

Date: 2000-10-09

TEST REPORT

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No.: HM103354

APPLICANT: (CODE: EXE001)
EXCEL ENGINEERING (HK) CO., LTD.
Unit 306, 3/F., Lippo Sun Plaza, 28 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong

DATE OF SAMPLES RECEIVED: 2000-09-26

SUBMITTED SAMPLE(S): 2 sample per model

DATE OF TESTING: 2000-10-03

DESCRIPTION OF SAMPLE(S):

A sample of product said to be:

Product: SAFE & SOUNDS MONITOR
Manufacturer: KWOK'S WINTY MANUFACTURING LTD.
Model Number: 3808
Brand Name: THE FIRST YEARS, INC
Rating: 120Va.c.
6Vd.c.
Origin: CHINA

INVESTIGATIONS REQUESTED:

Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C
- Intentional Radiator.

RESULT/ REMARK: Please see attached sheet(s).

CONCLUSION:

From the measurement data obtained, the tested sample was considered to have
COMPLIED with the clause 15.235 of Federal Communications Commission Rules
and Regulations Part 15.

TEST EQUIPMENT AUDIT: Please see Appendix A

Law Man Kit
Testing Engineer

Kitty Choy
Verify by

Patrick wong
Patrick Wong
for Managing Director

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TEST SUMMARY

*** INTENTIONAL RADIATOR ***

- (1) Measurement of Emission of RF energy on the carrier frequency Satisfactory
- (2) Measurement of the out-of band emissions including harmonics..... Satisfactory
- (3) Measurement of Emission Within Band Edges Satisfactory
- (4) Measurement of Line-Conducted Voltage onto AC Power Line..... Satisfactory

TEST DATA

Please refer to the attached result sheets.

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*** INTENTIONAL RADIATOR ***

(1) Measurement of Radiated Interference

TEST REFERENCE : FCC Rules Part 15 Section 15.235(49.82-49.90 MHz)

TEST CONDITION : Channel A

TEST DATE : 2000-10-03

Emission of RF energy on the carrier frequency -- 49.866 MHz

(PEAK VALUE)

Emission Frequency	Meter Reading	Polarization	Antenna Factor	Field Strength (at 3m)	FCC Limit
MHz	dB(μ V)	H-V	dB	dB(μ V/m) μ V/m	μ V/m
49.9	45.4	V	+ 15.0	60.4 1047.1	100000.0

Emission of RF energy on the carrier frequency -- 49.866 MHz

(AVERAGE VALUE)

Emission Frequency	Meter Reading	Polarization	Antenna Factor	Field Strength (at 3m)	FCC Limit
MHz	dB(μ V)	H-V	dB	dB(μ V/m) μ V/m	μ V/m
49.9	44.2	V	+ 15.0	59.2 912.0	10000.0

... to be continued

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*** INTENTIONAL RADIATOR ***

(1) Measurement of Radiated Interference . . Continued

TEST REFERENCE : FCC Rules Part 15 Section 15.235(49.82-49.90 MHz)

TEST CONDITION : Channel A

TEST DATE : 2000-10-03

The out-of-band emissions, including harmonics (25-1000 MHz)

(CISPR VALUE)

Emission Frequency	Polarization	Meter reading (at 3m)	Antenna factor	Field Strength (at 3m)			FCC Limit @
MHz	H-V		dB	dB(μV)	μV/m	μV/m	
99.7		< 1.0 +	12.2	< 13.2	< 4.6	150	
149.6		< 1.0 +	9.8	< 10.8	< 3.5	150	
199.5		< 1.0 +	11.5	< 12.5	< 4.2	150	
249.3		< 1.0 +	15.9	< 16.9	< 7.0	200	
299.2		< 1.0 +	17.0	< 18.0	< 7.9	200	
349.1		< 1.0 +	17.2	< 18.2	< 8.1	200	
398.9		< 1.0 +	18.8	< 19.8	< 9.8	200	
448.8		< 1.0 +	19.7	< 20.7	< 10.8	200	
498.7		< 1.0 +	20.6	< 21.6	< 12.0	200	
548.5		< 1.0 +	22.2	< 23.2	< 14.5	200	
598.4		< 1.0 +	23.4	< 24.4	< 16.6	200	
648.3		< 1.0 +	23.5	< 24.5	< 16.8	200	
698.1		< 1.0 +	25.0	< 26.0	< 20.0	200	
748.0		< 1.0 +	26.3	< 27.3	< 23.2	200	
797.9		< 1.0 +	27.2	< 28.2	< 25.7	200	
847.7		< 1.0 +	26.6	< 27.6	< 24.0	200	
897.6		< 1.0 +	27.1	< 28.1	< 25.4	200	
947.5		< 1.0 +	28.0	< 29.0	< 28.2	200	
997.3		< 1.0 +	28.5	< 29.5	< 29.9	500	

=====SUMMARY=====

All data is within limits

Broad-band Antennas were used and both polarizations of emissions were measured.

polarizations at highest reading indicated as:

H -- Horizontal

V -- Vertical

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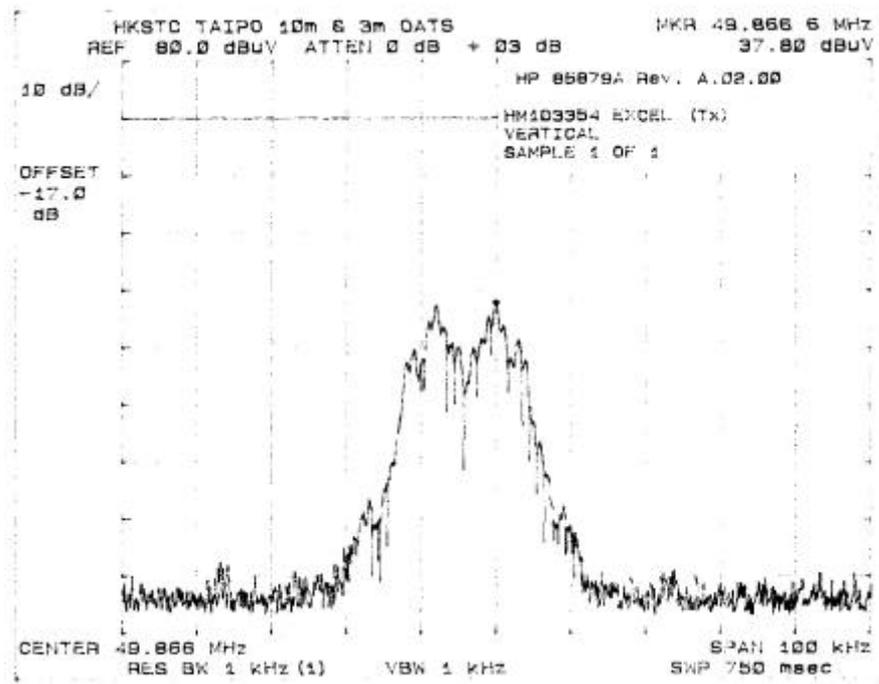
*** INTENTIONAL RADIATOR ***

(2) Measurement of Emissions Within Band Edges

TEST REFERENCE : FCC Rules Part 15 Section 15.235(49.82-49.90 MHz)

TEST CONDITION : Channel A

TEST DATE : 2000-10-03



RESULTS AND NOTES

- L: FCC Lower Band Edge.....-> 49.820MHz
- H: FCC Higher Band Edge.....-> 49.900MHz
- C: Unmodulated carrier at frequency.....-> 49.866MHz
- D: No. of dB from unmodulated carrier.....-> 37.80dB

SPECTRUM ANALYZER SETTINGS

- Resolution bandwidth : 19.6KHz
- Frequency span : 10.0KHz/div
- No. of dB/div : 10.0dB/div

FCC Limit

Minimum No. of dB from unmodulated carrier required : 26.0dB

=====SUMMARY=====

All data is within limits

=====

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*** INTENTIONAL RADIATOR ***

(1) Measurement of Radiated Interference

TEST REFERENCE : FCC Rules Part 15 Section 15.235(49.82-49.90 MHz)

TEST CONDITION : Channel B

TEST DATE : 2000-10-03

Emission of RF energy on the carrier frequency -- 49.868 MHz

(PEAK VALUE)

Emission Frequency	Meter Reading	Polarization	Antenna Factor	Field Strength (at 3m)	FCC Limit
MHz	dB(μ V)	H-V	dB	dB(μ V/m) μ V/m	μ V/m
49.9	45.5	V	+ 15.0	60.5 1059.3	100000.0

Emission of RF energy on the carrier frequency -- 49.868 MHz

(AVERAGE VALUE)

Emission Frequency	Meter Reading	Polarization	Antenna Factor	Field Strength (at 3m)	FCC Limit
MHz	dB(μ V)	H-V	dB	dB(μ V/m) μ V/m	μ V/m
49.9	44.3	V	+ 15.0	59.3 922.6	10000.0

... to be continued

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*** INTENTIONAL RADIATOR ***

(1) Measurement of Radiated Interference . . Continued

TEST REFERENCE : FCC Rules Part 15 Section 15.235(49.82-49.90 MHz)

TEST CONDITION : Channel B

TEST DATE : 2000-10-03

The out-of-band emissions, including harmonics (25-1000 MHz)

(CISPR VALUE)

Emission Frequency	Polarization	Meter reading (at 3m)	Antenna factor	Field Strength (at 3m)			FCC Limit @
MHz	H-V		dB	dB(μV)	μV/m	μV/m	
99.7		< 1.0	+ 12.2	< 13.2	< 4.6	150	
149.6		< 1.0	+ 9.8	< 10.8	< 3.5	150	
199.5		< 1.0	+ 11.5	< 12.5	< 4.2	150	
249.3		< 1.0	+ 15.9	< 16.9	< 7.0	200	
299.2		< 1.0	+ 17.0	< 18.0	< 7.9	200	
349.1		< 1.0	+ 17.2	< 18.2	< 8.1	200	
398.9		< 1.0	+ 18.8	< 19.8	< 9.8	200	
448.8		< 1.0	+ 19.7	< 20.7	< 10.8	200	
498.7		< 1.0	+ 20.6	< 21.6	< 12.0	200	
548.5		< 1.0	+ 22.2	< 23.2	< 14.5	200	
598.4		< 1.0	+ 23.4	< 24.4	< 16.6	200	
648.3		< 1.0	+ 23.5	< 24.5	< 16.8	200	
698.2		< 1.0	+ 25.0	< 26.0	< 20.0	200	
748.0		< 1.0	+ 26.3	< 27.3	< 23.2	200	
797.9		< 1.0	+ 27.2	< 28.2	< 25.7	200	
847.8		< 1.0	+ 26.6	< 27.6	< 24.0	200	
897.6		< 1.0	+ 27.1	< 28.1	< 25.4	200	
947.5		< 1.0	+ 28.0	< 29.0	< 28.2	200	
997.4		< 1.0	+ 28.5	< 29.5	< 29.9	500	

=====SUMMARY=====

All data is within limits

Broad-band Antennas were used and both polarizations of emissions were measured.

polarizations at highest reading indicated as:

H -- Horizontal

V -- Vertical

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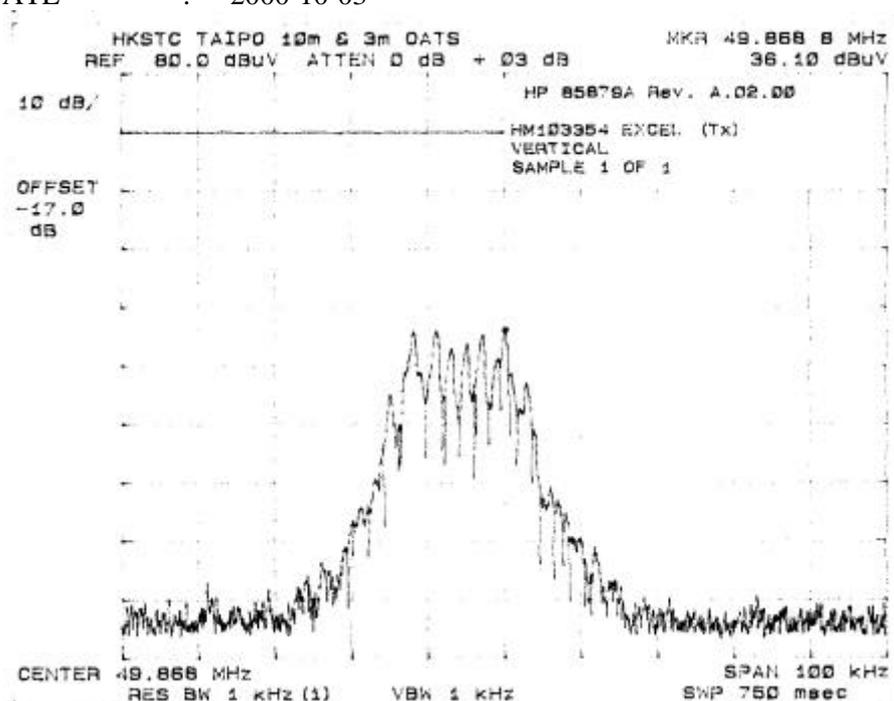
*** INTENTIONAL RADIATOR ***

(2) Measurement of Emissions Within Band Edges

TEST REFERENCE : FCC Rules Part 15 Section 15.235(49.82-49.90 MHz)

TEST CONDITION : Channel B

TEST DATE : 2000-10-03



RESULTS AND NOTES

L: FCC Lower Band Edge.....-> 49.820MHz

H: FCC Higher Band Edge.....-> 49.900MHz

C: Unmodulated carrier at frequency.....-> 49.868MHz

D: No. of dB from unmodulated carrier.....-> 36.10dB

SPECTRUM ANALYZER SETTINGS

Resolution bandwidth : 21.2KHz

Frequency span : 10.0KHz/div

No. of dB/div : 10.0dB/div

FCC Limit

Minimum No. of dB from unmodulated carrier required : 26.0dB

=====SUMMARY=====

All data is within limits

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NOTES FOR THE RADIATION MEASUREMENT

- (1) Test site facility:
Open field test site located at Taipo (Hong Kong) with a metal ground plane on filed 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:
CISPR Quasi-peak type field strength meter (25 MHz - 1000 MHz). 6 dB bandwidth set at 120KHz. Also, peak level of the fundamental emissions was measured in order to determine compliance with the 20dB peak to average limit specified in Section 15.35(b) of the FCC new Rules.
- (4) Measuring antenna:
Broad band antenna for the frequency range 25-1000 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the Antenna Factor for measurement data. The antenna are capable of measuring both horizontal and vertical polarizations.
- (5) Frequency range scanned:
The frequency range from 25 MHz to 1000 MHz had been searched. 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 clauses of the FCC Rules Part 15 section 15.235.
- (8) Measuring Uncertainty:
The calculated uncertainty for measurement performed at 3M test distance are:-
30MHz to 300MHz = ± 3.7 dB, 300MHz to 1000MHz = $+ 3.0$ dB/ -2.7 dB.

Remark: Purpose of this test is to provide the Applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under FCC Equipment Authorization Program. This test itself is not an Approval Test.

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(B) Measurement of Line-Conducted Voltage onto AC Power Line

TEST REFERENCE : FCC Rules Part 15 Subpart B Section 15.107(a)
(Class B)

TEST CONDITION : Channel A & B

TEST DATE : 2000-10-03

(1) Between "Live" and "Ground"

Frequency Range of Emission			Maximum Measured Radio Noise		FCC Limit (Class B)
MHz			dB(mV)	mV	mV
0.45	-	0.80	0.00	1.00	250.00
0.80	-	1.60	0.00	1.00	250.00
1.60	-	3.00	0.00	1.00	250.00
3.00	-	5.00	0.00	1.00	250.00
5.00	-	7.00	0.00	1.00	250.00
7.00	-	9.00	0.00	1.00	250.00
9.00	-	11.00	0.00	1.00	250.00
11.00	-	13.00	0.00	1.00	250.00
13.00	-	15.00	0.00	1.00	250.00
15.00	-	17.00	38.50	84.14	250.00
17.00	-	19.00	0.00	1.00	250.00
19.00	-	21.00	0.00	1.00	250.00
21.00	-	23.00	0.00	1.00	250.00
23.00	-	25.00	0.00	1.00	250.00
25.00	-	27.00	0.00	1.00	250.00
27.00	-	30.00	0.00	1.00	250.00

- End -

===== SUMMARY =====

All data is within limits

(B) Measurement of Line-Conducted Voltage onto AC Power Line

TEST REFERENCE : FCC Rules Part 15 Subpart B Section 15.107(a)
(Class B)

TEST CONDITION : Channel A & B

TEST DATE : 2000-10-03

(1) Between "Neutral" and "Ground"

Frequency Range of Emission			Maximum Measured Radio Noise		FCC Limit (Class B)
MHz			dB(mV)	mV	mV
0.45	-	0.80	0.00	1.00	250.00
0.80	-	1.60	0.00	1.00	250.00
1.60	-	3.00	0.00	1.00	250.00
3.00	-	5.00	0.00	1.00	250.00
5.00	-	7.00	0.00	1.00	250.00
7.00	-	9.00	0.00	1.00	250.00
9.00	-	11.00	0.00	1.00	250.00
11.00	-	13.00	0.00	1.00	250.00
13.00	-	15.00	0.00	1.00	250.00
15.00	-	17.00	< 38.50	84.14	250.00
17.00	-	19.00	0.00	1.00	250.00
19.00	-	21.00	0.00	1.00	250.00
21.00	-	23.00	0.00	1.00	250.00
23.00	-	25.00	0.00	1.00	250.00
25.00	-	27.00	0.00	1.00	250.00
27.00	-	30.00	0.00	1.00	250.00

- End -

===== SUMMARY =====

All data is within limits

NOTES FOR THE CONDUCTED POWER-LINE MEASUREMENT

- (1) LISN (Line Impedance Stabilization Network) used :
50 μ H LISN in accordance with Section of ANSI C63.4:1992.
- (2) Measurement Instrumentations:
CISPR quasi-peak type radio noise meter (9 KHz - 30 MHz), 6 dB bandwidth set at 9 KHz for measurement between 150 KHz & 30MHz.
- (3) Frequency range scanned :
The frequency range from 450 KHz to 30 MHz had been searched. Reading of the highest emissions relating to the limit were reported as above.
- (4) Configuration of EUT:
Connection of equipment and operation conditions were same as those in the Radiation measurement.
- (5) Measurement procedure :
In accordance with the relevant sections of ANSI C63.4:1992 "FCC Methods of measurement of Radio Noise Emissions from Computing Devices".
- (6) Measuring Uncertainty:
The calculated uncertainty for conducted power-line measurement is = ± 2.3 dB.

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TEST EQUIPMENT AUDIT

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL.
EM007	SPECTRUM ANALYZER	HEWLETT PACKARD	HP85660B	3144A21192	18/07/00
EM008	SPECTRUM ANALYZER DISPLAY	HEWLETT PACKARD	HP85662A	3144A20514	18/07/00
EM009	QUASI PEAK ADAPTOR	HEWLETT PACKARD	HP85650A	3303A01702	18/07/00
EM010	RF PRESELECTOR	HEWLETT PACKARD	HP85685A	3221A01410	18/07/00
EM011	ATTENUATOR/SWITCH	HEWLETT PACKARD	HP11713A	2508A10595	18/07/00
EM012	PRE-AMPLIFIER	HEWLETT PACKARD	HP8449B	3008A00262	18/07/00
EM013	CONTROLLER (COMPUTER), COLOR MONITOR, KEYBOARD & MOUSE FLOPPY DRIVE	HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD	HP9000 HP A1097C HP9133L	6226A60314 3151J39517 2623A02468	CM
EM131	PORTABLE SPECTRUM ANALYSER	HEWLETT PACKARD	8595EM	3710A00155	25/11/99
EM017	ANTENNA	ARA INC.	LPB-2513/A	1069	17/02/00
EM020	HORN ANTENNA	EMCO	3115	4032	09/08/00
EM072	SIGNAL GENERATOR	HEWLETT PACKARD	8640B	1948A11892	30/03/98
EM083	HKSTC OPEN AREA TEST SITE	HKSTC	N/A	N/A	15/01/00
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	31/05/00

Line Conducted

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM078	VARIAC	SHANGHAI VOLTAGE	TDGC-3/0.5	N/A	CM
EM081	SMALL SCREENED ROOM	MIKO INST HK	N/A	N/A	09/09/99
EM002	LISN	EMCO	3825-2	9005-1657	27/07/99
EM119	LISN	R & S	ESH3-Z5	0831.5518.52	TBD
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	31/05/00
EM120	EMI TEST RECEIVER	R&S	ESHS10	1004.0401.10	TBD
EM127	ISOLATION TRANSFORMER 220 TO 300	WING SUN	N/A	N/A	N/A
EM142	PLUSE LIMITER	R & S	ESH3Z2	357.8810.52	29/01/00

Remarks:-

CM Corrective Maintenance
N/A Not Applicable or Not Available
TBD To Be Determined