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# F C C - TEST REPORT

REPORT NO.: 22467B/0/400F



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**FCC – Test Report**

Date: 2000-05-12

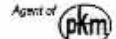
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**FCC listed testlab  
acc. to Section 2.948 of the FCC - Rules****in compliance with the requirements of  
ANSI C63.4 - 1992****Product** : Helicopter -- 49 MHz Receiver**Model** : 60-2771 (49MHz)**Importer** : ECHO TOYS LTD**Manufacturer** : ECHO TOYS LTD



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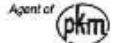
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**Summary of Test Results****Interference Radiation:**

Test result: O.K.  
Test data: See attached data sheet

**Interference Voltage:**

Test result: N.A.  
Test data: N.A.

**PHOTOGRAPH OF THE SAMPLE****Head Office:**

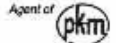
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**PHOTOGRAPH OF THE SAMPLE****Head Office:**

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**Guangzhou Office:**

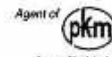
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**TEST EQUIPMENT LIST**

| Equipment                         | Manufacturer    | Model                    | Serial No.              | Remark                            |
|-----------------------------------|-----------------|--------------------------|-------------------------|-----------------------------------|
| Test Receiver                     | Rohde & Schwarz | ESH 3                    | 863497/015              | 10KHz – 30MHz                     |
| Test Receiver                     | Rohde & Schwarz | ESVP                     | 860688/022              | 25MHz – 1,300 MHz                 |
| Artificial Mains Network (LISN)   | Schwarzbeck     | NSLK 8127                | --                      | 2 x 10A, 50Ω, 50μH<br>10KHz-30MHz |
| Antenna System                    | Schwarzbeck     | BBA 9106 /<br>UHALP 9107 | --                      | 30MHz – 1000MHz                   |
| Antenna Mast System               | Schwarzbeck     | AM9104                   | --                      | Max. 4 meters height              |
| Spectrum Analyzer with<br>Q. Peak | Tektronix       | 2712                     | B023006                 | 9KHz – 1.8GHz                     |
| Interface for Spectrum<br>2712    | Tektronix       | TD3F14A                  | --                      |                                   |
| Test Receiver                     | Rohde & Schwarz | ESH 3                    | 892580/006              | 10KHz – 30MHz                     |
| Test Receiver                     | Rohde & Schwarz | ESVP                     | 863512/012              | 25MHz – 1,300 MHz                 |
| Impulse Limiter                   | Rohde & Schwarz | ESH-3-Z2                 | --                      |                                   |
| Artificial Mains Network (LISN)   | Schwarzbeck     | NSLK 8127                | --                      | 2 x 10A, 50Ω, 50μH<br>10KHz-30MHz |
| Antenna System                    | Schwarzbeck     | BBA 9106 /<br>UHALP 9107 | --                      | 30MHz – 1000MHz                   |
| Signal Generator                  | Rohde & Schwarz | SWS 2                    | 879113/42               | 100KHz – 1040 MHz                 |
| Digital Multimeter                | Tektronix       | DM2510G                  | DM-<br>2510GTW105<br>55 | 10KHz – 30MHz                     |
| Turntable with<br>Controller      | Drehtisch       | DT312                    | --                      | φ120 cm                           |

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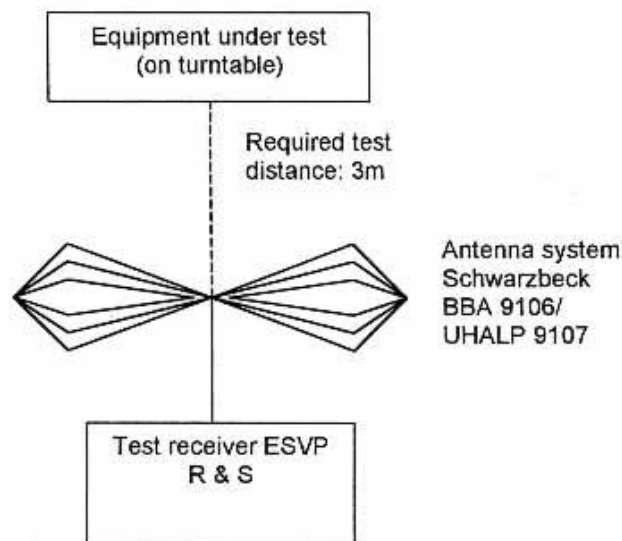
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**FCC – Test Report**

Date: 2000-05-12

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**Radiated Emission Test procedure****Head Office:**Unit 602-605, 6/F., 31 Lok Yip Rd., On Lok Tsuen, Fanling, N.T., Hong Kong. Tel: (852) 2305 2570 Fax: (852) 2756-4480 Home page: <http://www.iecc.com.hk> E-mail: [info@iecc.com.hk](mailto:info@iecc.com.hk)  
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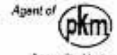


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## Unintentional Radiators



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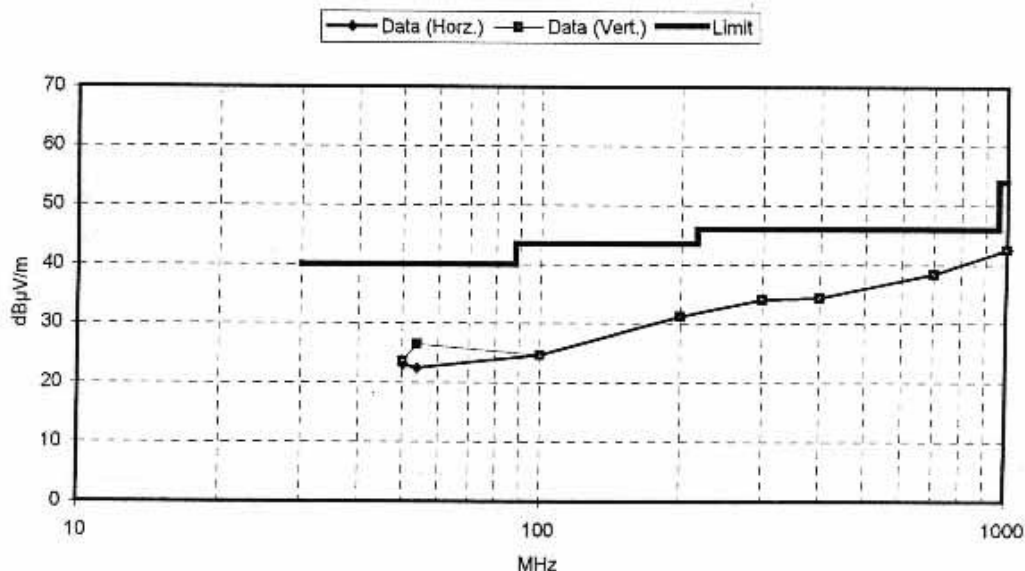
## Measurement of Radiated Emissions (30MHz-1000MHz)

Acc: FCC Part 15 Subpart B

IECC Ref: 22467B/0/400F  
 Model: 60-2771 (49MHz)  
 Applicant: ECHO TOYS LTD  
 Ser.Nr.: 1  
 Set under test: Helicopter  
 Connected sets: -  
 Operating mode: Power "On" (Standby mode)

Test Equipment  
 Receiver: ESVP Rohde & Schwarz  
 Antenna: Schwarzbeck BBA 9106  
 and UHALP 9107

| Frequency (MHz) | Horz. Reading dB(μV) | Vert. Reading dB(μV) | Antenna Factor (dB) | Horiz. Test Result (μV/m) | Vert. Test Result (μV/m) | Limit (μV/m) |
|-----------------|----------------------|----------------------|---------------------|---------------------------|--------------------------|--------------|
| 50.08           | < 16                 | 16.5                 | 7.0                 | < 14.1                    | 14.9                     | 100.0        |
| 53.88           | < 16                 | 20                   | 6.4                 | < 13.2                    | 20.9                     | 100.0        |
| 100             | < 16                 | < 16                 | 8.6                 | < 17.0                    | < 17.0                   | 150.0        |
| 200             | < 16                 | < 16                 | 15.1                | < 35.9                    | < 35.9                   | 150.0        |
| 300             | < 16                 | < 16                 | 18.0                | < 50.1                    | < 50.1                   | 200.0        |
| 400             | < 16                 | < 16                 | 18.3                | < 51.9                    | < 51.9                   | 200.0        |
| 700             | < 16                 | < 16                 | 22.4                | < 83.2                    | < 83.2                   | 200.0        |
| 1000            | < 16                 | < 16                 | 26.5                | < 133.4                   | < 133.4                  | 500.0        |



12 MAY 2000

Date: \_\_\_\_\_

Test result:

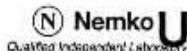
☒ O.K.  
☐ Not O.K.

Operator: \_\_\_\_\_



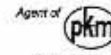


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## Unintentional Radiators



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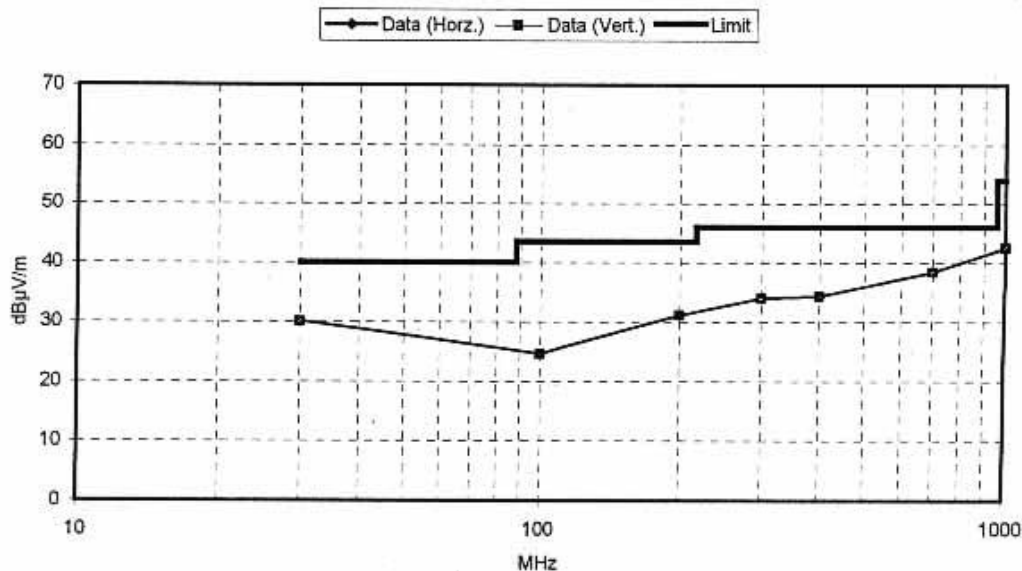
Measurement of Radiated Emissions (30MHz-1000MHz)

Acc: FCC Part 15 Subpart B

IECC Ref: 22467B/0/400F  
 Model: 60-2771 (49MHz)  
 Applicant: ECHO TOYS LTD  
 Ser.Nr.: 1  
 Set under test: Helicopter  
 Connected sets: -  
 Operating mode: Rx tested with backward mode  
 Remark: Motor noise measurement

Test Equipment  
 Receiver: ESVP Rohde & Schwarz  
 Antenna: Schwarzbeck BBA 9106  
 and UHALP 9107

| Frequency (MHz) | Horz. Reading dB(μV) | Vert. Reading dB(μV) | Antenna Factor (dB) | Horiz. Test Result (μV/m) | Vert. Test Result (μV/m) | Limit (μV/m) |
|-----------------|----------------------|----------------------|---------------------|---------------------------|--------------------------|--------------|
| 30              | < 16                 | < 16                 | 14.0                | < 31.6                    | < 31.6                   | 100.0        |
| 100             | < 16                 | < 16                 | 8.6                 | < 17.0                    | < 17.0                   | 150.0        |
| 200             | < 16                 | < 16                 | 15.1                | < 35.9                    | < 35.9                   | 150.0        |
| 300             | < 16                 | < 16                 | 18.0                | < 50.1                    | < 50.1                   | 200.0        |
| 400             | < 16                 | < 16                 | 18.3                | < 51.9                    | < 51.9                   | 200.0        |
| 700             | < 16                 | < 16                 | 22.4                | < 83.2                    | < 83.2                   | 200.0        |
| 1000            | < 16                 | < 16                 | 26.5                | < 133.4                   | < 133.4                  | 500.0        |



Test result:

☒ O.K.  
☐ Not O.K.

Date: 12 MAY 2000

Operator: e



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No. 22467/0/400F

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## Notes for Radiation Measurement

**1. Measurement facility:**

Measurement facility located at Fanling (Hong Kong), placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules.

**2. Distance between the EUT and measuring antenna:**

3 meters.

**3. Measuring instrumentations:**

Rohde & Schwarz ESVP Test Receiver ( 20 - 1300 MHz ) with a CISPR weighting QP detector, 6 dB bandwidth set at 120 KHz.

**4. Measuring antenna:**

Broad-band antenna for the frequency range 30 - 300 MHz and frequency range 300 - 1000 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the Antenna Factor for measurement data. The antennas are capable of measuring both horizontal and vertical polarizations.

**5. Frequency range scanned:**

The frequency range 30 - 1000 MHz has been scanned. Readings of the highest emissions relating to the limit were reported as above.

**6. Arrangement of EUT:**

During the test, the sample was operated at rated supply voltage and arranged for maximum emissions.

**7. Measuring Procedure:**

In accordance with the relevant sections of the American National Standards Institute (ANSI) C63.4-1992 'Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9KHz to 40GHz'.

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