CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No. : AD014307-1 Date : 2003 August 14

Applicant : Tsuen Shing Enterprises Limited
19/F., Billion Plaza,
No. 8 Cheung Yue Street,
Cheung Sha Wan, Kowloon, Hong Kong.

Sample Description : One(1) submitted sample stated to be Headset Walkie Talkie of Model No. WT-020.
Rating : 9 V size battery
No. of submitted sample : Three (3) sets ***

Date Received : 2003 July 30.

Test Period : 2003 July 30 – 2003 August 12.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – May 2002
ANSI C63.4 – 1992

Test Result : See attached sheet(s) from page 2 to 12.

Conclusion : The submitted sample was found to comply with requirement of FCC Part 15 Subpart C.

For and on behalf of
CMA Testing and Certification Laboratories

Authorized Signature : _____
Danny Chui
EMC Engineer - EL. Division

FCC ID : PERWT020

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1 General Information

1.1 General Description

The equipment under test (EUT) is transceiver for Headset Walkie Talkie operating at 26.980 (B unit) and 27.260 (A unit) MHz which is controlled by a crystal. The EUT is powered by 9V battery. When the Headset Walkie Talkie (A unit) is power on, it can transmit a voice signal to another Headset Walkie Talkie. When it received a voice signal from another Headset Walkie Talkie, it will amplify the voice to speaker. It is the same function when operating in B unit.

The brief circuit description is listed as follows :
- Q4, x1 and associated circuit act as local oscillator
- Q1, Q3 and associated circuit act as modulator
- Q2 and associated circuit act as AF amplifier
- L1 and associated circuit act as separation of transmitting and receiving signals
- Q5 and associated circuit act as mixer
- IC TDA1083 and associated circuit act as IF AMP, DET and AF AMP.

1.2 Related Submittal Grants

This is a single application for certification of a transceiver.

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1.3 Location of the test site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 1992. An Open Area Testing Site is set up for investigation and located at :

Top of the Roof, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 1992. A double shielded room is located at :

Roof Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

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1.4 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Certification No.
EMI Test Receiver	R&S	ESCS30	100001	S21141
Broadband Antenna	Schaffner	CBL6113B	2718	AC1753
Signal Generator	IFR	2023B	202302/938	Nil
LISN	R&S	ESH3-Z5	100038	S21142
Pulse Limiter	R&S	ESH3-Z2	100001	20-73194
Biconical Antenna	R&S	HK116	837414/004	4000.7752.02

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2 Description of the radiated emission test

2.1 Test Procedure

The device was rotated through three orthogonal axes to determine which attitude and configuration produce the highest emission during measurement.

2.2 Test Result

Peak Detector data was measured unless otherwise stated.

* Emissions appearing within the restricted bands shall follow the requirement of section 15.205.

It was found that the EUT meet the FCC requirement.

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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart C

A Unit

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV/m)	Antenna and Cable factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
27.260	V	38.4	16.4	54.8	80.0	-25.2
54.519	H	13.9	8.9	22.8	40.0	-17.2
81.779	H	13.8	8.0	21.8	40.0	-18.2
* 109.039	H	12.9	12.0	24.9	43.5	-18.6
* 136.299	H	11.6	13.2	24.8	43.5	-18.7
* 163.560	H	12.3	11.0	23.3	43.5	-20.2
190.820	H	14.2	10.5	24.7	43.5	-18.8
218.080	H	13.2	10.7	23.9	46.0	-22.1
* 245.339	H	15.2	10.7	25.9	46.0	-20.1
* 272.600	H	13.3	13.9	27.2	46.0	-18.8

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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart C

B Unit

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV/m)	Antenna and Cable factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
26.980	V	39.8	16.4	56.2	80.0	-23.8
53.960	H	14.3	8.9	23.2	40.0	-16.8
80.940	H	13.3	8.0	21.3	40.0	-18.7
107.919	H	13.2	12.0	25.2	43.5	-18.3
* 134.900	H	12.1	13.2	25.3	43.5	-18.2
161.880	H	13.9	11.0	24.9	43.5	-18.6
188.858	H	12.4	10.5	22.9	43.5	-20.6
215.840	H	13.0	10.7	23.7	43.5	-19.8
*242.820	H	15.0	10.7	25.7	46.0	-20.3
*269.800	H	13.2	13.9	27.1	46.0	-18.9

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3 Description of the Line-conducted Test

3.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 1992. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

No measurement is required as the EUT is a battery-operated product.

3.3 Graph and Table of Conducted Emission Measurement Data

Not Applicable

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4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conduction Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup2.jpg

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename ExtPho1.jpg to ExtPho2.jpg and IntPho1.jpg to IntPho2.jpg.

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5 Supplementary document

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

Document	Filename
ID Label/Location	LabelSmpl.pdf
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

5.1 Bandwidth

The plot on saved in TestRpt 2 .pdf shows the fundamental emission is confined in the specified band. It also shows that the band edge met the 15.209 requirement at 26.9599 and 27.2801 MHz.

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6 Appendices

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A3	Photos of Internal Configurations	1 page
A4	ID Label/Location	1 page
A5	Bandwidth Plot	1 page
A6	Block Diagram	1 page
A7	Schematics	1 page
A8	User Manual	1 page
A9	Operation Description	1 page

***** End of Report *****

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