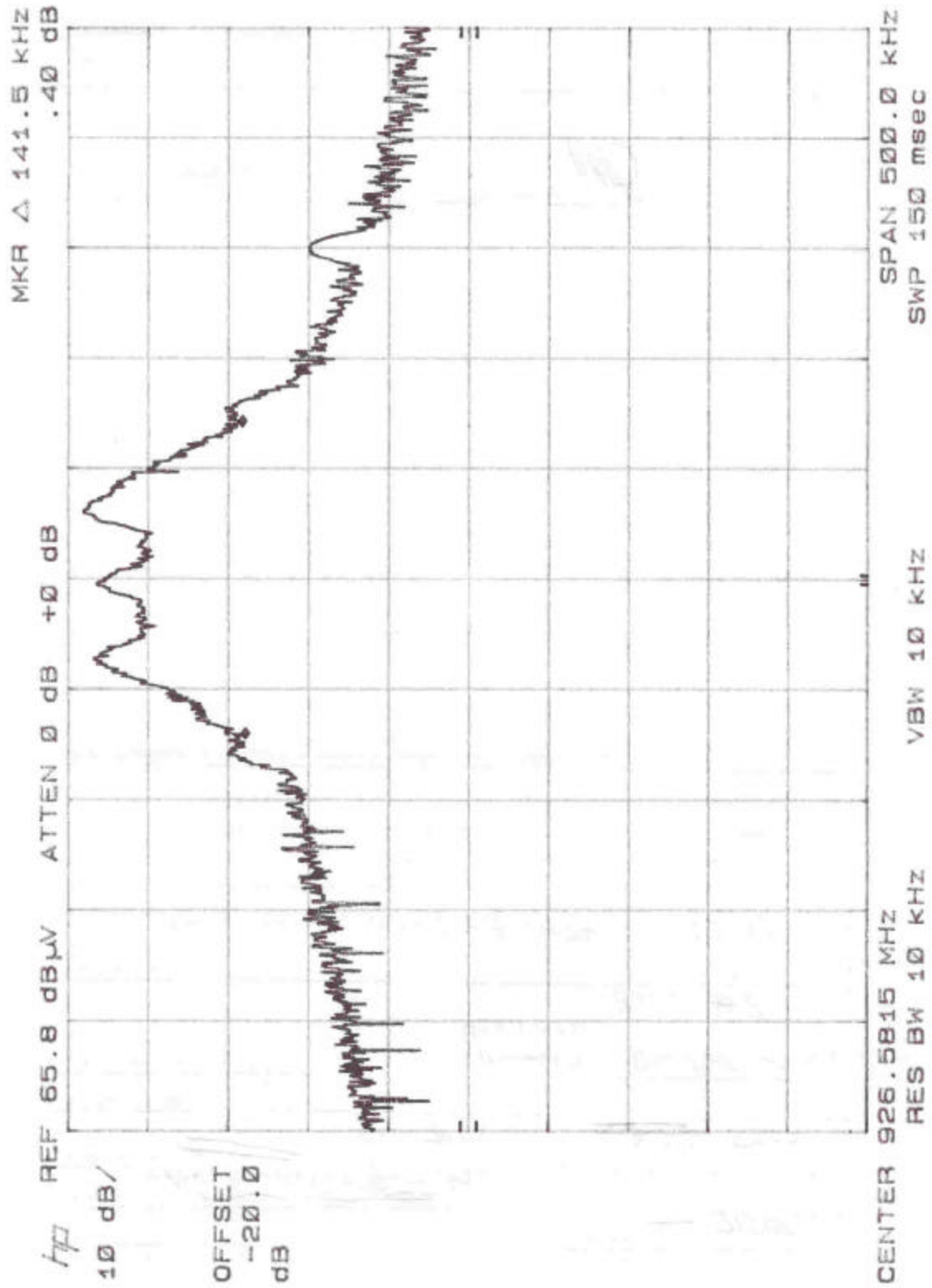


Figure 5. Occupied Bandwidth, High Channel

Table 3 provides a summary of the Occupied Bandwidth Results.

**Table 3. Occupied Bandwidth Results**

| Channel | Frequency   | Bandwidth |
|---------|-------------|-----------|
| Low     | 903.058 MHz | 240 kHz   |
| Middle  | 913.05 MHz  | 170.5 kHz |
| High    | 926.58 MHz  | 141.5 kHz |

#### **4.3 Radiated Emissions: (FCC Part §2.1053)**

The EUT must comply with the radiated emission limits of 15.249(a). The limits are as shown in the following table.

**Table 4. Radiated Emissions Limits**

| <b>Fundamental Frequency</b> | <b>Field Strength of Fundamental<br/>(<math>\mu</math>V/m)</b> | <b>Field Strength of Harmonics<br/>(<math>\mu</math>V/m)</b> |
|------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|
| 902 – 928 MHz                | 50,000                                                         | 500                                                          |
| 2400 – 2483.5 MHz            | 50,000                                                         | 500                                                          |
| 5725 – 5875 MHz              | 50,000                                                         | 500                                                          |
| 24.00 – 24.25 MHz            | 250,000                                                        | 2500                                                         |

##### **4.3.1 Test Procedure**

The EUT was placed on motorized turntable for radiated testing on a 3-meter open field test site. The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. Receiving antennas were mounted on an antenna mast to determine the height of maximum emissions. The height of the antenna was varied between 1 and 4 meters. The peripherals were placed on the table in accordance with ANSI C63.4-1992. Cables were varied in position to produce maximum emissions. Both the horizontal and vertical field components were measured.

The emissions were measured using the following resolution bandwidths:

| <b>Frequency Range</b> | <b>Resolution Bandwidth</b> | <b>Video Bandwidth</b> |
|------------------------|-----------------------------|------------------------|
| 30MHz-1000 MHz         | 100kHz                      | >100kHz                |
| >1000 MHz              | 1 MHz                       | 1MHz (peak)            |

Emissions were measured to the 10<sup>th</sup> harmonic of the transmit frequency. The controller was tested in three orthogonal planes. Worst case emission levels are reported.

The following is a sample calculation used in the data tables for calculating the final field strength of spurious emissions and comparing these levels to the specified limits.

Sample Calculation:

|                                       |                                                                                                             |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Spectrum Analyzer Voltage (SA Level): | V dBμV                                                                                                      |
| Antenna Factor (Ant Corr):            | AFdB/m                                                                                                      |
| Cable Loss Correction (Cable Corr):   | CCdB                                                                                                        |
| Duty Cycle Correction (Average)       | DCCdB                                                                                                       |
| Amplifier Gain:                       | GdB                                                                                                         |
| Electric Field (Corr Level):          | $\text{EdB}\mu\text{V/m} = \text{VdB}\mu\text{V} + \text{AFdB/m} + \text{CCdB} + \text{DCCdB} - \text{GdB}$ |

\*Note: The amplifier gain is listed at the top of the data sheet and is included in the final field strength calculation.

**Table 5. Radiated Emissions Test Data**

|                                     |                                  |                                  |             |
|-------------------------------------|----------------------------------|----------------------------------|-------------|
| CLIENT:                             | Electro-Source                   | DATE:                            | 10/9/02     |
| TESTER:                             | Ken Gemmell                      | JOB #:                           | 7150        |
| <b><u>EUT Information:</u></b>      |                                  | <b><u>Test Requirements:</u></b> |             |
| EUT:                                | G3 Game Cube wireless controller | TEST STANDARD:                   | FCC Part 15 |
| CONFIGURATION:                      | EUT TX Controller                | DISTANCE:                        | 3m          |
| CLOCKS:                             | 903.065 MHz TX (CH1)             | CLASS:                           | B           |
| <b><u>Test Equipment/Limit:</u></b> |                                  |                                  |             |
| ANTENNA:                            | A_00007                          |                                  |             |
| CABLE:                              | CSITE2_3m                        |                                  |             |
| LIMIT:                              | LFCC_3m_Class_B                  |                                  |             |
| AMPLIFIER (dB)                      | 0                                |                                  |             |

| Frequency<br>(MHz) | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|--------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| Ch.1,<br>903.47MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 903.47             | H               | 225.0             | 1.0                 | 61.3                          | 21.5                    | 7.6                    | 90.4                       | 33287.7                  | 50000.0         | -3.5         | X     |
| 903.47             | V               | 270.0             | 1.0                 | 56.3                          | 21.5                    | 7.6                    | 85.4                       | 18719.0                  | 50000.0         | -8.5         | X     |
| 903.47             | H               | 315.0             | 1.0                 | 57.7                          | 21.5                    | 7.6                    | 86.8                       | 21993.0                  | 50000.0         | -7.1         | Y     |
| 903.47             | V               | 315.0             | 1.0                 | 54.5                          | 21.5                    | 7.6                    | 83.6                       | 15215.4                  | 50000.0         | -10.3        | Y     |
| 903.47             | H               | 45.0              | 1.0                 | 53.9                          | 21.5                    | 7.6                    | 83.0                       | 14199.8                  | 50000.0         | -10.9        | Z     |
| 903.47             | V               | 45.0              | 1.0                 | 54.0                          | 21.5                    | 7.6                    | 83.1                       | 14364.3                  | 50000.0         | -10.8        | Z     |
| Ch.2,<br>926.5MHz  |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 926.47             | H               | 225.0             | 1.0                 | 61.0                          | 22.3                    | 7.7                    | 91.0                       | 35479.8                  | 50000.0         | -3.0         | X     |
| 926.47             | V               | 315.0             | 1.0                 | 54.3                          | 22.3                    | 7.7                    | 84.3                       | 16405.2                  | 50000.0         | -9.7         | X     |
| 926.47             | H               | 180.0             | 1.0                 | 56.7                          | 22.3                    | 7.7                    | 86.7                       | 21626.2                  | 50000.0         | -7.3         | Y     |
| 926.47             | V               | 225.0             | 1.0                 | 56.2                          | 22.3                    | 7.7                    | 86.2                       | 20416.5                  | 50000.0         | -7.8         | Y     |
| 926.47             | H               | 180.0             | 1.0                 | 56.3                          | 22.3                    | 7.7                    | 86.3                       | 20652.9                  | 50000.0         | -7.7         | Z     |
| 926.47             | V               | 180.0             | 1.3                 | 57.2                          | 22.3                    | 7.7                    | 87.2                       | 22907.7                  | 50000.0         | -6.8         | Z     |
| Ch.4,<br>913.05MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 913.05             | H               | 180.0             | 1.0                 | 61.5                          | 21.9                    | 7.6                    | 91.0                       | 35295.3                  | 50000.0         | -3.0         | X     |
| 913.05             | V               | 180.0             | 1.5                 | 55.6                          | 21.9                    | 7.6                    | 85.1                       | 17894.4                  | 50000.0         | -8.9         | X     |
| 913.05             | H               | 225.0             | 1.0                 | 57.5                          | 21.9                    | 7.6                    | 87.0                       | 22269.8                  | 50000.0         | -7.0         | Y     |
| 913.05             | V               | 180.0             | 1.0                 | 55.0                          | 21.9                    | 7.6                    | 84.5                       | 16700.0                  | 50000.0         | -9.5         | Y     |
| 913.05             | H               | 180.0             | 1.5                 | 56.3                          | 21.9                    | 7.6                    | 85.8                       | 19396.2                  | 50000.0         | -8.2         | Z     |
| 913.05             | V               | 180.0             | 1.3                 | 57.2                          | 21.9                    | 7.6                    | 86.7                       | 21513.8                  | 50000.0         | -7.3         | Z     |

**Table 6: Radiated Emission Test Data, Average Data Above 1GHz**

|                                     |                                  |                                  |             |
|-------------------------------------|----------------------------------|----------------------------------|-------------|
| CLIENT:                             | Electro-Source                   | DATE:                            | 10/7/02     |
| TESTER:                             | Ken Gemmell                      | JOB #:                           | 7151Q       |
| <b><u>EUT Information:</u></b>      |                                  | <b><u>Test Requirements:</u></b> |             |
| EUT:                                | G3 Game Cube wireless controller | TEST STANDARD:                   | FCC Part 15 |
| MODEL:                              | K9993P/PL-7008                   | DISTANCE:                        | 3m          |
| CLOCKS:                             | 903.065 MHz TX (CH1)             | CLASS:                           | B           |
| <b><u>Test Equipment/Limit:</u></b> |                                  |                                  |             |
| ANTENNA:                            | A_00004                          |                                  |             |
| CABLE:                              | CSITE2_HF                        |                                  |             |
| LIMIT:                              | LFCC_3m_Class_B                  |                                  |             |
| AMPLIFIER (dB)                      | 34                               |                                  |             |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Duty<br>Cycle<br>Corr | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|-----------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| Horiz (X)<br>Ch.1, 903.47MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1807.04                      | H               | 180.0             | 1.0                 | 61.3                          | 28.3                    | 3.1                    | -8.2                  | 50.4                       | 332.8                    | 500.0           | -3.5         |       |
| 2710.51                      | H               | 180.0             | 1.0                 | 53.7                          | 30.2                    | 2.9                    | -8.2                  | 44.7                       | 171.6                    | 500.0           | -9.3         |       |
| 3613.98                      | H               | 180.0             | 1.0                 | 51.7                          | 31.3                    | 2.8                    | -8.2                  | 43.6                       | 151.0                    | 500.0           | -10.4        |       |
| 4517.45                      | H               | 180.0             | 1.0                 | 45.8                          | 32.4                    | 3.7                    | -8.2                  | 39.7                       | 96.2                     | 500.0           | -14.3        |       |
| 5420.92                      | H               | 180.0             | 1.0                 | 45.1                          | 33.9                    | 4.3                    | -8.2                  | 41.1                       | 113.6                    | 500.0           | -12.9        |       |
| 6324.39                      | H               | 0.0               | 1.0                 | 44.6                          | 35.9                    | 4.2                    | -8.2                  | 42.5                       | 132.9                    | 500.0           | -11.5        | amb   |
| 7227.86                      | H               | 0.0               | 1.0                 | 45.2                          | 37.8                    | 4.5                    | -8.2                  | 45.3                       | 184.8                    | 500.0           | -8.6         | amb   |
| 8131.33                      | H               | 0.0               | 1.0                 | 45.7                          | 38.5                    | 4.9                    | -8.2                  | 46.9                       | 220.2                    | 500.0           | -7.1         | amb   |
| 9034.80                      | H               | 0.0               | 1.0                 | 44.7                          | 39.0                    | 4.9                    | -8.2                  | 46.4                       | 208.7                    | 500.0           | -7.6         | amb   |
| 1807.04                      | V               | 180.0             | 1.0                 | 59.8                          | 28.3                    | 3.1                    | -8.2                  | 49.0                       | 281.3                    | 500.0           | -5.0         |       |
| 2710.51                      | V               | 180.0             | 1.0                 | 56.9                          | 30.2                    | 2.9                    | -8.2                  | 47.8                       | 246.0                    | 500.0           | -6.2         |       |
| 3613.98                      | V               | 180.0             | 1.0                 | 51.9                          | 31.3                    | 2.8                    | -8.2                  | 43.8                       | 155.6                    | 500.0           | -10.1        |       |
| 4517.45                      | V               | 0.0               | 1.0                 | 44.5                          | 32.4                    | 3.7                    | -8.2                  | 38.4                       | 83.2                     | 500.0           | -15.6        | amb   |
| 5420.92                      | V               | 0.0               | 1.0                 | 45.1                          | 33.9                    | 4.3                    | -8.2                  | 41.0                       | 112.6                    | 500.0           | -12.9        | amb   |
| 6324.39                      | V               | 0.0               | 1.0                 | 45.3                          | 35.9                    | 4.2                    | -8.2                  | 43.1                       | 142.8                    | 500.0           | -10.9        | amb   |
| 7227.86                      | V               | 0.0               | 1.0                 | 45.7                          | 37.8                    | 4.5                    | -8.2                  | 45.8                       | 195.0                    | 500.0           | -8.2         | amb   |
| 8131.33                      | V               | 0.0               | 1.0                 | 47.2                          | 38.5                    | 4.9                    | -8.2                  | 48.3                       | 260.5                    | 500.0           | -5.7         | amb   |
| 9034.80                      | V               | 0.0               | 1.0                 | 46.2                          | 39.0                    | 4.9                    | -8.2                  | 47.9                       | 249.5                    | 500.0           | -6.0         | amb   |
| Horiz (Y)<br>Ch.1, 903.47MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1807.04                      | H               | 180.0             | 1.0                 | 60.3                          | 28.3                    | 3.1                    | -8.2                  | 49.5                       | 297.7                    | 500.0           | -4.5         |       |
| 2710.51                      | H               | 180.0             | 1.0                 | 59.8                          | 30.2                    | 2.9                    | -8.2                  | 50.8                       | 345.5                    | 500.0           | -3.2         |       |
| 3613.98                      | H               | 180.0             | 1.0                 | 53.5                          | 31.3                    | 2.8                    | -8.2                  | 45.4                       | 187.1                    | 500.0           | -8.5         |       |
| 4517.45                      | H               | 180.0             | 1.0                 | 49.8                          | 32.4                    | 3.7                    | -8.2                  | 43.7                       | 153.4                    | 500.0           | -10.3        |       |
| 5420.92                      | H               | 90.0              | 1.0                 | 47.9                          | 33.9                    | 4.3                    | -8.2                  | 43.9                       | 156.6                    | 500.0           | -10.1        |       |
| 6324.39                      | H               | 0.0               | 1.0                 | 44.9                          | 35.9                    | 4.2                    | -8.2                  | 42.7                       | 136.6                    | 500.0           | -11.3        | amb   |
| 7227.86                      | H               | 0.0               | 1.0                 | 46.5                          | 37.8                    | 4.5                    | -8.2                  | 46.6                       | 214.6                    | 500.0           | -7.3         | amb   |
| 8131.33                      | H               | 0.0               | 1.0                 | 47.5                          | 38.5                    | 4.9                    | -8.2                  | 48.6                       | 270.6                    | 500.0           | -5.3         | amb   |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Duty<br>Cycle<br>Corr | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|-----------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 9034.80                      | H               | 0.0               | 1.0                 | 46.3                          | 39.0                    | 4.9                    | -8.2                  | 48.0                       | 252.4                    | 500.0           | -5.9         | amb   |
| 1807.04                      | V               | 180.0             | 1.0                 | 58.7                          | 28.3                    | 3.1                    | -8.2                  | 47.9                       | 248.1                    | 500.0           | -6.1         |       |
| 2710.51                      | V               | 180.0             | 1.0                 | 55.4                          | 30.2                    | 2.9                    | -8.2                  | 46.4                       | 209.2                    | 500.0           | -7.6         |       |
| 3613.98                      | V               | 180.0             | 1.0                 | 53.5                          | 31.3                    | 2.8                    | -8.2                  | 45.4                       | 186.4                    | 500.0           | -8.6         |       |
| 4517.45                      | V               | 180.0             | 1.0                 | 49.1                          | 32.4                    | 3.7                    | -8.2                  | 43.0                       | 140.9                    | 500.0           | -11.0        |       |
| 5420.92                      | V               | 90.0              | 1.0                 | 46.5                          | 33.9                    | 4.3                    | -8.2                  | 42.4                       | 132.3                    | 500.0           | -11.5        |       |
| 6324.39                      | V               | 0.0               | 1.0                 | 45.3                          | 35.9                    | 4.2                    | -8.2                  | 43.2                       | 144.2                    | 500.0           | -10.8        | amb   |
| 7227.86                      | V               | 0.0               | 1.0                 | 47.4                          | 37.8                    | 4.5                    | -8.2                  | 47.5                       | 237.8                    | 500.0           | -6.5         | amb   |
| 8131.33                      | V               | 0.0               | 1.0                 | 46.0                          | 38.5                    | 4.9                    | -8.2                  | 47.2                       | 228.4                    | 500.0           | -6.8         | amb   |
| 9034.80                      | V               | 0.0               | 1.0                 | 46.2                          | 39.0                    | 4.9                    | -8.2                  | 47.9                       | 247.8                    | 500.0           | -6.1         | amb   |
| Horiz (Z) Ch.1,<br>903.47MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1807.04                      | H               | 180.0             | 1.0                 | 60.8                          | 28.3                    | 3.1                    | -8.2                  | 49.9                       | 313.5                    | 500.0           | -4.1         |       |
| 2710.51                      | H               | 180.0             | 1.0                 | 56.2                          | 30.2                    | 2.9                    | -8.2                  | 47.1                       | 227.5                    | 500.0           | -6.8         |       |
| 3613.98                      | H               | 180.0             | 1.0                 | 53.5                          | 31.3                    | 2.8                    | -8.2                  | 45.4                       | 186.6                    | 500.0           | -8.6         |       |
| 4517.45                      | H               | 180.0             | 1.0                 | 49.7                          | 32.4                    | 3.7                    | -8.2                  | 43.6                       | 151.6                    | 500.0           | -10.4        |       |
| 5420.92                      | H               | 0.0               | 1.0                 | 48.0                          | 33.9                    | 4.3                    | -8.2                  | 43.9                       | 156.9                    | 500.0           | -10.1        | amb   |
| 6324.39                      | H               | 0.0               | 1.0                 | 45.4                          | 35.9                    | 4.2                    | -8.2                  | 43.2                       | 145.1                    | 500.0           | -10.7        | amb   |
| 7227.86                      | H               | 0.0               | 1.0                 | 46.7                          | 37.8                    | 4.5                    | -8.2                  | 46.9                       | 220.4                    | 500.0           | -7.1         | amb   |
| 8131.33                      | H               | 0.0               | 1.0                 | 46.7                          | 38.5                    | 4.9                    | -8.2                  | 47.8                       | 246.8                    | 500.0           | -6.1         | amb   |
| 9034.80                      | H               | 0.0               | 1.0                 | 46.2                          | 39.0                    | 4.9                    | -8.2                  | 47.9                       | 248.9                    | 500.0           | -6.1         | amb   |
| 1807.04                      | V               | 180.0             | 1.0                 | 61.4                          | 28.3                    | 3.1                    | -8.2                  | 50.6                       | 338.6                    | 500.0           | -3.4         |       |
| 2710.51                      | V               | 180.0             | 1.0                 | 58.8                          | 30.2                    | 2.9                    | -8.2                  | 49.8                       | 309.4                    | 500.0           | -4.2         |       |
| 3613.98                      | V               | 180.0             | 1.0                 | 52.8                          | 31.3                    | 2.8                    | -8.2                  | 44.7                       | 171.6                    | 500.0           | -9.3         |       |
| 4517.45                      | V               | 180.0             | 1.0                 | 48.1                          | 32.4                    | 3.7                    | -8.2                  | 42.1                       | 126.7                    | 500.0           | -11.9        |       |
| 5420.92                      | V               | 180.0             | 1.0                 | 47.4                          | 33.9                    | 4.3                    | -8.2                  | 43.4                       | 147.6                    | 500.0           | -10.6        |       |
| 6324.39                      | V               | 0.0               | 1.0                 | 44.3                          | 35.9                    | 4.2                    | -8.2                  | 42.1                       | 127.4                    | 500.0           | -11.9        | amb   |
| 7227.86                      | V               | 0.0               | 1.0                 | 45.6                          | 37.8                    | 4.5                    | -8.2                  | 45.7                       | 192.6                    | 500.0           | -8.3         | amb   |
| 8131.33                      | V               | 0.0               | 1.0                 | 46.6                          | 38.5                    | 4.9                    | -8.2                  | 47.7                       | 243.9                    | 500.0           | -6.2         | amb   |
| 9034.80                      | V               | 0.0               | 1.0                 | 46.0                          | 39.0                    | 4.9                    | -8.2                  | 47.7                       | 242.4                    | 500.0           | -6.3         | amb   |
| Horiz (X)<br>Ch.4, 913MHz    |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1826.03                      | H               | 180.0             | 1.0                 | 56.0                          | 28.3                    | 3.1                    | -8.2                  | 45.3                       | 183.2                    | 500.0           | -8.7         |       |
| 2739.12                      | H               | 180.0             | 1.0                 | 56.4                          | 30.3                    | 2.9                    | -8.2                  | 47.4                       | 233.3                    | 500.0           | -6.6         |       |
| 3652.01                      | H               | 180.0             | 1.0                 | 50.3                          | 31.4                    | 2.8                    | -8.2                  | 42.2                       | 128.9                    | 500.0           | -11.8        |       |
| 4565.81                      | H               | 0.0               | 1.0                 | 45.4                          | 32.4                    | 3.8                    | -8.2                  | 39.4                       | 93.3                     | 500.0           | -14.6        | amb   |
| 5478.47                      | H               | 0.0               | 1.0                 | 44.9                          | 34.0                    | 4.3                    | -8.2                  | 40.9                       | 110.9                    | 500.0           | -13.1        | amb   |
| 6391.22                      | H               | 0.0               | 1.0                 | 46.1                          | 36.0                    | 4.2                    | -8.2                  | 44.0                       | 159.1                    | 500.0           | -9.9         | amb   |
| 7304.27                      | H               | 0.0               | 1.0                 | 45.8                          | 37.8                    | 4.6                    | -8.2                  | 46.0                       | 199.8                    | 500.0           | -8.0         | amb   |
| 8217.84                      | H               | 0.0               | 1.0                 | 45.4                          | 38.5                    | 4.9                    | -8.2                  | 46.6                       | 213.6                    | 500.0           | -7.4         | amb   |
| 9130.36                      | H               | 0.0               | 1.0                 | 46.1                          | 39.1                    | 4.9                    | -8.2                  | 47.9                       | 249.5                    | 500.0           | -6.0         | amb   |
| 1826.72                      | V               | 180.0             | 1.0                 | 58.2                          | 28.3                    | 3.1                    | -8.2                  | 47.4                       | 235.4                    | 500.0           | -6.5         |       |
| 2739.18                      | V               | 90.0              | 1.0                 | 54.5                          | 30.3                    | 2.9                    | -8.2                  | 45.5                       | 188.8                    | 500.0           | -8.5         |       |

| Frequency<br>(MHz)         | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Duty<br>Cycle<br>Corr | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|----------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|-----------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 3652.05                    | V               | 180.0             | 1.0                 | 54.1                          | 31.4                    | 2.8                    | -8.2                  | 46.0                       | 199.4                    | 500.0           | -8.0         |       |
| 4565.63                    | V               | 0.0               | 1.0                 | 45.9                          | 32.4                    | 3.8                    | -8.2                  | 39.9                       | 98.6                     | 500.0           | -14.1        | amb   |
| 5478.18                    | V               | 0.0               | 1.0                 | 45.7                          | 34.0                    | 4.3                    | -8.2                  | 41.7                       | 122.3                    | 500.0           | -12.2        | amb   |
| 6391.29                    | V               | 0.0               | 1.0                 | 46.4                          | 36.0                    | 4.2                    | -8.2                  | 44.4                       | 165.6                    | 500.0           | -9.6         | amb   |
| 7304.27                    | V               | 0.0               | 1.0                 | 46.6                          | 37.8                    | 4.6                    | -8.2                  | 46.8                       | 219.1                    | 500.0           | -7.2         | amb   |
| 8217.64                    | V               | 0.0               | 1.0                 | 46.5                          | 38.5                    | 4.9                    | -8.2                  | 47.7                       | 241.8                    | 500.0           | -6.3         | amb   |
| 9130.08                    | V               | 0.0               | 1.0                 | 46.0                          | 39.1                    | 4.9                    | -8.2                  | 47.8                       | 245.8                    | 500.0           | -6.2         | amb   |
|                            |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| Horiz (Y)<br>Ch.4, 913 MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1826.03                    | H               | 0.0               | 1.0                 | 56.4                          | 28.3                    | 3.1                    | -8.2                  | 45.6                       | 190.7                    | 500.0           | -8.4         |       |
| 2739.12                    | H               | 180.0             | 1.0                 | 59.9                          | 30.3                    | 2.9                    | -8.2                  | 50.8                       | 348.3                    | 500.0           | -3.1         |       |
| 3652.01                    | H               | 180.0             | 1.0                 | 54.1                          | 31.4                    | 2.8                    | -8.2                  | 46.1                       | 200.8                    | 500.0           | -7.9         |       |
| 4565.81                    | H               | 180.0             | 1.0                 | 47.3                          | 32.4                    | 3.8                    | -8.2                  | 41.3                       | 116.4                    | 500.0           | -12.7        |       |
| 5478.47                    | H               | 0.0               | 1.0                 | 45.6                          | 34.0                    | 4.3                    | -8.2                  | 41.6                       | 119.8                    | 500.0           | -12.4        | amb   |
| 6391.22                    | H               | 0.0               | 1.0                 | 45.7                          | 36.0                    | 4.2                    | -8.2                  | 43.7                       | 153.1                    | 500.0           | -10.3        | amb   |
| 7304.27                    | H               | 0.0               | 1.0                 | 46.5                          | 37.8                    | 4.6                    | -8.2                  | 46.7                       | 215.1                    | 500.0           | -7.3         | amb   |
| 8217.84                    | H               | 0.0               | 1.0                 | 46.7                          | 38.5                    | 4.9                    | -8.2                  | 47.9                       | 247.5                    | 500.0           | -6.1         | amb   |
| 9130.36                    | H               | 0.0               | 1.0                 | 45.9                          | 39.1                    | 4.9                    | -8.2                  | 47.7                       | 243.8                    | 500.0           | -6.2         | amb   |
| 1826.72                    | V               | 180.0             | 1.0                 | 56.9                          | 28.3                    | 3.1                    | -8.2                  | 46.2                       | 203.4                    | 500.0           | -7.8         |       |
| 2739.18                    | V               | 180.0             | 1.0                 | 50.4                          | 30.3                    | 2.9                    | -8.2                  | 41.4                       | 117.2                    | 500.0           | -12.6        |       |
| 3652.05                    | V               | 180.0             | 1.0                 | 53.9                          | 31.4                    | 2.8                    | -8.2                  | 45.9                       | 196.6                    | 500.0           | -8.1         |       |
| 4565.63                    | V               | 0.0               | 1.0                 | 46.6                          | 32.4                    | 3.8                    | -8.2                  | 40.6                       | 107.5                    | 500.0           | -13.4        | amb   |
| 5478.18                    | V               | 0.0               | 1.0                 | 44.5                          | 34.0                    | 4.3                    | -8.2                  | 40.5                       | 105.7                    | 500.0           | -13.5        | amb   |
| 6391.29                    | V               | 0.0               | 1.0                 | 46.1                          | 36.0                    | 4.2                    | -8.2                  | 44.0                       | 158.9                    | 500.0           | -10.0        | amb   |
| 7304.27                    | V               | 0.0               | 1.0                 | 46.0                          | 37.8                    | 4.6                    | -8.2                  | 46.2                       | 203.8                    | 500.0           | -7.8         | amb   |
| 8217.64                    | V               | 0.0               | 1.0                 | 47.1                          | 38.5                    | 4.9                    | -8.2                  | 48.3                       | 258.5                    | 500.0           | -5.7         | amb   |
| 9130.08                    | V               | 0.0               | 1.0                 | 45.5                          | 39.1                    | 4.9                    | -8.2                  | 47.3                       | 231.5                    | 500.0           | -6.7         | amb   |
|                            |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| Horiz (Z)<br>Ch.4, 913 MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1826.03                    | H               | 180.0             | 1.0                 | 56.3                          | 28.3                    | 3.1                    | -8.2                  | 45.6                       | 189.6                    | 500.0           | -8.4         |       |
| 2739.12                    | H               | 180.0             | 1.0                 | 57.4                          | 30.3                    | 2.9                    | -8.2                  | 48.4                       | 263.9                    | 500.0           | -5.6         |       |
| 3652.01                    | H               | 180.0             | 1.0                 | 51.2                          | 31.4                    | 2.8                    | -8.2                  | 43.1                       | 143.3                    | 500.0           | -10.9        |       |
| 4565.81                    | H               | 180.0             | 1.0                 | 46.4                          | 32.4                    | 3.8                    | -8.2                  | 40.4                       | 104.7                    | 500.0           | -13.6        |       |
| 5478.47                    | H               | 0.0               | 1.0                 | 44.9                          | 34.0                    | 4.3                    | -8.2                  | 40.9                       | 110.7                    | 500.0           | -13.1        | amb   |
| 6391.22                    | H               | 0.0               | 1.0                 | 44.1                          | 36.0                    | 4.2                    | -8.2                  | 42.0                       | 126.4                    | 500.0           | -11.9        | amb   |
| 7304.27                    | H               | 0.0               | 1.0                 | 46.2                          | 37.8                    | 4.6                    | -8.2                  | 46.3                       | 207.6                    | 500.0           | -7.6         | amb   |
| 8217.84                    | H               | 0.0               | 1.0                 | 46.7                          | 38.5                    | 4.9                    | -8.2                  | 47.9                       | 246.9                    | 500.0           | -6.1         | amb   |
| 9130.36                    | H               | 0.0               | 1.0                 | 46.3                          | 39.1                    | 4.9                    | -8.2                  | 48.1                       | 253.6                    | 500.0           | -5.9         | amb   |
| 1826.72                    | V               | 180.0             | 1.0                 | 60.0                          | 28.3                    | 3.1                    | -8.2                  | 49.3                       | 290.9                    | 500.0           | -4.7         |       |
| 2739.18                    | V               | 180.0             | 1.0                 | 56.2                          | 30.3                    | 2.9                    | -8.2                  | 47.1                       | 227.5                    | 500.0           | -6.8         |       |
| 3652.05                    | V               | 180.0             | 1.0                 | 56.4                          | 31.4                    | 2.8                    | -8.2                  | 48.3                       | 260.1                    | 500.0           | -5.7         |       |
| 4565.63                    | V               | 180.0             | 1.0                 | 46.0                          | 32.4                    | 3.8                    | -8.2                  | 40.0                       | 100.5                    | 500.0           | -13.9        |       |
| 5478.18                    | V               | 0.0               | 1.0                 | 46.4                          | 34.0                    | 4.3                    | -8.2                  | 42.4                       | 132.1                    | 500.0           | -11.6        | amb   |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Duty<br>Cycle<br>Corr | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|-----------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 6391.29                      | V               | 0.0               | 1.0                 | 46.0                          | 36.0                    | 4.2                    | -8.2                  | 44.0                       | 158.3                    | 500.0           | -10.0        | amb   |
| 7304.27                      | V               | 0.0               | 1.0                 | 47.4                          | 37.8                    | 4.6                    | -8.2                  | 47.6                       | 240.5                    | 500.0           | -6.4         | amb   |
| 8217.64                      | V               | 0.0               | 1.0                 | 46.9                          | 38.5                    | 4.9                    | -8.2                  | 48.1                       | 254.4                    | 500.0           | -5.9         | amb   |
| 9130.08                      | V               | 0.0               | 1.0                 | 48.4                          | 39.1                    | 4.9                    | -8.2                  | 50.2                       | 325.1                    | 500.0           | -3.7         | amb   |
| Horiz (X)<br>Ch.2, 926.5 MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1853.74                      | H               | 180.0             | 1.0                 | 54.5                          | 28.4                    | 3.2                    | -8.2                  | 47.5                       | 237.1                    | 500.0           | -6.5         |       |
| 2779.64                      | H               | 180.0             | 1.0                 | 52.8                          | 30.3                    | 2.9                    | -8.2                  | 41.4                       | 118.0                    | 500.0           | -12.5        |       |
| 3706.82                      | H               | 180.0             | 1.0                 | 51.5                          | 31.4                    | 2.8                    | -8.2                  | 46.3                       | 207.2                    | 500.0           | -7.7         |       |
| 4633.02                      | H               | 180.0             | 1.0                 | 43.3                          | 32.5                    | 3.9                    | -8.2                  | 37.5                       | 75.3                     | 500.0           | -16.4        |       |
| 5559.04                      | H               | 0.0               | 1.0                 | 44.5                          | 34.1                    | 4.2                    | -8.2                  | 40.6                       | 107.7                    | 500.0           | -13.3        | amb   |
| 6485.55                      | H               | 0.0               | 1.0                 | 46.2                          | 36.3                    | 4.2                    | -8.2                  | 44.5                       | 167.1                    | 500.0           | -9.5         | amb   |
| 7412.17                      | H               | 0.0               | 1.0                 | 45.5                          | 37.9                    | 4.6                    | -8.2                  | 45.9                       | 196.4                    | 500.0           | -8.1         | amb   |
| 8338.47                      | H               | 0.0               | 1.0                 | 46.5                          | 38.6                    | 4.9                    | -8.2                  | 47.7                       | 243.5                    | 500.0           | -6.2         | amb   |
| 9265.38                      | H               | 0.0               | 1.0                 | 46.8                          | 39.2                    | 5.0                    | -8.2                  | 48.8                       | 276.0                    | 500.0           | -5.2         | amb   |
| 1853.67                      | V               | 180.0             | 1.0                 | 58.1                          | 28.4                    | 3.2                    | -8.2                  | 47.5                       | 237.1                    | 500.0           | -6.5         |       |
| 2779.61                      | V               | 180.0             | 1.0                 | 50.4                          | 30.3                    | 2.9                    | -8.2                  | 41.4                       | 118.0                    | 500.0           | -12.5        |       |
| 3706.09                      | V               | 180.0             | 1.0                 | 54.3                          | 31.4                    | 2.8                    | -8.2                  | 46.3                       | 207.2                    | 500.0           | -7.7         |       |
| 4632.55                      | V               | 180.0             | 1.0                 | 44.5                          | 32.5                    | 3.9                    | -8.2                  | 38.7                       | 86.1                     | 500.0           | -15.3        |       |
| 5559.61                      | V               | 0.0               | 1.0                 | 43.5                          | 34.1                    | 4.2                    | -8.2                  | 39.6                       | 96.0                     | 500.0           | -14.3        | amb   |
| 6485.87                      | V               | 0.0               | 1.0                 | 43.2                          | 36.3                    | 4.2                    | -8.2                  | 41.5                       | 118.3                    | 500.0           | -12.5        | amb   |
| 7412.24                      | V               | 0.0               | 1.0                 | 47.7                          | 37.9                    | 4.6                    | -8.2                  | 48.0                       | 250.7                    | 500.0           | -6.0         | amb   |
| 8338.77                      | V               | 0.0               | 1.0                 | 47.2                          | 38.6                    | 4.9                    | -8.2                  | 48.4                       | 263.1                    | 500.0           | -5.6         | amb   |
| 9265.08                      | V               | 0.0               | 1.0                 | 47.2                          | 39.2                    | 5.0                    | -8.2                  | 49.2                       | 288.6                    | 500.0           | -4.8         | amb   |
| Horiz (Y)<br>Ch.2, 926.5 MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1853.31                      | H               | 180.0             | 1.0                 | 56.2                          | 28.4                    | 3.2                    | -8.2                  | 45.6                       | 191.0                    | 500.0           | -8.4         |       |
| 2779.58                      | H               | 180.0             | 1.0                 | 58.2                          | 30.3                    | 2.9                    | -8.2                  | 49.2                       | 288.7                    | 500.0           | -4.8         |       |
| 3706.70                      | H               | 180.0             | 1.0                 | 56.4                          | 31.4                    | 2.8                    | -8.2                  | 48.4                       | 263.9                    | 500.0           | -5.6         |       |
| 4632.60                      | H               | 0.0               | 1.0                 | 46.6                          | 32.5                    | 3.9                    | -8.2                  | 40.8                       | 109.2                    | 500.0           | -13.2        | amb   |
| 5559.40                      | H               | 0.0               | 1.0                 | 45.9                          | 34.1                    | 4.2                    | -8.2                  | 42.1                       | 126.7                    | 500.0           | -11.9        | amb   |
| 6485.90                      | H               | 0.0               | 1.0                 | 45.9                          | 36.3                    | 4.2                    | -8.2                  | 44.1                       | 161.1                    | 500.0           | -9.8         | amb   |
| 7412.40                      | H               | 0.0               | 1.0                 | 44.3                          | 37.9                    | 4.6                    | -8.2                  | 44.7                       | 170.9                    | 500.0           | -9.3         | amb   |
| 8338.54                      | H               | 0.0               | 1.0                 | 47.6                          | 38.6                    | 4.9                    | -8.2                  | 48.8                       | 276.4                    | 500.0           | -5.1         | amb   |
| 9265.17                      | H               | 0.0               | 1.0                 | 46.5                          | 39.2                    | 5.0                    | -8.2                  | 48.5                       | 266.3                    | 500.0           | -5.5         | amb   |
| 1853.10                      | V               | 180.0             | 1.0                 | 57.9                          | 28.4                    | 3.2                    | -8.2                  | 47.3                       | 231.7                    | 500.0           | -6.7         |       |
| 2779.73                      | V               | 180.0             | 1.0                 | 53.1                          | 30.3                    | 2.9                    | -8.2                  | 44.1                       | 160.5                    | 500.0           | -9.9         |       |
| 3706.22                      | V               | 180.0             | 1.0                 | 53.9                          | 31.4                    | 2.8                    | -8.2                  | 45.8                       | 196.1                    | 500.0           | -8.1         |       |
| 4632.94                      | V               | 0.0               | 1.0                 | 44.6                          | 32.5                    | 3.9                    | -8.2                  | 38.8                       | 87.3                     | 500.0           | -15.2        | amb   |
| 5559.00                      | V               | 0.0               | 1.0                 | 43.0                          | 34.1                    | 4.2                    | -8.2                  | 39.2                       | 90.8                     | 500.0           | -14.8        | amb   |
| 6485.58                      | V               | 0.0               | 1.0                 | 45.5                          | 36.3                    | 4.2                    | -8.2                  | 43.8                       | 154.7                    | 500.0           | -10.2        | amb   |
| 7412.07                      | V               | 0.0               | 1.0                 | 46.0                          | 37.9                    | 4.6                    | -8.2                  | 46.4                       | 207.8                    | 500.0           | -7.6         | amb   |
| 8338.70                      | V               | 0.0               | 1.0                 | 46.3                          | 38.6                    | 4.9                    | -8.2                  | 47.5                       | 238.3                    | 500.0           | -6.4         | amb   |



| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Duty<br>Cycle<br>Corr | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|-----------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 9265.33                      | V               | 0.0               | 1.0                 | 45.7                          | 39.2                    | 5.0                    | -8.2                  | 47.7                       | 243.7                    | 500.0           | -6.2         | amb   |
| Horiz (Z)<br>Ch.2, 926.5 MHz |                 |                   |                     |                               |                         |                        |                       |                            |                          |                 |              |       |
| 1853.01                      | H               | 180.0             | 1.0                 | 56.7                          | 28.4                    | 3.2                    | -8.2                  | 45.6                       | 191.0                    | 500.0           | -8.4         |       |
| 2779.46                      | H               | 180.0             | 1.0                 | 54.3                          | 30.3                    | 2.9                    | -8.2                  | 49.2                       | 288.7                    | 500.0           | -4.8         |       |
| 3706.34                      | H               | 180.0             | 1.0                 | 51.0                          | 31.4                    | 2.8                    | -8.2                  | 48.4                       | 263.9                    | 500.0           | -5.6         |       |
| 4632.22                      | H               | 0.0               | 1.0                 | 44.7                          | 32.5                    | 3.9                    | -8.2                  | 38.9                       | 88.1                     | 500.0           | -15.1        | amb   |
| 5559.19                      | H               | 0.0               | 1.0                 | 43.3                          | 34.1                    | 4.2                    | -8.2                  | 39.4                       | 93.8                     | 500.0           | -14.5        | amb   |
| 6485.41                      | H               | 0.0               | 1.0                 | 45.3                          | 36.3                    | 4.2                    | -8.2                  | 43.6                       | 151.2                    | 500.0           | -10.4        | amb   |
| 7412.70                      | H               | 0.0               | 1.0                 | 46.9                          | 37.9                    | 4.6                    | -8.2                  | 47.2                       | 230.2                    | 500.0           | -6.7         | amb   |
| 8338.50                      | H               | 0.0               | 1.0                 | 46.6                          | 38.6                    | 4.9                    | -8.2                  | 47.9                       | 247.5                    | 500.0           | -6.1         | amb   |
| 9265.27                      | H               | 0.0               | 1.0                 | 45.4                          | 39.2                    | 5.0                    | -8.2                  | 47.4                       | 233.5                    | 500.0           | -6.6         | amb   |
| 1853.00                      | V               | 180.0             | 1.0                 | 57.5                          | 28.4                    | 3.2                    | -8.2                  | 46.9                       | 221.3                    | 500.0           | -7.1         |       |
| 2779.61                      | V               | 180.0             | 1.0                 | 52.5                          | 30.3                    | 2.9                    | -8.2                  | 43.6                       | 150.8                    | 500.0           | -10.4        |       |
| 3706.07                      | V               | 180.0             | 1.0                 | 54.1                          | 31.4                    | 2.8                    | -8.2                  | 46.1                       | 201.6                    | 500.0           | -7.9         |       |
| 4632.73                      | V               | 0.0               | 1.0                 | 45.6                          | 32.5                    | 3.9                    | -8.2                  | 39.8                       | 97.9                     | 500.0           | -14.2        | amb   |
| 5559.25                      | V               | 0.0               | 1.0                 | 45.7                          | 34.1                    | 4.2                    | -8.2                  | 41.8                       | 123.7                    | 500.0           | -12.1        | amb   |
| 6485.49                      | V               | 0.0               | 1.0                 | 45.3                          | 36.3                    | 4.2                    | -8.2                  | 43.6                       | 150.8                    | 500.0           | -10.4        | amb   |
| 7412.11                      | V               | 0.0               | 1.0                 | 46.4                          | 37.9                    | 4.6                    | -8.2                  | 46.7                       | 217.3                    | 500.0           | -7.2         | amb   |
| 8338.51                      | V               | 0.0               | 1.0                 | 47.4                          | 38.6                    | 4.9                    | -8.2                  | 48.7                       | 272.0                    | 500.0           | -5.3         | amb   |
| 9265.07                      | V               | 0.0               | 1.0                 | 46.2                          | 39.2                    | 5.0                    | -8.2                  | 48.2                       | 256.4                    | 500.0           | -5.8         | amb   |

**Table 7: Radiated Emission Test Data, Peak Data Above 1GHz**

|                                     |                                  |                                  |             |
|-------------------------------------|----------------------------------|----------------------------------|-------------|
| CLIENT:                             | Electro-Source                   | DATE:                            | 10/7/02     |
| TESTER:                             | Ken Gemmell                      | JOB #:                           | 7151Q       |
| <b><u>EUT Information:</u></b>      |                                  | <b><u>Test Requirements:</u></b> |             |
| EUT:                                | G3 Game Cube wireless controller | TEST STANDARD:                   | FCC Part 15 |
| MODEL:                              | K9993P/PL-7008                   | DISTANCE:                        | 3m          |
| CLOCKS:                             | 903.065 MHz TX (CH1)             | CLASS:                           | B           |
| <b><u>Test Equipment/Limit:</u></b> |                                  |                                  |             |
| ANTENNA:                            | A_00004                          |                                  |             |
| CABLE:                              | CSITE2_HF                        |                                  |             |
| LIMIT:                              | LFCC_3m_Class_B                  |                                  |             |
| AMPLIFIER (dB)                      | 34                               |                                  |             |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| Horiz (X)<br>Ch.1, 903.47MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1807.04                      | H               | 180.0             | 1.0                 | 61.3                          | 28.3                    | 3.1                    | 58.6                       | 851.1                    | 5000            | -15.4        |       |
| 2710.51                      | H               | 180.0             | 1.0                 | 53.7                          | 30.2                    | 2.9                    | 52.9                       | 441.6                    | 5000            | -21.1        |       |
| 3613.98                      | H               | 180.0             | 1.0                 | 51.7                          | 31.3                    | 2.8                    | 51.8                       | 389.0                    | 5000            | -22.2        |       |
| 4517.45                      | H               | 180.0             | 1.0                 | 45.8                          | 32.4                    | 3.7                    | 47.9                       | 248.3                    | 5000            | -26.1        |       |
| 5420.92                      | H               | 180.0             | 1.0                 | 45.1                          | 33.9                    | 4.3                    | 49.3                       | 291.7                    | 5000            | -24.7        |       |
| 6324.39                      | H               | 0.0               | 1.0                 | 44.6                          | 35.9                    | 4.2                    | 50.7                       | 342.8                    | 5000            | -23.3        | amb   |
| 7227.86                      | H               | 0.0               | 1.0                 | 45.2                          | 37.8                    | 4.5                    | 53.5                       | 473.2                    | 5000            | -20.5        | amb   |
| 8131.33                      | H               | 0.0               | 1.0                 | 45.7                          | 38.5                    | 4.9                    | 55.1                       | 568.9                    | 5000            | -18.9        | amb   |
| 9034.80                      | H               | 0.0               | 1.0                 | 44.7                          | 39.0                    | 4.9                    | 54.6                       | 537.0                    | 5000            | -19.4        | amb   |
| 1807.04                      | V               | 180.0             | 1.0                 | 59.8                          | 28.3                    | 3.1                    | 57.2                       | 724.4                    | 5000            | -16.8        |       |
| 2710.51                      | V               | 180.0             | 1.0                 | 56.9                          | 30.2                    | 2.9                    | 56.0                       | 631.0                    | 5000            | -18.0        |       |
| 3613.98                      | V               | 180.0             | 1.0                 | 51.9                          | 31.3                    | 2.8                    | 52.0                       | 398.1                    | 5000            | -22.0        |       |
| 4517.45                      | V               | 0.0               | 1.0                 | 44.5                          | 32.4                    | 3.7                    | 46.6                       | 213.8                    | 5000            | -27.4        | amb   |
| 5420.92                      | V               | 0.0               | 1.0                 | 45.1                          | 33.9                    | 4.3                    | 49.2                       | 288.4                    | 5000            | -24.8        | amb   |
| 6324.39                      | V               | 0.0               | 1.0                 | 45.3                          | 35.9                    | 4.2                    | 51.3                       | 367.3                    | 5000            | -22.7        | amb   |
| 7227.86                      | V               | 0.0               | 1.0                 | 45.7                          | 37.8                    | 4.5                    | 54.0                       | 501.2                    | 5000            | -20.0        | amb   |
| 8131.33                      | V               | 0.0               | 1.0                 | 47.2                          | 38.5                    | 4.9                    | 56.5                       | 668.3                    | 5000            | -17.5        | amb   |
| 9034.80                      | V               | 0.0               | 1.0                 | 46.2                          | 39.0                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| Horiz (Y)<br>Ch.1, 903.47MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1807.04                      | H               | 180.0             | 1.0                 | 60.3                          | 28.3                    | 3.1                    | 57.7                       | 767.4                    | 5000            | -16.3        |       |
| 2710.51                      | H               | 180.0             | 1.0                 | 59.8                          | 30.2                    | 2.9                    | 59.0                       | 891.3                    | 5000            | -15.0        |       |
| 3613.98                      | H               | 180.0             | 1.0                 | 53.5                          | 31.3                    | 2.8                    | 53.6                       | 478.6                    | 5000            | -20.4        |       |
| 4517.45                      | H               | 180.0             | 1.0                 | 49.8                          | 32.4                    | 3.7                    | 51.9                       | 393.6                    | 5000            | -22.1        |       |
| 5420.92                      | H               | 90.0              | 1.0                 | 47.9                          | 33.9                    | 4.3                    | 52.1                       | 402.7                    | 5000            | -21.9        |       |
| 6324.39                      | H               | 0.0               | 1.0                 | 44.9                          | 35.9                    | 4.2                    | 50.9                       | 350.8                    | 5000            | -23.1        | amb   |
| 7227.86                      | H               | 0.0               | 1.0                 | 46.5                          | 37.8                    | 4.5                    | 54.8                       | 549.5                    | 5000            | -19.2        | amb   |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 8131.33                      | H               | 0.0               | 1.0                 | 47.5                          | 38.5                    | 4.9                    | 56.8                       | 691.8                    | 5000            | -17.2        | amb   |
| 9034.80                      | H               | 0.0               | 1.0                 | 46.3                          | 39.0                    | 4.9                    | 56.2                       | 645.7                    | 5000            | -17.8        | amb   |
| 1807.04                      | V               | 180.0             | 1.0                 | 58.7                          | 28.3                    | 3.1                    | 56.1                       | 638.3                    | 5000            | -17.9        |       |
| 2710.51                      | V               | 180.0             | 1.0                 | 55.4                          | 30.2                    | 2.9                    | 54.6                       | 537.0                    | 5000            | -19.4        |       |
| 3613.98                      | V               | 180.0             | 1.0                 | 53.5                          | 31.3                    | 2.8                    | 53.6                       | 478.6                    | 5000            | -20.4        |       |
| 4517.45                      | V               | 180.0             | 1.0                 | 49.1                          | 32.4                    | 3.7                    | 51.2                       | 363.1                    | 5000            | -22.8        |       |
| 5420.92                      | V               | 90.0              | 1.0                 | 46.5                          | 33.9                    | 4.3                    | 50.6                       | 338.8                    | 5000            | -23.4        |       |
| 6324.39                      | V               | 0.0               | 1.0                 | 45.3                          | 35.9                    | 4.2                    | 51.4                       | 371.5                    | 5000            | -22.6        | amb   |
| 7227.86                      | V               | 0.0               | 1.0                 | 47.4                          | 37.8                    | 4.5                    | 55.7                       | 609.5                    | 5000            | -18.3        | amb   |
| 8131.33                      | V               | 0.0               | 1.0                 | 46.0                          | 38.5                    | 4.9                    | 55.4                       | 588.8                    | 5000            | -18.6        | amb   |
| 9034.80                      | V               | 0.0               | 1.0                 | 46.2                          | 39.0                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| Horiz (Z) Ch.1,<br>903.47MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1807.04                      | H               | 180.0             | 1.0                 | 60.8                          | 28.3                    | 3.1                    | 58.1                       | 803.5                    | 5000            | -15.9        |       |
| 2710.51                      | H               | 180.0             | 1.0                 | 56.2                          | 30.2                    | 2.9                    | 55.3                       | 582.1                    | 5000            | -18.7        |       |
| 3613.98                      | H               | 180.0             | 1.0                 | 53.5                          | 31.3                    | 2.8                    | 53.6                       | 478.6                    | 5000            | -20.4        |       |
| 4517.45                      | H               | 180.0             | 1.0                 | 49.7                          | 32.4                    | 3.7                    | 51.8                       | 389.0                    | 5000            | -22.2        |       |
| 5420.92                      | H               | 0.0               | 1.0                 | 48.0                          | 33.9                    | 4.3                    | 52.1                       | 402.7                    | 5000            | -21.9        | amb   |
| 6324.39                      | H               | 0.0               | 1.0                 | 45.4                          | 35.9                    | 4.2                    | 51.4                       | 371.5                    | 5000            | -22.6        | amb   |
| 7227.86                      | H               | 0.0               | 1.0                 | 46.7                          | 37.8                    | 4.5                    | 55.1                       | 568.9                    | 5000            | -18.9        | amb   |
| 8131.33                      | H               | 0.0               | 1.0                 | 46.7                          | 38.5                    | 4.9                    | 56.0                       | 631.0                    | 5000            | -18.0        | amb   |
| 9034.80                      | H               | 0.0               | 1.0                 | 46.2                          | 39.0                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| 1807.04                      | V               | 180.0             | 1.0                 | 61.4                          | 28.3                    | 3.1                    | 58.8                       | 871.0                    | 5000            | -15.2        |       |
| 2710.51                      | V               | 180.0             | 1.0                 | 58.8                          | 30.2                    | 2.9                    | 58.0                       | 794.3                    | 5000            | -16.0        |       |
| 3613.98                      | V               | 180.0             | 1.0                 | 52.8                          | 31.3                    | 2.8                    | 52.9                       | 441.6                    | 5000            | -21.1        |       |
| 4517.45                      | V               | 180.0             | 1.0                 | 48.1                          | 32.4                    | 3.7                    | 50.3                       | 327.3                    | 5000            | -23.7        |       |
| 5420.92                      | V               | 180.0             | 1.0                 | 47.4                          | 33.9                    | 4.3                    | 51.6                       | 380.2                    | 5000            | -22.4        |       |
| 6324.39                      | V               | 0.0               | 1.0                 | 44.3                          | 35.9                    | 4.2                    | 50.3                       | 327.3                    | 5000            | -23.7        | amb   |
| 7227.86                      | V               | 0.0               | 1.0                 | 45.6                          | 37.8                    | 4.5                    | 53.9                       | 495.5                    | 5000            | -20.1        | amb   |
| 8131.33                      | V               | 0.0               | 1.0                 | 46.6                          | 38.5                    | 4.9                    | 55.9                       | 623.7                    | 5000            | -18.1        | amb   |
| 9034.80                      | V               | 0.0               | 1.0                 | 46.0                          | 39.0                    | 4.9                    | 55.9                       | 623.7                    | 5000            | -18.1        | amb   |
| Horiz (X)<br>Ch.4, 913MHz    |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1826.03                      | H               | 180.0             | 1.0                 | 56.0                          | 28.3                    | 3.1                    | 53.5                       | 473.2                    | 5000            | -20.5        |       |
| 2739.12                      | H               | 180.0             | 1.0                 | 56.4                          | 30.3                    | 2.9                    | 55.6                       | 602.6                    | 5000            | -18.4        |       |
| 3652.01                      | H               | 180.0             | 1.0                 | 50.3                          | 31.4                    | 2.8                    | 50.4                       | 331.1                    | 5000            | -23.6        |       |
| 4565.81                      | H               | 0.0               | 1.0                 | 45.4                          | 32.4                    | 3.8                    | 47.6                       | 239.9                    | 5000            | -26.4        | amb   |
| 5478.47                      | H               | 0.0               | 1.0                 | 44.9                          | 34.0                    | 4.3                    | 49.1                       | 285.1                    | 5000            | -24.9        | amb   |
| 6391.22                      | H               | 0.0               | 1.0                 | 46.1                          | 36.0                    | 4.2                    | 52.2                       | 407.4                    | 5000            | -21.8        | amb   |
| 7304.27                      | H               | 0.0               | 1.0                 | 45.8                          | 37.8                    | 4.6                    | 54.2                       | 512.9                    | 5000            | -19.8        | amb   |
| 8217.84                      | H               | 0.0               | 1.0                 | 45.4                          | 38.5                    | 4.9                    | 54.8                       | 549.5                    | 5000            | -19.2        | amb   |
| 9130.36                      | H               | 0.0               | 1.0                 | 46.1                          | 39.1                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| 1826.72                      | V               | 180.0             | 1.0                 | 58.2                          | 28.3                    | 3.1                    | 55.6                       | 602.6                    | 5000            | -18.4        |       |

| Frequency<br>(MHz)         | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|----------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 2739.18                    | V               | 90.0              | 1.0                 | 54.5                          | 30.3                    | 2.9                    | 53.7                       | 484.2                    | 5000            | -20.3        |       |
| 3652.05                    | V               | 180.0             | 1.0                 | 54.1                          | 31.4                    | 2.8                    | 54.2                       | 512.9                    | 5000            | -19.8        |       |
| 4565.63                    | V               | 0.0               | 1.0                 | 45.9                          | 32.4                    | 3.8                    | 48.1                       | 254.1                    | 5000            | -25.9        | amb   |
| 5478.18                    | V               | 0.0               | 1.0                 | 45.7                          | 34.0                    | 4.3                    | 49.9                       | 312.6                    | 5000            | -24.1        | amb   |
| 6391.29                    | V               | 0.0               | 1.0                 | 46.4                          | 36.0                    | 4.2                    | 52.6                       | 426.6                    | 5000            | -21.4        | amb   |
| 7304.27                    | V               | 0.0               | 1.0                 | 46.6                          | 37.8                    | 4.6                    | 55.0                       | 562.3                    | 5000            | -19.0        | amb   |
| 8217.64                    | V               | 0.0               | 1.0                 | 46.5                          | 38.5                    | 4.9                    | 55.9                       | 623.7                    | 5000            | -18.1        | amb   |
| 9130.08                    | V               | 0.0               | 1.0                 | 46.0                          | 39.1                    | 4.9                    | 56.0                       | 631.0                    | 5000            | -18.0        | amb   |
|                            |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| Horiz (Y)<br>Ch.4, 913 MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1826.03                    | H               | 0.0               | 1.0                 | 56.4                          | 28.3                    | 3.1                    | 53.8                       | 489.8                    | 5000            | -20.2        |       |
| 2739.12                    | H               | 180.0             | 1.0                 | 59.9                          | 30.3                    | 2.9                    | 59.0                       | 891.3                    | 5000            | -15.0        |       |
| 3652.01                    | H               | 180.0             | 1.0                 | 54.1                          | 31.4                    | 2.8                    | 54.3                       | 518.8                    | 5000            | -19.7        |       |
| 4565.81                    | H               | 180.0             | 1.0                 | 47.3                          | 32.4                    | 3.8                    | 49.5                       | 298.5                    | 5000            | -24.5        |       |
| 5478.47                    | H               | 0.0               | 1.0                 | 45.6                          | 34.0                    | 4.3                    | 49.8                       | 309.0                    | 5000            | -24.2        | amb   |
| 6391.22                    | H               | 0.0               | 1.0                 | 45.7                          | 36.0                    | 4.2                    | 51.9                       | 393.6                    | 5000            | -22.1        | amb   |
| 7304.27                    | H               | 0.0               | 1.0                 | 46.5                          | 37.8                    | 4.6                    | 54.9                       | 555.9                    | 5000            | -19.1        | amb   |
| 8217.84                    | H               | 0.0               | 1.0                 | 46.7                          | 38.5                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| 9130.36                    | H               | 0.0               | 1.0                 | 45.9                          | 39.1                    | 4.9                    | 55.9                       | 623.7                    | 5000            | -18.1        | amb   |
| 1826.72                    | V               | 180.0             | 1.0                 | 56.9                          | 28.3                    | 3.1                    | 54.4                       | 524.8                    | 5000            | -19.6        |       |
| 2739.18                    | V               | 180.0             | 1.0                 | 50.4                          | 30.3                    | 2.9                    | 49.6                       | 302.0                    | 5000            | -24.4        |       |
| 3652.05                    | V               | 180.0             | 1.0                 | 53.9                          | 31.4                    | 2.8                    | 54.1                       | 507.0                    | 5000            | -19.9        |       |
| 4565.63                    | V               | 0.0               | 1.0                 | 46.6                          | 32.4                    | 3.8                    | 48.8                       | 275.4                    | 5000            | -25.2        | amb   |
| 5478.18                    | V               | 0.0               | 1.0                 | 44.5                          | 34.0                    | 4.3                    | 48.7                       | 272.3                    | 5000            | -25.3        | amb   |
| 6391.29                    | V               | 0.0               | 1.0                 | 46.1                          | 36.0                    | 4.2                    | 52.2                       | 407.4                    | 5000            | -21.8        | amb   |
| 7304.27                    | V               | 0.0               | 1.0                 | 46.0                          | 37.8                    | 4.6                    | 54.4                       | 524.8                    | 5000            | -19.6        | amb   |
| 8217.64                    | V               | 0.0               | 1.0                 | 47.1                          | 38.5                    | 4.9                    | 56.5                       | 668.3                    | 5000            | -17.5        | amb   |
| 9130.08                    | V               | 0.0               | 1.0                 | 45.5                          | 39.1                    | 4.9                    | 55.5                       | 595.7                    | 5000            | -18.5        | amb   |
|                            |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| Horiz (Z)<br>Ch.4, 913 MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1826.03                    | H               | 180.0             | 1.0                 | 56.3                          | 28.3                    | 3.1                    | 53.8                       | 489.8                    | 5000            | -20.2        |       |
| 2739.12                    | H               | 180.0             | 1.0                 | 57.4                          | 30.3                    | 2.9                    | 56.6                       | 676.1                    | 5000            | -17.4        |       |
| 3652.01                    | H               | 180.0             | 1.0                 | 51.2                          | 31.4                    | 2.8                    | 51.3                       | 367.3                    | 5000            | -22.7        |       |
| 4565.81                    | H               | 180.0             | 1.0                 | 46.4                          | 32.4                    | 3.8                    | 48.6                       | 269.2                    | 5000            | -25.4        |       |
| 5478.47                    | H               | 0.0               | 1.0                 | 44.9                          | 34.0                    | 4.3                    | 49.1                       | 285.1                    | 5000            | -24.9        | amb   |
| 6391.22                    | H               | 0.0               | 1.0                 | 44.1                          | 36.0                    | 4.2                    | 50.2                       | 323.6                    | 5000            | -23.8        | amb   |
| 7304.27                    | H               | 0.0               | 1.0                 | 46.2                          | 37.8                    | 4.6                    | 54.5                       | 530.9                    | 5000            | -19.5        | amb   |
| 8217.84                    | H               | 0.0               | 1.0                 | 46.7                          | 38.5                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| 9130.36                    | H               | 0.0               | 1.0                 | 46.3                          | 39.1                    | 4.9                    | 56.3                       | 653.1                    | 5000            | -17.7        | amb   |
| 1826.72                    | V               | 180.0             | 1.0                 | 60.0                          | 28.3                    | 3.1                    | 57.5                       | 749.9                    | 5000            | -16.5        |       |
| 2739.18                    | V               | 180.0             | 1.0                 | 56.2                          | 30.3                    | 2.9                    | 55.3                       | 582.1                    | 5000            | -18.7        |       |
| 3652.05                    | V               | 180.0             | 1.0                 | 56.4                          | 31.4                    | 2.8                    | 56.5                       | 668.3                    | 5000            | -17.5        |       |
| 4565.63                    | V               | 180.0             | 1.0                 | 46.0                          | 32.4                    | 3.8                    | 48.2                       | 257.0                    | 5000            | -25.8        |       |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 5478.18                      | V               | 0.0               | 1.0                 | 46.4                          | 34.0                    | 4.3                    | 50.6                       | 338.8                    | 5000            | -23.4        | amb   |
| 6391.29                      | V               | 0.0               | 1.0                 | 46.0                          | 36.0                    | 4.2                    | 52.2                       | 407.4                    | 5000            | -21.8        | amb   |
| 7304.27                      | V               | 0.0               | 1.0                 | 47.4                          | 37.8                    | 4.6                    | 55.8                       | 616.6                    | 5000            | -18.2        | amb   |
| 8217.64                      | V               | 0.0               | 1.0                 | 46.9                          | 38.5                    | 4.9                    | 56.3                       | 653.1                    | 5000            | -17.7        | amb   |
| 9130.08                      | V               | 0.0               | 1.0                 | 48.4                          | 39.1                    | 4.9                    | 58.4                       | 831.8                    | 5000            | -15.6        | amb   |
| Horiz (X)<br>Ch.2, 926.5 MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1853.74                      | H               | 180.0             | 1.0                 | 54.5                          | 28.4                    | 3.2                    | 55.7                       | 609.5                    | 5000            | -18.3        |       |
| 2779.64                      | H               | 180.0             | 1.0                 | 52.8                          | 30.3                    | 2.9                    | 49.6                       | 302.0                    | 5000            | -24.4        |       |
| 3706.82                      | H               | 180.0             | 1.0                 | 51.5                          | 31.4                    | 2.8                    | 54.5                       | 530.9                    | 5000            | -19.5        |       |
| 4633.02                      | H               | 180.0             | 1.0                 | 43.3                          | 32.5                    | 3.9                    | 45.7                       | 192.8                    | 5000            | -28.3        |       |
| 5559.04                      | H               | 0.0               | 1.0                 | 44.5                          | 34.1                    | 4.2                    | 48.8                       | 275.4                    | 5000            | -25.2        | amb   |
| 6485.55                      | H               | 0.0               | 1.0                 | 46.2                          | 36.3                    | 4.2                    | 52.7                       | 431.5                    | 5000            | -21.3        | amb   |
| 7412.17                      | H               | 0.0               | 1.0                 | 45.5                          | 37.9                    | 4.6                    | 54.1                       | 507.0                    | 5000            | -19.9        | amb   |
| 8338.47                      | H               | 0.0               | 1.0                 | 46.5                          | 38.6                    | 4.9                    | 55.9                       | 623.7                    | 5000            | -18.1        | amb   |
| 9265.38                      | H               | 0.0               | 1.0                 | 46.8                          | 39.2                    | 5.0                    | 57.0                       | 707.9                    | 5000            | -17.0        | amb   |
| 1853.67                      | V               | 180.0             | 1.0                 | 58.1                          | 28.4                    | 3.2                    | 55.7                       | 609.5                    | 5000            | -18.3        |       |
| 2779.61                      | V               | 180.0             | 1.0                 | 50.4                          | 30.3                    | 2.9                    | 49.6                       | 302.0                    | 5000            | -24.4        |       |
| 3706.09                      | V               | 180.0             | 1.0                 | 54.3                          | 31.4                    | 2.8                    | 54.5                       | 530.9                    | 5000            | -19.5        |       |
| 4632.55                      | V               | 180.0             | 1.0                 | 44.5                          | 32.5                    | 3.9                    | 46.9                       | 221.3                    | 5000            | -27.1        |       |
| 5559.61                      | V               | 0.0               | 1.0                 | 43.5                          | 34.1                    | 4.2                    | 47.8                       | 245.5                    | 5000            | -26.2        | amb   |
| 6485.87                      | V               | 0.0               | 1.0                 | 43.2                          | 36.3                    | 4.2                    | 49.7                       | 305.5                    | 5000            | -24.3        | amb   |
| 7412.24                      | V               | 0.0               | 1.0                 | 47.7                          | 37.9                    | 4.6                    | 56.2                       | 645.7                    | 5000            | -17.8        | amb   |
| 8338.77                      | V               | 0.0               | 1.0                 | 47.2                          | 38.6                    | 4.9                    | 56.6                       | 676.1                    | 5000            | -17.4        | amb   |
| 9265.08                      | V               | 0.0               | 1.0                 | 47.2                          | 39.2                    | 5.0                    | 57.4                       | 741.3                    | 5000            | -16.6        | amb   |
| Horiz (Y)<br>Ch.2, 926.5 MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1853.31                      | H               | 180.0             | 1.0                 | 56.2                          | 28.4                    | 3.2                    | 53.8                       | 489.8                    | 5000            | -20.2        |       |
| 2779.58                      | H               | 180.0             | 1.0                 | 58.2                          | 30.3                    | 2.9                    | 57.4                       | 741.3                    | 5000            | -16.6        |       |
| 3706.70                      | H               | 180.0             | 1.0                 | 56.4                          | 31.4                    | 2.8                    | 56.6                       | 676.1                    | 5000            | -17.4        |       |
| 4632.60                      | H               | 0.0               | 1.0                 | 46.6                          | 32.5                    | 3.9                    | 49.0                       | 281.8                    | 5000            | -25.0        | amb   |
| 5559.40                      | H               | 0.0               | 1.0                 | 45.9                          | 34.1                    | 4.2                    | 50.3                       | 327.3                    | 5000            | -23.7        | amb   |
| 6485.90                      | H               | 0.0               | 1.0                 | 45.9                          | 36.3                    | 4.2                    | 52.3                       | 412.1                    | 5000            | -21.7        | amb   |
| 7412.40                      | H               | 0.0               | 1.0                 | 44.3                          | 37.9                    | 4.6                    | 52.9                       | 441.6                    | 5000            | -21.1        | amb   |
| 8338.54                      | H               | 0.0               | 1.0                 | 47.6                          | 38.6                    | 4.9                    | 57.0                       | 707.9                    | 5000            | -17.0        | amb   |
| 9265.17                      | H               | 0.0               | 1.0                 | 46.5                          | 39.2                    | 5.0                    | 56.7                       | 683.9                    | 5000            | -17.3        | amb   |
| 1853.10                      | V               | 180.0             | 1.0                 | 57.9                          | 28.4                    | 3.2                    | 55.5                       | 595.7                    | 5000            | -18.5        |       |
| 2779.73                      | V               | 180.0             | 1.0                 | 53.1                          | 30.3                    | 2.9                    | 52.3                       | 412.1                    | 5000            | -21.7        |       |
| 3706.22                      | V               | 180.0             | 1.0                 | 53.9                          | 31.4                    | 2.8                    | 54.0                       | 501.2                    | 5000            | -20.0        |       |
| 4632.94                      | V               | 0.0               | 1.0                 | 44.6                          | 32.5                    | 3.9                    | 47.0                       | 223.9                    | 5000            | -27.0        | amb   |
| 5559.00                      | V               | 0.0               | 1.0                 | 43.0                          | 34.1                    | 4.2                    | 47.4                       | 234.4                    | 5000            | -26.6        | amb   |
| 6485.58                      | V               | 0.0               | 1.0                 | 45.5                          | 36.3                    | 4.2                    | 52.0                       | 398.1                    | 5000            | -22.0        | amb   |
| 7412.07                      | V               | 0.0               | 1.0                 | 46.0                          | 37.9                    | 4.6                    | 54.6                       | 537.0                    | 5000            | -19.4        | amb   |

| Frequency<br>(MHz)           | Polarity<br>H/V | Azimuth<br>Degree | Ant.<br>Hght<br>(m) | SA<br>Level<br>(QP)<br>(dBuV) | Ant.<br>Corr.<br>(dB/m) | Cable<br>Corr.<br>(dB) | Corr.<br>Level<br>(dBuV/m) | Corr.<br>Level<br>(uV/m) | Limit<br>(uV/m) | Margin<br>dB | Notes |
|------------------------------|-----------------|-------------------|---------------------|-------------------------------|-------------------------|------------------------|----------------------------|--------------------------|-----------------|--------------|-------|
| 8338.70                      | V               | 0.0               | 1.0                 | 46.3                          | 38.6                    | 4.9                    | 55.7                       | 609.5                    | 5000            | -18.3        | amb   |
| 9265.33                      | V               | 0.0               | 1.0                 | 45.7                          | 39.2                    | 5.0                    | 55.9                       | 623.7                    | 5000            | -18.1        | amb   |
| Horiz (Z)<br>Ch.2, 926.5 MHz |                 |                   |                     |                               |                         |                        |                            |                          |                 |              |       |
| 1853.01                      | H               | 180.0             | 1.0                 | 56.7                          | 28.4                    | 3.2                    | 53.8                       | 489.8                    | 5000            | -20.2        |       |
| 2779.46                      | H               | 180.0             | 1.0                 | 54.3                          | 30.3                    | 2.9                    | 57.4                       | 741.3                    | 5000            | -16.6        |       |
| 3706.34                      | H               | 180.0             | 1.0                 | 51.0                          | 31.4                    | 2.8                    | 56.6                       | 676.1                    | 5000            | -17.4        |       |
| 4632.22                      | H               | 0.0               | 1.0                 | 44.7                          | 32.5                    | 3.9                    | 47.1                       | 226.5                    | 5000            | -26.9        | amb   |
| 5559.19                      | H               | 0.0               | 1.0                 | 43.3                          | 34.1                    | 4.2                    | 47.6                       | 239.9                    | 5000            | -26.4        | amb   |
| 6485.41                      | H               | 0.0               | 1.0                 | 45.3                          | 36.3                    | 4.2                    | 51.8                       | 389.0                    | 5000            | -22.2        | amb   |
| 7412.70                      | H               | 0.0               | 1.0                 | 46.9                          | 37.9                    | 4.6                    | 55.4                       | 588.8                    | 5000            | -18.6        | amb   |
| 8338.50                      | H               | 0.0               | 1.0                 | 46.6                          | 38.6                    | 4.9                    | 56.1                       | 638.3                    | 5000            | -17.9        | amb   |
| 9265.27                      | H               | 0.0               | 1.0                 | 45.4                          | 39.2                    | 5.0                    | 55.6                       | 602.6                    | 5000            | -18.4        | amb   |
| 1853.00                      | V               | 180.0             | 1.0                 | 57.5                          | 28.4                    | 3.2                    | 55.1                       | 568.9                    | 5000            | -18.9        |       |
| 2779.61                      | V               | 180.0             | 1.0                 | 52.5                          | 30.3                    | 2.9                    | 51.8                       | 389.0                    | 5000            | -22.2        |       |
| 3706.07                      | V               | 180.0             | 1.0                 | 54.1                          | 31.4                    | 2.8                    | 54.3                       | 518.8                    | 5000            | -19.7        |       |
| 4632.73                      | V               | 0.0               | 1.0                 | 45.6                          | 32.5                    | 3.9                    | 48.0                       | 251.2                    | 5000            | -26.0        | amb   |
| 5559.25                      | V               | 0.0               | 1.0                 | 45.7                          | 34.1                    | 4.2                    | 50.0                       | 316.2                    | 5000            | -24.0        | amb   |
| 6485.49                      | V               | 0.0               | 1.0                 | 45.3                          | 36.3                    | 4.2                    | 51.8                       | 389.0                    | 5000            | -22.2        | amb   |
| 7412.11                      | V               | 0.0               | 1.0                 | 46.4                          | 37.9                    | 4.6                    | 54.9                       | 555.9                    | 5000            | -19.1        | amb   |
| 8338.51                      | V               | 0.0               | 1.0                 | 47.4                          | 38.6                    | 4.9                    | 56.9                       | 699.8                    | 5000            | -17.1        | amb   |
| 9265.07                      | V               | 0.0               | 1.0                 | 46.2                          | 39.2                    | 5.0                    | 56.4                       | 660.7                    | 5000            | -17.6        | amb   |