The Hong Kong Standards and Testing Centre Ltd.

TEST REPORT

Date:1998-07-31
No.: HM974A/504

APPLICANT: (CODE : 000023)
ALCO ELECTRONICS LTD.
5/F, Zung Fu Ind. Bldg., 1067,
King's Road, Quarry Bay,
Hong Kong

DATE OF SAMPLES RECEIVED: 1998.05.08

DATE OF TESTING: 1998.05.12 & 1998.06.18

DESCRIPTION OF SAMPLE(S):
A sample of product said to be:

Product:	AM/CB/SW/FM-TV1/TV2/AIR-PBH-WB Multi-Band Receiver
Manufacturer:	1. Hau Kai Alco Electronics
	2. Chang An Commusonics Electronics Fty.
Band Combination:	AM/CB/SW/FM-TV1/TV2/AIR-PBH-WB
Model No./Brand Name :	12-795/RADIO SHACK
Rating:	120v a.c. 5W 60Hz
	DC 6.0V('D' size battery x 4)
Origin:	China

INVESTIGATIONS REQUESTED:
Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Radio Receiver.

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

CONCLUSION:
From the measurement data obtained, the tested sample was considered to have COMPLIED after modification by customer with the requirement for the relevant clauses of Federal Communication Commission Rules for Radio Receivers.

TEST EQUIPMENT AUDIT: Please see Appendix A

Testing Engineer

Verify by

Patrick Wong
for Managing Director

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TEST SUMMARY

(A) Measurement of Radiated Emissions
(On CB, FM, TV1, TV2, AIR, PBH, WEATHER BAND)

Result -- Satisfactory
Data -- See the attached data

(B) Measurement of Line-Conducted Voltage
(On CB, FM, TV1, TV2, AIR, PBH, WEATHER BAND)

Result : Satisfactory
Data : (The spectrum was checked from 450KHz to 30KHz. All emissions were too low to be measurable and they were all more than 20dB below the permitted limit.)

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CITIZEN BAND

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : Citizen Band (Build in antenna)
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
27.0	37.7	Vertical	28.58	26.85	100

==========SUMMARY==========
All data is within limits
==========
Broad-band Antennas were used and both polarizations
of emissions were measured.
==========

Remark: IF = 10.70 MHz

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FM BAND RADIO RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : Normal
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
88.3	99.0	Vertical	36.1	63.83	500
98.3	109.0	Vertical	46.5	211.35	500
108.3	119.0	Vertical	46.8	218.78	500

==========SUMMARY==========
All data is within limits
==========
Broad-band Antennas were used
==========

Remark: IF = 10.70 MHz

TEST REPORT

Date:1998-07-31
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AIR BAND RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : Air Band (Build in Antenna)
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
108.3	119	Vertical	46.8	218.78	500
	238	Horizontal	42.0	125.89	1500
	357	Horizontal	37.4	74.13	3090
122.3	133	Horizontal	44.3	164.06	565
	266	Horizontal	44.0	158.49	1609
	399	Horizontal	35.1	56.89	3830
135.3	146	Horizontal	37.6	75.86	853
	292	Horizontal	42.8	138.04	2035

==========SUMMARY==========
All data is within limits
==========
Broad-band Antennas were used
==========

Remark: IF = 10.70 MHz

TEST REPORT

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TV1 BAND RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : TV1 BAND (Build in Antenna)
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
59.75	70.45	Vertical	46.9	221.31	500
	140.9	Vertical	24.6	16.98	670
	211.3	Horizontal	36.9	69.98	1567
	281.8	Vertical	43.5	149.62	1718
65.75	76.45	Horizontal	43.0	141.25	500
	152.9	Vertical	26.5	21.13	871
	229.3	Vertical	44.9	175.79	1500
	305.8	Vertical	38.5	84.14	1928
71.75	82.45	Horizontal	45.1	179.89	500
	164.9	Vertical	29.9	31.26	1775
	247.3	Vertical	48.9	278.61	1500
	329.8	Vertical	38.4	83.18	2213
81.75	92.45	Vertical	46.7	216.27	500
	184.9	Vertical	37.8	77.62	1500
	277.3	Vertical	46.8	218.78	1660
	369.8	Horizontal	38.0	79.43	2213
87.75	98.45	Vertical	42.0	125.89	500
	196.9	Vertical	39.8	97.72	1500
	295.3	Horizontal	39.5	94.41	2100

========SUMMARY========

All data is within limits

==========

Broad-band Antennas were used

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Remark: IF = 10.70 MHz

TEST REPORT

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TV2 BAND RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : TV2 BAND (Build in Antenna)
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
179.5	190.45	Horizontal	56.2	645.65	1500
	380.90	Horizontal	41.1	113.50	3000
185.75	196.45	Horizontal	55.1	568.85	1500
	392.90	Vertical	41.3	116.14	3273
191.75	202.45	Horizontal	54.2	512.86	1500
	404.90	Horizontal	40.1	101.16	3467
197.75	208.45	Horizontal	53.6	478.63	1500
	416.90	Horizontal	38.3	82.22	3715
203.75	214.45	Horizontal	54.3	518.80	1500
	428.90	Vertical	37.9	78.52	3981
209.75	220.45	Horizontal	55.0	562.34	1500
	440.90	Horizontal	37.8	77.62	4266
215.75	226.45	Horizontal	54.8	549.54	1500
	452.90	Horizontal	41.0	112.20	4500

==========SUMMARY==========
All data is within limits
==========
Broad-band Antennas were used
==========

Remark: IF = 10.70 MHz

TEST REPORT

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VHF BAND RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : PBH BAND (Build in Antenna)
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
145.3	156.00	Horizontal	47.2	229.09	1000
	312.00	Vertical	41.1	113.50	2000
163.0	171.00	Vertical	56.4	660.69	1413
	342.00	Horizontal	50.9	350.75	2239
	512.00	Horizontal	39.1	90.16	5000
175.3	186.00	Horizontal	49.5	298.54	1500
	372.00	Horizontal	46.3	206.54	2723

==========SUMMARY==========
All data is within limits
==========
Broad-band Antennas were used
==========

Remark: IF = 10.70 MHz

TEST REPORT

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WEATHER BAND RECEIVER

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart C section 15.63(a)
TEST CONDITION : WEATHER BAND RECEIVER (Build in Antenna)
TEST DATE : 1998.06.18

Freq. to which tuned MHz	Freq. of the emission MHz	Polarity	Meter Reading (including Antenna Factor) at 3m dB(μV/m)	Field Strength (at 3m) μV/m	FCC Limit @ μV/m
163.0	173.70	Horizontal	56.1	638.26	1550
	347.40	Horizontal	48.2	257.04	2239
	521.10	Horizontal	36.7	68.39	5000

==========SUMMARY==========
All data is within limits
==========
Broad-band Antennas were used
==========

Remark: IF = 10.70 MHz

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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 15.38 of the FCC rules (old rule).

(2) Distance between the EUT and measuring antenna:
3 meters.

(3) Measuring instrumentations:
CISPR Quasi-peak type field strength meter (25MHz - 1000MHz) 6 dB bandwidth set at 120KHz.

(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 polarization.

(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 sections of ANSI C63.4:1992.

(8) Measuring Uncertainty:
The calculated uncertainty for measurement performed at 3M test distance are:-
30MHz to 200MHz = ± 3.7dB, 300MHz to 1000MHz + 3.0dB/-2.7dB.

*** END OF DOCUMENT ***

The Hong Kong Standards and Testing Centre Ltd.

APPENDIX A

Date:1998-07-31
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TEST EQUIPMENT AUDIT

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM007	SPECTRUM ANALYZER	HP	HP85660B	3144A21192	29/05/98
EM008	SPECTRUM ANALYZER DISPLAY	HP	HP85662A	3144A20514	29/05/98
EM009	QUASI PEAK ADAPTOR	HP	HP85650A	3303A01702	29/05/98
EM010	RF PRESELECTOR	HP	HP85685A	3221A01410	29/05/98
EM011	ATTENNUATOR/SWITCH	HP	HP11713A	2508A10595	29/05/98
EM012	PRE-AMPLIFIER	HP	HP8449B	3008A00262	29/05/98
EM013	CONTROLLER (COMPUTER), COLOR MONITOR, KEYBOARD & MOUSE FLOPPY DRIVE	HP HP HP	HP9000 HPA1097C HP9133L	6226A60314 3151I39517 2623A02468	CM
EM017	ANTENNA	ARA INC.	LPB-2513/A	1069	31/12/97
EM072	SIGNAL GENERATOR	HP	8640B	1948A11892	30/03/98
EM083	HKSTC OPEN AREA TEST SITE	HKSTC	N/A	N/A	16/02/98

ABBREVIATIONS:

CM = Corrective Maintenance
N/A= Not Applicable
TBD=To be determine

ALCO ELECTRONICS LTD

1067 KING'S ROAD, 5/F & 11/F., ZUNG FU IND. BLDG., QUARRY BAY, HONG KONG. HONG KONG G.P.O.BOX: 4689
Tel.: 25626121 (10 Lines) Cable: Alcoel HX. Telex: 74706 Alcoe HX. Facsimile: 25975201

AUG. 05, 1998

The Hong Kong standards and Testing Centre Ltd
10 Dai Wang Street
Taipo Industrial Estate
Taipo, NT
Hong Kong

Attn: Mr. Patrick Wong

Dear Sirs,

Re: Letter of Attestation

This equipment has been tested in accordance with the requirements contained in the appropriate Commission regulations. To the best of my knowledge, these tests were performed using measurement procedures consistent with industry or Commission standard and demonstrate that the equipment complies with the appropriate standards. Each unit manufactured, imported or marketed, as defined in the Commissions regulations, will conform to the samples tested within the variations that can be expected due to quantity production and testing on a statistical basis. I further certify that the necessary measurements were made by the Hong Kong Standards and Testing Centre Ltd. 10 Dai Wang Street, Taipo Industrial Estate, Taipo, NT, Hong Kong.

Your sincerely,
For & On Behalf of
ALCO ELECTRONICS LTD.

.....
Eng. Dept.
PEGGY SUEN
Secretary, Engineering Dept.

香 港 標 準 及 檢 定 中 心
The Hong Kong Standards and Testing Centre Ltd

Date : August 11, 1998

Federal Communications Commission
EQUIPMENT APPROVAL SERVICES
P.O.BOX 358315
Pittsburgh, PA 15251-5315
U S A

Dear Officers,

Re: Application for Equipment Authorization (CERTIFICATION)

On behalf of "ALCO ELECTRONICS LTD." we have the Pleasure in submitting the application for Equipment Authorization for their following product:

DESCRIPTION	:	Multiband Broadcast Receiver - Radio Receiver
MODEL NUMBER	:	12-795
FCC ID	:	A2H4L912-795

Your kind attention and prompt processing of this application will be much appreciated.

Yours sincerely,

Patrick Wong
Manager - EED Dept.

Encls.

香港新界大埔工業邨大宏街10號
10 Dai Wang Street, Taipo Industrial Estate, NT, Hong Kong Tel: (852) 2666 1888 Fax: (852) 2664 4353

香 港 標 準 及 檢 定 中 心
The Hong Kong Standards and Testing Centre Ltd

Date : August 11, 1998

FCC ID: A2H4L912-795

LIST OF DOCUMENTS

A. A bank-draft of the amount of US$350.00 as fee for application

B. FCC Form and 731 - completed and signed

C. Letter of Appointment submitted by the Applicant

D. Exhibits submitted with applications:

1. Technical Report (including the User's Manual)
2. Expository Statement
3. Photographs of the Device
4. Drawing of the FCC ID label and position of where the label will be put on the device
5. Report of Measurement (Report Number HM974A/504)
6. Letter of Attestation

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