



**ETL SEMKO**

**Hasbro Far East Ltd.**

Application  
For  
Permissive Change  
Two Way Radio with FRS and Messaging

**(FCC ID: RS4HB001)**

July 6, 2005

0513560  
TL/ Ann Choy  
July 6, 2005

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## INTERTEK TESTING SERVICES

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# INTERTEK TESTING SERVICES

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## MEASUREMENT/TECHNICAL REPORT

**Application** : Hasbro Far East Ltd.  
**Trade Name/Model No:** Hasbro/ 75070 (Chat Now single pack - Slide)  
Hasbro/ 75028 (Chat Now Communicator 2pk Assortment)  
Hasbro/ 72970 (Chat Now Communicator single pk Assortment)  
Hasbro/ 74849 (Chat Now 2pk - Slide)  
**Date** : July 6, 2005

This report concerns (check one:)Original Grant  Class II Change

Equipment Type: FRF – Part 95 Family Radio Face Held Transmitter

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes  No   
If yes, defer until: \_\_\_\_\_ date \_\_\_\_\_

Company Name agrees to notify the Commission by: \_\_\_\_\_ date \_\_\_\_\_

of the intended date of announcement of the product so that the grant can be issued on that date.  
\_\_\_\_\_  
\_\_\_\_\_

Report prepared by:

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### List of attached file

Exhibit type	File Description	Filename
Cover Page	Confidentiality Request	request.pdf
Cover Page	Purpose of Application	purpose of change.pdf
Test Report	Spurious Emission	spurious.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	config photos.doc
Internal Photo	Internal Photo	internal photos.doc
External Photo	External Photo	external photos.doc
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Test Report	Part List	partlist.pdf

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## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 1**

#### **GENERAL DESCRIPTION**

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## 1.0 General Description

### 1.1 Product Description

The Equipment Under Test (EUT) is a Two Way Radio with FRS operating between 462.5625MHz and 467.7125MHz. The EUT can conduct two-way voice communication with another person on the same channel (1-14). Also, the EUT can send a brief text message to another specific person on the pre-set channel. The EUT is powered by 6V (4 x "AAA" size 1.5V alkaline batteries).

#### Transmitter Portion

- (i) Type of Emission : FRS - 10K5F3E, 5K50F2D
- (ii) Frequency Range : FRS - 462.5625MHz to 462.7125MHz (7 Channels)  
FRS - 467.5625MHz to 467.7125MHz (7 Channels)
- (iii) Maximum Power Rating : FRS (Channel 1-7) - 0.08W ERP  
FRS (Channel 8-14) - 0.06W ERP
- (iv) Antenna Type : Integral

The slide type communicator in the Model: Hasbro 75028 (Chat Now Communicator 2pk Assortment), Hasbro 72970 (Chat Now Communicator single pk Assortment), and the Model: Hasbro 74849 (Chat Now 2pk - Slide) are same as the Model: Hasbro 75070 (Chat Now single pack - Slide) in hardware aspect. The model numbers are difference in package. The model numbers are identical in electrical, mechanical, and physical design. The difference in model number serves as marketing strategy.

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### 1.2 Purpose of Application

The purpose of application is saved with filename: purpose of change.pdf.

As the RF module remained unchanged, only the spurious emission results were included in this report.

### 1.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.4 (2001) and ANSI/TIA-603-B-2002. All measurement were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. For each scan, the procedure of maximizing emissions in Appendices D and E were followed. All Radiated tests were performed at an antenna the EUT distance of 3 meters, unless stated otherwise in the **“Justification Section”** of this Application.

### 1.4 Test Facility

The open area test site and conducted measurement facility used to collect the emission data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. The test facility and site measurement data have been fully placed on file with the FCC.

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**EXHIBIT 2**

**SYSTEM TEST CONFIGURATION**

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### 2.0 System Test Configuration

#### 2.1 Justification

The device was configured for testing in a typical fashion (as a customer would normally use it). The device was placed on a turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes. When the radiated emissions are measured.

The device was powered by 4 new "AAA" size 1.5V alkaline batteries.

The frequency range from 30 MHz to 4.69 GHz was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

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## 2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered on, a signal is transmitted.

## 2.3 Special Accessories

No special accessory is needed for compliance of this device.

## 2.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

## 2.5 Equipment Modification

Any modification installed previous to testing by Hasbro Far East Ltd. will be incorporated in each production model sold/leased in the United States.

No modification were installed by Intertek Testing Services.

## 2.6 Support Equipment

A headset with 1.2m unshielded cable. (Supplied by Client)

*Confirmed by:*

*Tommy Leung  
Assistant Manager  
Intertek Testing Services  
Agent for Hasbro Far East Ltd.*

 Signature

July 6, 2005 Date

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**EXHIBIT 3**

**SPURIOUS EMISSION**

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### 3.0 Spurious Emission (Section 95.635)

In order to satisfy the 95.635 requirement, the spurious emission from the EUT are measured and shown in the Exhibit 3.1.

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### 3.1 Field Strength of Spurious Radiation (Section 95.635)

#### A. Test Equipment

Equipment	Brand Name	Model No.
Antenna	EMCO	A100, 3148, 3104C, 3115
Spectrum Analyzer	ADVANTEST	R3271
Test receiver	Rohde & Schwarz	ESVS30
RF Filter	Trilithic	3VF500/1000-5-50-CC

#### B. Testing Procedure

Radiated emission measurements were performed according to the procedures in ANSI C63.4(2001). All measurements were performed in Open Area Test Sites located at Roof Top of Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.

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### **C. Radiated Emission Configuration Photograph**

#### **Worst Case Radiated Emission**

For electronic filing, the radiated emission configurations photograph is saved with filename: config photos.doc

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### C. Test Result

**Hasbro Far East Ltd.  
Hasbro/ 75070 (Chat Now single pack - Slide)**

**Table 1(a)**

1) Unwanted emission from CARRIER  $\pm 6.25\text{kHz}$  to CARRIER  $\pm 31.25\text{kHz}$

(Refer to the plots which is saved with filename: spurious.pdf)

Region	Unwanted emission	
	Channel 4	Channel 11
CARRIER $\pm 6.25\text{kHz}$ to $\pm 12.5\text{kHz}$	<25dB	<25dB
CARRIER $\pm 12.5\text{kHz}$ to $\pm 31.25\text{kHz}$	<35dB	<35dB

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**Table 1(b): Channel 4**

Frequency (MHz)	Effective Radiated Power (dBm)	Transmission Power (dBm)	Attenuation (dBc)	Limit (dB)	Margin (dB)
925.275	-31.7	18.9	50.6	31.9	-18.7
1387.913	-24.8	18.9	43.7	31.9	-11.8
1850.550	-31.1	18.9	50.0	31.9	-18.1
2313.188	-31.2	18.9	50.1	31.9	-18.2
2775.825	-32.0	18.9	50.9	31.9	-19.0
3238.463	-37.6	18.9	56.5	31.9	-24.6
3701.100	-42.3	18.9	61.2	31.9	-29.3
4163.738	-44.2	18.9	63.1	31.9	-31.2
4626.375	-44.0	18.9	62.9	31.9	-31.0

Remark: 1. Transmission power is 18.9 dBm or -11.1 dB(W).

2. According to Section 95.635(b7), the unwanted emission should be attenuated below TP by at least  $43 + 10 \log_{10} (TP)$  dB or 31.9 dB.

3. The test is performed according to ANSI/TIA-603-B-2002.

Test Engineer: Kenneth C. C. Lam

Date of Test: June 23-28, 2005

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**Table 1(b): Channel 11**

Frequency (MHz)	Effective Radiated Power (dBm)	Transmission Power (dBm)	Attenuation (dBc)	Limit (dB)	Margin (dB)
935.275	-30.0	17.9	47.9	30.9	-17.0
1402.912	-26.1	17.9	44.0	30.9	-13.1
1870.549	-32.3	17.9	50.2	30.9	-19.3
2338.186	-27.8	17.9	45.7	30.9	-14.8
2805.824	-28.0	17.9	45.9	30.9	-15.0
3273.461	-36.4	17.9	54.3	30.9	-23.4
3741.098	-43.4	17.9	61.3	30.9	-30.4
4208.736	-44.3	17.9	62.2	30.9	-31.3
4676.373	-43.5	17.9	61.4	30.9	-30.5

Remark: 1. Transmission power is 17.9 dBm or -12.1 dB(W).

2. According to Section 95.635(b7), the unwanted emission should be attenuated below TP by at least  $43 + 10 \log_{10} (TP)$  dB or 30.9 dB.

3. The test is performed according to ANSI/TIA-603-B-2002.

Test Engineer: Kenneth C. C. Lam

Date of Test: June 23-28, 2005

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### **EXHIBIT 4**

### **TECHNICAL SPECIFICATIONS**

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### 4.0 Technical Specifications

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### **4.1 Block Diagram**

For electronic filing, the block diagram of the transceiver is saved with filename: block.pdf

Figure 4.1 Block Diagram

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### 4.2 Schematic Diagram

For electronic filing, the schematic diagram of the transceiver is saved with filename: circuit.pdf

Figure 4.2     Schematic Diagram

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### **EXHIBIT 5**

#### **PRODUCT LABELLING**

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### 5.0 Product Labelling

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### 5.1 Label Artwork & Location

Figure 5.1 Label Artwork & Location

An engineering drawing of the label which will be permanently affixed to the unit.  
For electronic filing, the label artwork & location are saved with filename: label.pdf

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**EXHIBIT 6**

**PHOTOGRAPHS**

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### 6.0 Equipment Photographs

For electronic filing, photographs of the tested EUT are saved with filename: external photos.doc and internal photos.doc

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**EXHIBIT 7**

**INSTRUCTION MANUAL**

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### 7.0 Instruction Manual

This manual will be provided to the end-user with each unit sold/leased in the United States.

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf

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### **EXHIBIT 8**

#### **PART LIST**

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### 8.0 Part List

For electronic filing, a preliminary copy of the Part List is saved with filename: partlist.pdf

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**EXHIBIT 9**

**RF EXPOSURE INFO**

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### 9.0 RF Exposure Info

The RF Safety Information is shown on P.1 of User Manual.

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**EXHIBIT 10**

**CONFIDENTIALITY REQUEST**

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### 10.0 **Confidentiality Request**

For electronic filing, a confidentiality request of the Instruction Manual is saved with filename: request.pdf