Timlex International Ltd.

Application
For
Certification
(FCC ID: PMDCP081B)

Digital Camera

WO# 01048581
WL/Sandy
May 4, 2001

LIST OF EXHIBITS

Timlex International Ltd. - MODEL: Fast Flicks Digital Camera 59434
FCC ID: PMDCP081B

May 4, 2001

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

Equipment Type: Computer Peripheral (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 [10-1-96 Edition] provision.

Report prepared by:

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Test Report	Test Report	report.doc
Operation Description	Technical Description	descri.pdf
Test Setup Photo	Radiated Emission	radiated1.jpg, radiated2.jpg
External Photo	External Photo	ophoto1.jpg to ophoto2.jpg
Internal Photo	Internal Photo	iphoto1.jpg to iphoto4.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 a Digital Camera (model No.: Fast Flick Digital Camera 59434). The EUT is powered by three "AAA" batteries. It contains a camera and a LCD display. When the EUT is connected to TV by a TV Cable or Computer by USB Cable, it can act as an on-line CCTV through a TV and a computer by Netmeeting Software. And then, when the digital camera driver is installed, the photo inside the camera can be downloaded to computer for saving and build your own photo album.

For electronic filing, the brief circuit description is saved with filename: descri.pdf

1.2 Related Submittal(s) Grants

This is a single application for certification of a computer peripheral.

1.3 Test Methodology

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. For each scan, the procedure for maximizing emissions in Appendices D and E were followed. 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 from 3 fully charged 1.5V "AAA" battery.

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 with a computer system and placed in 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 placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

The download mode and the on-line mode are applied during test.

2.2 EUT Exercising Software

A “fast clicks digital camera driver” was installed for downloading the photo from the camera to computer. And the Microsoft Netmeeting software is used to exercise the device’s on-line mode.

2.3 Special Accessories

One USB cable with 2.5 Turn winding on ferrite is used.

2.4 Equipment Modification

Any modifications installed previous to testing by Timlex International 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 with a computer system.

Refer List:

1. HP COMPUTER: Model: D3397A
   S/N: SG54500246, FCCID:K4UVECTRAVL5
2. HP MONITOR: Model: D2804A
   S/N: KR53185780
   FCCID:CSYSC-428VSP
3. HP MOUSE: Model: M-S34
   S/N: LCA53438640
   FCCID:DZL210582
4. HP KEYBOARD: Model: E03633QLUS
   FCCID:CIGE03614
5. HP PRINTER: Model: C2642A
   S/N: SG67B131RY
   FCCID: B94C2642X
6. MODEM: Model: 6800CN
   FCCID: BFJ9D907-00038
7. One 1m monitor cable with ferrite
8. One 1m parallel cable
9. 2 × 1m telephone line with termination
10. One 1m serial cable
11. One 1.5m USB cable with ferrite (provided by client)

Confirmed by:

Wilson Loke
Manager
Intertek Testing Services Hong Kong Ltd.
Agent for Timlex International Ltd.

Signature

May 4, 2001 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'd)

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
at
288.050 MHz

For electronic filing, the front view and back view of test configuration photograph is saved with filename: radiated1.jpg and radiated2.jpg respectively.

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 1.5 dB

TEST PERSONNEL:

Signature

Ben W. K. Ho, Compliance Engineer
Typed/Printed Name

May 4, 2001
Date

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	36.033	38.4	11.2	16	33.6	40.0	-6.4
V	48.006	42.1	11.9	16	38.0	40.0	-2.0
H	84.010	39.9	6.7	16	30.6	40.0	-9.4
H	120.032	41.4	12.8	16	38.2	40.0	-1.8
H	167.985	28.5	13.8	16	26.3	43.5	-17.2
H	179.985	25.1	15.5	16	24.6	43.5	-18.9
H	192.160	34.5	17.1	16	35.6	43.5	-7.9
H	204.025	37.4	11.8	16	33.2	43.5	-10.3
H	228.025	34.2	11.4	16	29.6	46.0	-16.4
H	239.988	46.6	11.4	16	42.0	46.0	-4.0
H	251.988	37.8	12.4	16	34.2	46.0	-11.8
H	276.038	33.3	13.3	16	30.6	46.0	-15.4
H	288.050	47.2	13.3	16	44.5	46.0	-1.5
H	300.050	41.7	14.3	16	40.0	46.0	-6.0
H	312.050	41.3	14.3	16	39.6	46.0	-6.4
H	336.020	45.9	14.6	16	44.5	46.0	-1.5

Notes: 1. Peak Detector Data unless otherwise stated.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna and average detector are used for the emission over 1000MHz.

Test Engineer: Ben W. K. Ho

Table 1 (Con't)

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)
H	348.020	35.4	14.6	16	34.0	46.0	-12.0
H	360.020	37.0	14.9	16	35.9	46.0	-10.1
H	372.050	28.7	14.9	16	27.6	46.0	-18.4
H	384.050	36.9	15.4	16	36.3	46.0	-9.7
H	408.038	34.7	15.9	16	34.6	46.0	-11.4
H	420.078	29.7	15.9	16	29.6	46.0	-16.4

Notes: 1. Peak Detector Data unless otherwise stated.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna and average detector are used for the emission over 1000MHz.

Test Engineer: Ben W. K. Ho

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: ophoto1.jpg to ophoto2.jpg for external photo and iphoto1.jpg to iphoto4.jpg for internal photo.

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 of the tested EUT 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.

EXHIBIT 8

MISCELLANEOUS INFORMATION

8.0 Miscellaneous Information

This miscellaneous information includes emission measuring procedure.

8.1 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 1992.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Exhibit 8.3.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. For line conducted emissions, the range scanned is 450 kHz to 30 MHz.

8.1 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.4 - 1992.

The IF bandwidth used for measurement of radiated signal strength was 100 kHz or greater when frequency is below 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Exhibit 8.2). Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the forbidden bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.