



MPE Analysis:
REPORT #: MPE00007

FOR

Video King Gaming Systems, Inc.


**100-1475 Chevrier Blvd.
Winnipeg, MB R3T 1Y7**

**Power Bingo King
RF REMOTE TRANSMITTER**


**FCC ID:
SKCTrans-1**

**DATED:
FEBRUARY 6, 2006**

**IN ACCORDANCE WITH
CFR 47 PART 15.247(B)(5)
RF EXPOSURE COMPLIANCE**

| | |
|------------------------------|---|
| FCC ID: SKCTTRANS-1 |  |
| REPORT NO.: MPE000007 | |
| FCC CFR 47 Part 15.247(b)(5) | |

Test Lab Personnel:


| Test Performed by: | Date | Signature |
|---|---------------------|---|
| Paul Eberling, CNA Electronic Technologist | February 6, 2006 |  |

All information contained in and/or disclosed in this document is considered confidential information of Arrista Technologies. Reproduction and distribution of this document in whole or part is strictly prohibited without the written consent of Arrista Technologies.


Document Template Revision History:

| Date | Name | Revision | Description |
|------------|----------------|----------|-----------------|
| 01/31/2002 | Elwood Friesen | 1.0 | Initial Release |
| 04/15/2002 | Paul Eberling | 1.2 | Reviewed |

Approvals:

| Date | Name | Title | Signature |
|---------------------|---------------------|---------------------------------|--|
| February 6, 2006 | Roman Wroczynski | Director; Development & Test |  |

| | | |
|-------------------|--|---------------|
| Company: | Video King Gaming Systems, Inc. | |
| Equipment: | Base RF Transmitter | Page 2 |

| | |
|------------------------------|---|
| FCC ID: SKCTTRANS-1 |  |
| | |
| REPORT NO.: MPE000007 | |
| FCC CFR 47 Part 15.247(b)(5) | |

1.1. 15.247(b)(5) RF Exposure Compliance

Spread spectrum transmitters operating under Section 15.247 are categorically excluded from routine environmental evaluation for demonstrating RF exposure compliance with respect to MPE and/or SAR limits. Though, these devices are not exempted from compliance. As indicated in Section 15.247(b)(5), these transmitters are required to operate in a manner that ensures that exposure to the public (users and nearby persons) does not exceed the Commission's RF exposure guidelines (see Sections 1.1307, 2.1091 and 2.1093).

Table 1 (b) as per OET Bulletin 65 is shown below and depicts the LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) for both controlled and uncontrolled exposure.

Article 01-Table 1(b): MPE Limits

(A) Limits for Occupational/Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H)(A/m) | Power Density (S) (mW/cm ²) | Averaging Time S (minutes) |
|-----------------------|-----------------------------------|----------------------------------|---|----------------------------|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0- 30 | 1842/f | 4.89/f | (900/f ²)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | - | - | F/300 | 6 |
| 1500-100,000 | - | - | 5 | 6 |

(B) Limits for General Population/Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H)(A/m) | Power Density (S) (mW/cm ²) | Averaging Time S (minutes) |
|-----------------------|-----------------------------------|----------------------------------|---|----------------------------|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34- 30 | 1842/f | 4.89/f | (180/f ²)* | 30 |
| 30-300 | 61.4 | 0.163 | 0.2 | 30 |
| 300-1500 | - | - | f/1500 | 30 |
| 1500-100,000 | - | - | 1.0 | 30 |


- f = frequency in MHz

* Plane-wave equivalent power density

NOTE 1: *Occupational/controlled* limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: *General population/uncontrolled* exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

| | | |
|-------------------|--|---------------|
| Company: | Video King Gaming Systems, Inc. | |
| Equipment: | Base RF Transmitter | Page 3 |

| | |
|------------------------------|---|
| FCC ID: SKCTTRANS-1 |  |
| | |
| REPORT NO.: MPE000007 | |
| FCC CFR 47 Part 15.247(b)(5) | |

Article 02-Table: MPE Calculations

| | | |
|--|--|--|
| Output Power of the transmitter: (at the RF test port) | 0.0089W maximum | |
| Antenna Gain: Maximum antenna gain allowed as described in user/install manual. | 2.7dBi | |
| Operational Frequency: | 902-928MHz | |
| Minimum distance (Controlled): For personnel aware of radiofrequency equipment and who are able to limit their exposure time. (Installation Technicians) | 20cm | |
| Minimum distance (Uncontrolled): For personnel unaware of radiofrequency equipment and who are not able to limit their exposure time. (General Public) | 20cm | |
| Maximum Permissible Exposure (MPE): (Using f = 902MHz in calculation) | Controlled 6 min avg 3.007 mW/cm ² | Uncontrolled 30 min avg 0.6013 mW/cm ² |
| Calculated Power Density | 0.0033 mW/cm² | 0.0033 mW/cm² |
| Complies with MPE Limits | Yes | Yes |

1.1.1. Calculations

The power density calculations follow the formula below. It is noted that the antenna used incorporates a forward gain of 2.7dBi expressed as a numerical gain of 1.86.

$$S = P_T G / 4\pi R^2 \quad (1)$$

where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = Numerical gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

(A) Controlled Exposure Calculation

$$S = 8.9 * 1.86 / (4 * \pi * 20^2)$$

$$S = 16.554 / 5026.55$$

$$S = 0.0033 \text{ mW/cm}^2$$

(B) Uncontrolled Exposure Calculation

$$S = 8.9 * 1.86 / (4 * \pi * 20^2)$$

$$S = 16.554 / 5026.55$$

$$S = 0.0033 \text{ mW/cm}^2$$

| | | |
|-------------------|--|---------------|
| Company: | Video King Gaming Systems, Inc. | |
| Equipment: | Base RF Transmitter | Page 4 |