April 8, 2000

Asahi Corporation (HK) Ltd.
Suite 806, 8/F., Tower 3,
China Hong Kong City,
33 Canton Rd., Tsim Sha Tsui,
Kowloon, Hong Kong.

Dear Mr. Jack Cheung,

Enclosed you will find your file copy of a Part 15 Certification (FCC ID: AQC4001-49RX). We have forwarded the original, along with your check for $365.00, to FCC.

For your reference, FCC will normally take another 60-90 days for reviewing the report. Approval will then be granted when no query is sorted.

Please contact me if you have any questions regarding the enclosed material.

Sincerely,

Wilbur Ng
Assistant Manager

Enclosure

Asahi Corporation (HK) Ltd.

Application
For
Certification
(FCC ID: AQC4001-49RX)

Superheterodgyne Receiver

WO# 0002022
WN/at
April 8, 2000

FCC ID : AQC4001-49RX

LIST OF EXHIBITS

MEASUREMENT/TECHNICAL REPORT

Asahi Corporation (HK) Ltd. - MODEL: 4001
FCC ID: AQC4001-49RX

April 8, 2000

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

Equipment Type: Superheterodgyne Receiver (example: computer, printer, modem, etc.)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ___
No X

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.

Transition Rules Request per 15.37? Yes _____
No X

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-1-98 Edition] provision.

Report prepared by:

Wilbur Ng
Intertek Testing Services
2/F., Garment Center,
576, Castle Peak Road,
HONG KONG
Phone: 852-2173-8502
Fax: 852-2742-9149

Table of Contents

List of attached file

Exhibit type	File Description	filename
Cover Letter	Letter of Agency	letter.pdf
Test Report	Test Report	report.doc
Test Setup Photo	Radiated Emission	radiated1.jpg to radiated2.jpg
External Photo	External Photo	ophoto1.jpg, ophoto2.jpg
Internal Photo	Internal Photo	iphoto1.jpg to iphoto2.jpg
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf

EXHIBIT 1

GENERAL DESCRIPTION

1.0 General Description

1.1 Product Description

The equipment under test (EUT) is Superheterodgyne receiver which is installed in a operating at remote controlled toy glider operating at 49.405 MHz. The EUT is powered by four 1.5V batteries. The EUT can be controlled in two moving directions (left and right).

The brief circuit description is listed as follows:

- Q_1 and associated circuit act as RF amplifier.
- Q_2 and associated circuit act as oscillator.
- Q_3, Q_2, Q_5 and associated circuit act as 1F amplifier.
- Q_6, Q_7 and associated circuit act as an amplifier.
- IC_1 and associated circuit act as Decoder.

1.2 Related Submittal(s) Grants

This is a single application for certification of a receiver.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (1992). All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. All Radiated tests were performed at an antenna to 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. This test facility and site measurement data have been fully placed on file with the FCC.

EXHIBIT 2

SYSTEM TEST CONFIGURATION

2.0 System Test Configuration

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (1992.)

The EUT was powered by four 1.5V.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The unit was operated standalone and placed in the center of the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was mounted to a cardboard box, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

There was no special software to exercise the device.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Equipment Modification

Any modifications installed previous to testing by Asahi Corporation (HK) Ltd. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

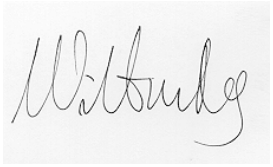
2.5 Support Equipment List and Description

This product was tested in a standalone configuration.

All the items listed under section 2.0 of this report are

Confirmed by:

Wilbur Ng
Assistant Manager
Intertek Testing Services
Agent for Asahi Corporation (HK) Ltd.



Signature

27 April, 2000 Date

EXHIBIT 3

EMISSION RESULTS

3.0 Emission Results

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

3.1 Field Strength Calculation (cont)

Example

Assume a receiver reading of 62.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB

AV = -10 dB

FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 dBμV/m

Level in mV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission

49.408 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated1.jpg to radiated2.jpg

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 4.3 dB

TEST PERSONNEL:

Signature

Anthony K. M. Chan, Compliance Engineer
Typed/Printed Name

27 April, 2000
Date

Company: Asahi Corporation (HK) Ltd. Date of Test: March 11, 2000
Model: 4001

Table 1

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBµV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	49.408	40.7	11	16	35.7	40.0	-4.3
H	98.816	34.6	11	16	29.6	43.5	-13.9
H	148.225	30.4	13	16	27.4	43.5	-16.1
H	197.632	27.2	16	16	27.2	43.5	-16.3
H	241.040	22.9	19	16	25.9	46.0	-20.1

Notes: 1. Negative sign in the column shows value below limit.

2. Peak Detector Data unless otherwise stated.

3. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

Test Engineer: Anthony K. M. Chan

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

4.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: ophoto1.jpg to ophoto2.jpg and iphoto1.jpg to iphoto2.jpg

EXHIBIT 5

PRODUCT LABELLING

5.0 Product Labelling

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf

EXHIBIT 6

TECHNICAL SPECIFICATIONS

6.0 Technical Specifications

For electronic filing, the block diagram and schematics are saved with filename: block.pdf and circuit.pdf respectively.

EXHIBIT 7

INSTRUCTION MANUAL

7.0 Instruction Manual

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

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