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DATE NOV 5-98

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FEDERAL COMMUNICATIONS COMMISSION

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FEDERAL COMMUNICATIONS COMMISSION

Approved by OMB
3060-0057

FCC FORM 731 92491

For
FCC
use
only

APPLICATION FOR EQUIPMENT AUTHORIZATION

SECTION I - ALL ITEMS IN THIS SECTION MUST BE COMPLETED

1. Applicant's complete, legal business name <u>Hephzibah Industries Co. Ltd.</u>		☐ Check here if this is a change in name and/or address not previously reported (See 47 CFR §2.934)	
2. Applicant's mailing address (Line 1) <u>423-5 Bupyeong-Ku, Chungcheong-do</u>		Bureau Use Only Equipment Code: Engineer: <u>EC</u> Examiner:	
Applicant's mailing address (Line 2) (if required) <u>Incheon, Korea</u>			
City			
State or Country (if foreign address)	ZIP/Postal Code	3. FCC ID: (a) Grantee Code	(b) Equipment Product Code (14 characters maximum, show zeros as 0)
	<u>403-032</u>	<u>N T D</u>	<u>- H20150NP</u>
4. Name, Title and Mail Stop, if any, of person at the applicant's address to receive grant, or for contact: (See instructions) <u>Myung-Ku Lee, President</u> <u>NID-H20150NP</u>			
5. (a) Telephone No. (Area/Country/City code, No. and Ext.) <u>82-32-5095-814</u>		(b) FAX No. (Area/Country/City code and No.) <u>82-32-502-5519</u>	
(c) Internet e-mail address:			

SECTION II - See 47 CFR §1.1103 for Fee Type Codes and Fees. Fee Type Codes are listed in Paragraph C of the attached instructions.

Enter in Column (A) the correct Fee Type Code for the service for which you are applying. Enter in Column (B) the result obtained from multiplying the Fee amount for the Fee Type Code in Column (A) by the number entered in Column (C). If requesting more than ONE service, enter additional Fee Type Code(s) in Section III below.

(A)	(B)	(C)	
FEE TYPE CODE	FEE MULTIPLE	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
(1) <u>E E C</u>	<u>0 0 0 1</u>	<u>\$ 365.00</u>	

SECTION III - Use when requesting more than one service. If only one service is requested, complete only Section II and Section III, Item (5).

(A)	(B)	(C)	
FEE TYPE CODE	FEE MULTIPLE	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
(2) <u> </u>	<u>0 0 0 1</u>	<u>\$</u>	
(3) <u> </u>	<u>0 0 0 1</u>	<u>\$</u>	
(4) <u> </u>	<u>0 0 0 1</u>	<u>\$</u>	
Add all amounts shown in column C, lines (1) through (4), and enter the total here. (5) This amount should equal your enclosed remittance.			TOTAL AMOUNT REMITTED WITH THIS APPLICATION OR FILING <u>\$ 365.00</u>
			FOR FCC USE ONLY

SECTION IV - Enter FCC ID from Page 1, Section I

1.(a) Instead of Applicant, FCC is authorized to mail original Grant to: (See instructions)

Firm name,
number, street,
City, State/Country,
ZIP/Postal Code

N/A

(b) Name, Title and Mail Stop, if any, of person at above address to receive Grant: (If 1.(a) is completed, this item must be completed)

2.(a) Technical contact:

Firm name,
contact person,
number, street,
City, State/Country,
ZIP/Postal Code

N/A

(b) Telephone No. (Area/Country/City code, No. and Ext.)

(c) FAX No. (Area/Country/City code and No.)

(d) Internet e-mail address:

(e) Non-Technical contact:

Firm name,
contact person,
number, street,
City, State/Country,
ZIP/Postal Code

(f) Telephone No. (Area/Country/City code, No. and Ext.)

(g) FAX No. (Area/Country/City code and No.)

(h) Internet e-mail address:

3. Does this application include a request for confidentiality for any portion(s) of the data contained in this application pursuant to 47 CFR §0.459 of the Commission's Rules? If "Yes" see instructions.

☐ Yes

☒ No

4. Does the applicant request that the Commission defer grant of this application pursuant to 47 CFR §0.457(d)(1)(ii)? (See instructions)

☐ Yes

☒ No

5. Type of equipment authorization requested: (check one box only)

☒ Certification

☐ Type Acceptance

☐ Notification

6.(a) Equipment Code and description: (See instructions, page 4)

☒ ☒ ☒

Communication Receiver
(Pager Receiver)

(b) Equipment will be operated under FCC Rule Part(s):

FCC part 15, subpart B

7. Application is for: (Check one box only)

☐ 1. Original equipment
(See instructions)

☐ 2. Change in identification of presently authorized equipment

☐ 3. Class II permissive change or modification of presently authorized equipment
(See instructions)

ORIGINAL FCC ID

Grant date

8. EQUIPMENT SPECIFICATIONS: (See instructions)

(a) Frequency range in MHz

(b) Rated RF power output in watts

(c) Frequency tolerance % , Hz, ppm

(d) Emission designator
(See 47 CFR §2.201 and §2.202)

(e) Microprocessor model number

139.675 ~

172.850

—

—

—

—

9. Is the equipment in this application:

(a) a composite device subject to more than one type of equipment authorization?

☐ Yes

☒ No

(b) part of a system that operates with, or is marketed with, another device that requires an equipment authorization?

☐ Yes

☒ No

If either of the above questions is answered "Yes" complete items 10.(a) and (b). (See instructions)

COMPLETE, SIGN and DATE Page 3

READ INSTRUCTIONS CAREFULLY

BEFORE PROCEEDING

FEDERAL COMMUNICATIONS COMMISSION

APPROVED BY OMB

3060-0589

REMITTANCE ADVICE

SPECIAL USE

FCC USE ONLY

(1) LOCKBOX # 358320

PAGE NO. 1 OF 1

SECTION A - PAYER INFORMATION

(2) PAYER NAME (if paying by credit card, enter name exactly as it appears on your card)

Hephzibah Industries Co. Ltd.

(3) TOTAL AMOUNT PAID (dollars and cents)

\$ 365.00

(4) STREET ADDRESS LINE NO. 1

423-5 Bupung - Kw, Chung chun - 2 Dong

(5) STREET ADDRESS LINE NO. 2

Incheon, Korea

(6) CITY

(7) STATE

(8) ZIP CODE

403-032

(9) DAYTIME TELEPHONE NUMBER (include area code)

(10) COUNTRY CODE (if not in U.S.A.)

IF PAYER NAME AND THE APPLICANT NAME ARE DIFFERENT, COMPLETE SECTION B
IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C)

SECTION B - APPLICANT INFORMATION

(11) APPLICANT NAME (if paying by credit card, enter name exactly as it appears on your card)

(12) STREET ADDRESS LINE NO. 1

(13) STREET ADDRESS LINE NO. 2

(14) CITY

(15) STATE

(16) ZIP CODE

(17) DAYTIME TELEPHONE NUMBER (include area code)

(18) COUNTRY CODE (if not in U.S.A.)

COMPLETE SECTION C FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEETS (FORM 159-C)

SECTION C - PAYMENT INFORMATION

(19A) FCC CALL SIGN/OTHER ID

(20A) PAYMENT TYPE CODE (PTC)

E E C

(21A) QUANTITY

1

(22A) FEE DUE FOR (PTC) IN BLOCK 20A

\$ 365.00

FCC USE ONLY

(23A) FCC CODE 1

(24A) FCC CODE 2

(19B) FCC CALL SIGN/OTHER ID

(20B) PAYMENT TYPE CODE (PTC)

(21B) QUANTITY

(22B) FEE DUE FOR (PTC) IN BLOCK 20B

FCC USE ONLY

(23B) FCC CODE 1

(24B) FCC CODE 2

(19C) FCC CALL SIGN/OTHER ID

(20C) PAYMENT TYPE CODE (PTC)

(21C) QUANTITY

(22C) FEE DUE FOR (PTC) IN BLOCK 20C

FCC USE ONLY

(23C) FCC CODE 1

(24C) FCC CODE 2

(19D) FCC CALL SIGN/OTHER ID

(20D) PAYMENT TYPE CODE (PTC)

(21D) QUANTITY

(22D) FEE DUE FOR (PTC) IN BLOCK 20D

FCC USE ONLY

(23D) FCC CODE 1

(24D) FCC CODE 2

SECTION D - TAXPAYER INFORMATION (REQUIRED)

(25)

PAYER TIN

(26) COMPLETE THIS BLOCK ONLY IF APPLICANT NAME IN B-11 IS DIFFERENT FROM PAYER NAME IN A-2

APPLICANT TIN

SECTION E - CERTIFICATION

(27) CERTIFICATION STATEMENT

I, Myung - Kw Lee, Certify under penalty of perjury that the foregoing and supporting information
(PRINT NAME)

are true and correct to the best of my knowledge, information and belief. SIGNATURE [Signature]

SECTION F - CREDIT CARD PAYMENT INFORMATION

(28)

MASTERCARD/VISA ACCOUNT NUMBER:

EXPIRATION DATE:

MASTERCARD

MONTH YEAR

VISA

I hereby authorize the FCC to charge my VISA or MASTERCARD
for the service(s)/authorization(s) herein described.

AUTHORIZED SIGNATURE

DATE

SEE PUBLIC BURDEN ESTIMATE ON REVERSE

FCC FORM 159 JULY 1997 (REVISED)

REPORT OF MEASUREMENT

CERTIFICATION

Product : Communications Receiver (Pager Receiver)

Applicant : Hephzibah Industrial Co., Ltd.

Grantee Name : Hephzibah Industrial Co., Ltd.

FCC ID. : NTD-H20150NP

Trade Name : REX

Model No. : HP-2150

Report No. : 341-059

Date : September 30, 1998

KOREA ACADEMY OF INDUSTRIAL TECHNOLOGY(KAITECH)

Address : 222-13, Guro-Dong, Guro-Gu, Seoul 152-053, Korea
Tel. : (02)860-1462~4. **Telefax** : (02)860~1468

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ATTACHMENTS

1. Statement for Section 15.37 of the Rules
2. Proposed FCC ID, Label and Marking
3. Manual for Installation and Operating Instruction
4. Block Diagram & Schematic Diagram
5. Photographs: See the illustration of photographs attached

I . GENERAL INFORMATION

1. Applicant's Name and Mailing Address : Hephzibah Industries Co., Ltd.
423-5 Bupyung-Ku, Chug Chun-2 Dong, Inchon, Korea 403-032
2. Manufacturer's Name and Mailing Address : Hephzibah Industries Co., Ltd.
423-5 Bupyung-Ku, Chug Chun-2 Dong, Inchon, Korea 403-032
3. Equipment Descriptions
- 3.1 Tuning Frequency : 139.675MHz ~ 172.850MHz (25kHz Spacing)
- 3.2 Detect Method : Superheterodyne Detector
- 3.3 Local Oscillator : 1st Local Osc. Frequency = Tuning Frequency - 21.4MHz(1st IF)
2nd Local Osc. Frequency = 20.945MHz (2nd IF : 455kHz)
- 3.4 Used Crystal : 1st Local Crystal = 1st Local Osc. Frequency/2
2nd Local Crystal = 20.945MHz
- 3.5 Power Supply : DC 1.5V (Battery)
4. Rules and Regulations : FCC Part 15, Subpart B
5. Measuring Procedure : ANSI C63.4-1992
6. Date of Measurement
- 6.1 Line Conducted : Not Applicable
- 6.2 Radiated Emission : September 2, 1998
7. Statement of Compliance

We, KAITECH, HEREBY STATE THAT the measurements shown in this report were made in accordance with the procedures indicated and the emission emitted by this equipment was found to be within the limits applicable.

Measured by ;

S. J. Kim

Seok-Jin Kim
Senior Engineer

Review by ;

Chang Ho Ko

Chang-Ho Ko
Team Leader
EMC Team

II. GENERAL REQUIREMENTS OF THE EUT

1. Labelling Requirement (Section 15.19)

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

1.1 Location on Enclosure : Manual for Installation and Operating Instruction

1.2 How Applied : Printing

2. Information to User (Section 15.21)

The following or similar statements were provided in the manual for user instruction.
Please refer page 1 of the attached manual for details.

CAUTION : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

3. Special Accessories (Section 15.27)

3.1 Were the special Accessories provided? [] yes, [x] no

3.2 If yes, details for the special accessories are as follows :

3.3 If yes, were the appropriate instructions provided on the first page of the text concerned with the device?

[] yes, [] no

3.4 Are these accessories provided of the type which can be readily obtained from multiple retail outlets?

[] yes, [] no

And therefore does the manual specify what additional components or accessories are required to used in order to comply with the Rules?

[] yes, [] no

III. RADIATED EMISSION MEASUREMENT (Section 15.109)

1. Test Procedure

1.1 Preliminary Testing for Reference

This pager receiver(EUT) is designed to operate in the band 139.675MHz to 172.850MHz by changing a local oscillator installed in internal PCB. According to section 15.31(m), the measurements were performed with three equipments which were selected as bottom, middle, and top frequency in the operating band.

Preliminary testing was performed in a KAITECH absorber-lined room to determine the emission characteristics of the EUT. The EUT was placed on the wooden table which has dimensions of 0.8 meters in height, 1 meter in length and 1.5 meters in width. Receiving antenna(Biconical antenna : 30 to 300MHz, Log-periodic antenna : 200 to 1000MHz or Horn Antenna : 1 to 18GHz) was placed at the distance of 1 meter from the EUT.

An attempt was made to maximize the emission level with the various configurations of the EUT while rotating the table and varying antenna height.

Emissions level from the EUT with various configurations were examined on a Spectrum Analyzer connected with a RF amplifier and graphed by a plotter.

1.2 Final Radiated Emission Test at a Absorber-Lined Room

The final measurement of radiated field strength was carried out in a KAITECH Absorber-Lined Room that was listed up at FCC according to the "Radiated Emissions Testing" procedure specified by ANSI C63.4.

Based on the test results in preliminary test, measurement was made in same test set up and configuration which produced maximum emission level. Receiving antenna was installed at 3-meter distance from the EUT, and was connected to an EMI receiver or spectrum analyzer(for above 1GHz) with a RF amplifier.

Turntable was rotated through 360 degrees and receiving antenna height was varied from 1 to 4 meters above the ground plane to read maximum emission level.

If necessary, the radiated emission measurements could be performed at a closer distance than specified distance to ensure higher accuracy and their results were extrapolated to the specified distance using an inverse linear distance extrapolation factor(20dB/decade) as per Section 15.31(f).

The maximum emission level from the EUT occurred in such configuration as shown in the following photograph.

4.2 Operating Frequency (Middle : 156.250MHz Tuning)

- Resolution Bandwidth : x CISPR Quasi-Peak (6dB Bandwidth : 120kHz)
 Peak (3dB Bandwidth : 300kHz)
- Measurement Distance : 3 Meter

Frequency (MHz)	* D.M.	* A.P.	Measured Value (dB μ V)	* A.F. + C.L (dB)	* A.G. (dB)	* D.C.F. (dB)	Emission Level		Limit (μ V/m)	** Margin (dB)
							(dB μ V/m)	(μ V/m)		
67.43	Q	V	5.0	7.3	-	-	12.3	4.1	100	-27.7
134.85	Q	H/V	***<2.0	15.3	-	-	<17.3	<7.3	150	<-26.2
-	-	-	-	-	-	-	-	-	-	-

Note

* D.M. : Detect Mode (P : Peak, Q : Quasi-Peak, A : Average)
A.P. : Antenna Polarization (H : Horizontal, V : Vertical)
A.F. : Antenna Factor
C.L. : Cable Loss
A.G. : Amplifier Gain
D.C.F. : Distance Correction Factor

** Margin (dB) = Emission Level (dB) - Limit (dB)

*** < means less than. The observed EMI receiver(ESVS30) noise floor level was 2.0dB μ V.

IV. TEST EQUIPMENT USED FOR MEASUREMENTS

<u>Equipment</u>	<u>Model No.</u>	<u>Manufacturer</u>	<u>Serial No.</u>	<u>Effective Cal. Duration</u>
[x] EMI Receiver (20MHz-1GHz)	ESVS30	R & S	830516/002	06/29/98-06/29/99
[x] Spectrum Analyzer (9kHz-26.5GHz)	8563A	H. P.	3222A02069	01/30/98-01/30/99
[] Spectrum Analyzer (100Hz-22GHz)	8566B	H. P.	3014A07057	05/29/98-05/29/99
[] Quasi-Peak Adapter (10kHz-1GHz)	85650A	H. P.	3107A01511	05/29/98-05/29/99
[] RF-Preselector (20Hz-2GHz)	85685A	H. P.	3010A01181	05/29/98-05/29/99
[] Test Receiver (9kHz-30MHz)	ESH3	R & S	860905/001	06/29/98-06/29/99
[x] Pre-Amplifier (0.1-3000MHz, 30dB)	8347A	H. P.	2834A00543	05/29/98-05/29/99
[] Pre-Amplifier (1-26.5GHz, 35dB)	8449B	H. P.	3008A00302	06/29/98-06/29/99
[] LISN(50Ω, 50μH) (10kHz-100MHz)	3825/2	EMCO	9010-1710	-
[] LISN(50Ω, 50μH) (10kHz-100MHz)	3825/2	EMCO	9011-1720	-
[x] Plotter	7470A	H. P.	3104A21292	-
[] Tuned Dipole Ant. (30MHz-300MHz)	VHA 9103	Schwarzbeck	-	*
[] Tuned Dipole Ant. (300MHz-1GHz)	UHA 9105	Schwarzbeck	-	*
[x] Biconical Ant. (30MHz-300MHz)	BBA 9106	Schwarzbeck	-	*
[x] Log Periodic Ant. (200MHz-1GHz)	3146	EMCO	-	*
[] Horn Ant. (1GHz-18GHz)	3115	EMCO	-	*
[] DC Power Supply	6260B	H.P.	1145A04822	-
[] Shielded Room (5.0m x 4.5m)	SIN-MYUNG		-	-

* Each set of antennas has been calibrated to ensure correlation with ANSI C63.5 standard.
The calibration of antennas is traceable to Korea Standard Research Institute(KSRI).

STATEMENT FOR SECTION 15.37 OF THE RULES

Hephzibah Industries Co., Ltd.

423-5 Bupyung-Ku, Chug Chun-2 Dong, Inchon, Korea 403-032

Tel : (032) 509-5814 Fax : (032) 502-5519

Date : September 30, 1998

Statement for Section 15.37 of the Rules

- Equipment : Pager Receiver
- FCC ID. : NTD-H20150NP

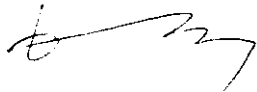
Concerning the FCC Part 15, section 15.37 transition provision, we, Hephzibah Industries Co., Ltd. hereby confirm above referenced device as follows.

This device(Pager Receiver) subject to the regulations in FCC Part 15 that are manufactured on or after June 23, 1999 complies with new rules adopted under Docket 87-389.

This Device is not associated with a transmitter that could not have been authorized under regulations in effect prior to June 23, 1989. e.q., a transmitter operating under the provisions of section 15.209 or section 15.249 (below 960MHz).

This device is not scanning receivers or frequency converters designed or marketed for use with scanning receivers.

Best Regards



Myung-Ku Lee, President
Hephzibah Industries Co., Ltd.

SECTION IV (continued) - Enter FCC ID from Page 1, Section I

10.(a) Additional type of equipment authorization required:

☐

Certification

☐

Type Acceptance

☐

Notification

(b) The related application checked in item 10.(a) (Check one box only)

☐

has been filed at the same time as this application under the FCC ID listed below

☐

has been granted under the FCC ID listed below

☐

is in the process of being filed under the FCC ID listed below

☐

is pending with the FCC under the FCC ID listed below

FCC ID

11.(a) Name of test firm on file with the FCC, if different from applicant or contact person:

Korea Academy of Industrial Technology (KAITECH)

(b) Mailing address, number, street, City, State/Country, ZIP/Postal Code

222-13 Guro-Dong, Guro-Gu

Seoul, 152-053, Korea

(c) Telephone No. (Area/Country/City code, No. and Ext.)

82-2-860-1464

(d) FAX No. (Area/Country/City code and No.)

82-2-860-1468

(e) Internet e-mail address:

12. Number of exhibits submitted with this application:

8

SECTION V - Read each certification carefully before answering and signing this application.

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

1. SECTION 5301 (ANTI-DRUG ABUSE) CERTIFICATION:

The applicant must certify that neither the applicant nor any party to the application is subject to a denial of Federal benefits, that include FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. §862 because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the definition of a "party" for these purposes.

Does the applicant or authorized agent so certify?

☒

Yes

☐

No

2.(a) APPLICANT/AGENT CERTIFICATION:

I certify that I am authorized to sign this application. All of the statements herein and the exhibits attached hereto, are true and correct to the best of my knowledge and belief. In accepting a Grant of Equipment Authorization issued by the FCC as a result of the representations made in this application, the applicant is responsible for (1) labeling the equipment with the exact FCC ID specified in this application, (2) compliance statement labeling pursuant to the applicable rules, and (3) compliance of the equipment with the applicable technical rules. If the applicant is not the actual manufacturer of the equipment, appropriate arrangements have been made with the manufacturer to ensure that production units of this equipment will continue to comply with the FCC's technical requirements.

Authorizing an agent to sign this application, is done solely at the applicant's discretion; however, the applicant remains responsible for all statements in this application.

If an agent has signed this application on behalf of the applicant, a written letter of authorization which includes information to enable the agent to respond to the above Section 5301 (Anti-Drug Abuse) Certification statement has been provided by the applicant. It is understood that the letter of authorization must be submitted to the FCC upon request, and that the FCC reserves the right to contact the applicant directly at any time.



Original written signature of authorized signer

Myung - ku Lee

▲ Typed/printed name of authorized signer

September 30, 1998

▲ Date (Month, Day, Year)

president

▲ Title of authorized signer

▼ Complete items below if an agent signs the application.

(b) Agent's business name, number, street, City, State/Country, ZIP/Postal Code

N/A

(c) Telephone No. (Area/Country/City code, No. and Ext.)

(d) FAX No. (Area/Country/City code and No.)

(e) Internet e-mail address: