



M. Flom Associates, Inc.

International Compliance Testing Laboratory

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Date: April 29, 2005

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Kenwood USA Corporation
Equipment: TK-5210-K, TK-5210-K2, TK-5210-K3
FCC ID: ALH35733110
FCC Rules: Part 80, Class II Permissive Change

Gentlemen:

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown i.e.:

- a) Application Form
- b) Test Report
- c) Filing Fees
- d) Copy of Original Grant
- e) Expository Statement and/or letter by Applicant

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

David E. Lee, Quality Manager

enclosure(s)
cc: Applicant
DEL/del



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Transmitter Certification

of

Model: TK-5210-K, TK-5210-K2, TK-5210-K3
FCC ID: ALH35733110

to

Federal Communications Commission

Rule Part(s) 22, 74, 80, 90, 90.210, Confidentiality

Date of report: April 29, 2005

On the Behalf of the Applicant:

Kenwood USA Corporation

At the Request of:

P.O. 041105JB

Kenwood USA Corporation
Communications Division
3975 Johns Creek Court, Suite 300
Suwanee, GA 30024

Attention of:

Joel E. Berger, Research & Development
JBerger@kenwoodusa.com
(678) 474-4722; FAX: -4731

Supervised by:

Michael Findley, Laboratory Manager

The Applicant has been cautioned as to the following:

15.21 Information to the User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

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Required information per ISO/IEC Guide 25-1990, paragraph 13.2:

a) **Test Report**

b) Laboratory: M. Flom Associates, Inc.
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044) Chandler, AZ 85225

c) Report Number: d0540042

d) Client: Kenwood USA Corporation
Communications Division
3975 Johns Creek Court, Suite 300
Suwanee, GA 30024

e) Identification: TK-5210-K, TK-5210-K2, TK-5210-K3
FCC ID: ALH35733110
EUT Description: VHF Transceiver, Handheld

f) EUT Condition: Not required unless specified in individual tests.

g) Report Date: April 29, 2005
EUT Received: No additional testing required

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with MFA internal quality manual.

m) Supervised by:



Michael Findley, Laboratory Manager

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

Sub-part

2.1033(c)(14):

Test and Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts:

☐	21 - Domestic Public Fixed Radio Services
☒	22 - Public Mobile Services
☐	22 Subpart H - Cellular Radiotelephone Service
☐	22.901(d) - Alternative technologies and auxiliary services
☐	23 - International Fixed Public Radiocommunication services
☐	24 - Personal Communications Services
☒	74 Subpart H - Low Power Auxiliary Stations
☐	80 - Stations in the Maritime Services
☒	80 Subpart E - General Technical Standards
☐	80 Subpart F - Equipment Authorization for Compulsory Ships
☐	80 Subpart K - Private Coast Stations and Marine Utility Stations
☐	80 Subpart S - Compulsory Radiotelephone Installations for Small Passenger Boats
☐	80 Subpart T - Radiotelephone Installation Required for Vessels on the Great Lakes
☐	80 Subpart U - Radiotelephone Installations Required by the Bridge-to-Bridge Act
☐	80 Subpart V - Emergency Position Indicating Radio Beacons (EPIRB'S)
☐	80 Subpart W - Global Maritime Distress and Safety System (GMDSS)
☐	80 Subpart X - Voluntary Radio Installations
☐	87 - Aviation Services
☒	90 - Private Land Mobile Radio Services
☐	94 - Private Operational-Fixed Microwave Service
☐	95 Subpart A - General Mobile Radio Service (GMRS)
☐	95 Subpart C - Radio Control (R/C) Radio Service
☐	95 Subpart D - Citizens Band (CB) Radio Service
☐	95 Subpart E - Family Radio Service
☐	95 Subpart F - Interactive Video and Data Service (IVDS)
☐	97 - Amateur Radio Service
☐	101 - Fixed Microwave Services

Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-1992/2001, section 6.1.9, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

VHF Radiotelephone Frequencies

CH	TX Freq.	Power Low	High
1	156.050	X	X
2			
3	156.150	X	X
4			
5	156.250	X	X
6	156.300	X	X
7	156.350	X	X
8	156.400	X	X
9	156.450	X	X
10	156.500	X	X
11	156.550	X	X
12	156.600	X	X
13	156.650		X
14	156.700	X	X
15			
16	156.800	X	X
17	156.850		X
18	156.900	X	X
19	156.950	X	X
20	157.000	X	X
21	157.050	X	X
22	157.100	X	X
23	157.150	X	X
24	157.200	X	X
25	157.250	X	X
26	157.300	X	X
27	157.350	X	X
28	157.400	X	X

CH	TX Freq.	Power Low	High
61	156.075	X	X
62			
63	156.175	X	X
64	156.225	X	X
65	156.275	X	X
66	156.325	X	X
67	156.375		X
68	156.425	X	X
69	156.475	X	X
70	156.525		
71	156.575	X	X
72	156.625	X	X
73	156.675	X	X
74	156.725	X	X
75			
76			
77	156.875		X
78	156.925	X	X
79	156.975	X	X
80	157.025	X	X
81	157.075	X	X
82	157.125	X	X
83	157.175	X	X
84	157.225	X	X
85	157.275	X	X
86	157.325	X	X
87	157.375	X	X
88	157.425	X	X



A2LA

"A2LA has accredited M. Flom Associates, Inc. Chandler, AZ for technical competence in the field of Electrical Testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Certificate Number: **2152-01**



NIST

I am pleased to inform you that your laboratory has been validated by the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Your laboratory is now formally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA between the American Institute in Taiwan (AIT) and the Taipei Economic and Cultural Representative Office (TECRO) in the United States, covering equipment subject to Electro-Magnetic Compatibility (EMC) requirements. The names of all validated and nominated laboratories will be posted on the NIST website at <http://ts.nist.gov/mra> under the 'Asia' category."

BSMI Number: **SL2-IN-E-041R**

Expository Statement

Permissive Change

Applicant: Kenwood USA Corporation

FCC ID: ALH35733110

The applicant wishes to add approval for use under Part 80 to the originally FCC approved equipment.

Data contained herein confirms the Permissive Change information necessary for the inclusion of Part 80 in the Grant originally obtained from the commission.

The following changes/improvements have been made as per attached letter of Explanation:

No hardware or software changes have been made to the unit.

Additional attestations have been made with regard to external controls and Hi / Lo channel powers appropriate for Part 80.

Data, where shown, is derived from test data supplied in Test Report d0450043 with original filing



Attested by:

David E. Lee, Quality Manager

List of General Information Required for Certification

In Accordance with FCC Rules and Regulations,
Volume II, Part 2 and to
22, 74, 80, 90, 90.210, Confidentiality

Sub-part 2.1033

(c)(1): **Name and Address of Applicant:**

Kenwood USA Corporation
Communications Division
3975 Johns Creek Court, Suite 300
Suwanee, GA 30024

Manufacturer:

Kenwood Electronics Technologies PTE Ltd.
1 Ang Mo Kio Street 63
Singapore 569110

(c)(2): **FCC ID:**

ALH35733110

Model Number:

TK-5210-K, TK-5210-K2, TK-5210-K3

(c)(3): **Instruction Manual(s):**

Please see attached exhibits with original filing

(c)(4): **Type of Emission:**

16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D

(c)(5): **Frequency Range, MHz:**

136.00 to 174.00

(c)(6): **Power Rating, Watts:**

_____ Switchable

_____ X _____ Variable

5.0

_____ N/A

FCC Grant Note:

BC - The output power is continuously variable from the value listed in this entry to 5%-10% of the value listed.

(c)(7): **Maximum Power Rating, Watts:**

25W (Part 80)

DUT Results:

Passes _____ X _____ Fails _____

Name of Test: User Controls

Specification: 47 CFR 80.203(b)

Statement

The external controls of the maritime station transmitter capable of operation in the 156-162 MHz band only provides for selection of maritime channels for which the maritime station is authorized. This transmitter is not capable of being programmed by station operators using external controls to transmit on channels other than those programmed by the manufacturer, service or maintenance personnel.

The EUT fully complies with the requirements of 47 CFR 80.203 (b).



Attested by:

David E. Lee, Quality Manager

Name of Test: Carrier Output Power (Conducted)

Specification: 47 CFR 2.1046(a)

Guide: ANSI/TIA/EIA-603-1992, Paragraph 2.2.1

Test Equipment: As per attached page

Measurement Procedure

1. The EUT was connected to a resistive coaxial attenuator of normal load impedance, and the unmodulated output power was measured by means of an R. F. Power Meter.
2. Measurement accuracy is $\pm 3\%$.

Measurement Results

Nominal, MHz	Channel	RF Power, Watts	
		Lo	Hi
156.300	06	1	5
156.550	11	1	5
156.600	12	1	5
156.650	13	1	5
156.700	14	1	5
156.750	15	1	5
156.800	16	1	5
156.850	17	1	5
156.875	67	1	5

Information derived from test data supplied in Test Report d0450043 with original filing



Attested by:

David E. Lee, Quality Manager

END OF TEST REPORT

**Testimonial
and
Statement of Certification**

This is to Certify:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.



Michael Findley, Laboratory Manager

Certifying Engineer: