
OET Bulletin 65 (MPE) Test Report

Report No.: AGC00589130503F7

FCC ID : T4K588
PRODUCT DESIGNATION : land mobile radio
BRAND NAME : AnyTone
TEST MODEL : 588
CLIENT : Qixiang Electron Science & Technology Co., Ltd.
DATE OF ISSUE : May 23, 2013
STANDARD(S) : OET Bulletin 65
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May 23, 2013	Valid	Original Report

TABALE OF CONTENTS

TABALE OF CONTENTS	2
1. TEST RESULT CERTIFICATION.....	4
2. TECHNICAL INFORMATION.....	5
3. RF EXPOSURE MEASUREMENT.....	6
3.1 INTRODUCTION.....	6
3.2 FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	7
4. CLASSIFICATION OF THE ASSESSMENT METHODS	8
5. EUT OPERATION CONDITION	8
6. TEST RESULTS.....	9

1. TEST RESULT CERTIFICATION

Applicant Name:	Qixiang Electron Science & Technology Co., Ltd.
Address:	Qixiang Building, Tangxi Industrial Zone, Luojiang District, Quanzhou, Fujian, China
Manufacturer Name:	Qixiang Electron Science & Technology Co., Ltd.
Address:	Qixiang Building, Tangxi Industrial Zone, Luojiang District, Quanzhou, Fujian, China
Product Designation	land mobile radio
Brand Name	AnyTone
Test Model	588, M-5000V, M-5000, 558, 568, 578, 598, 589, 599, 5189, BLACKBOX-MV, AM145, 588V, 588V1, 588V2, 588V3, 588V4, 588V5, 588V6, 588V7, 588V8, 588V9m, VR-B1802V, HR-200S
Model Difference:	All the same except for the model name and appearance.
Test Standard	OET Bulletin 65
File Number:	AGC00589130503F7
Date of Test:	May 18, 2013 to May 22, 201

We (AGC), Attestation of Global Compliance (Shenzhen) Co., Ltd. for compliance with the requirements set forth in the FCC Standard OET Bulletin 65 (Edition 97-01) Supplement C (Edition 01-01). The results of testing in this report apply to the product/system which was tested only.

Tested by Wall Huang
 Wall Huang May 23, 2013

Checked By Forrest Lei
 Forrest Lei May 23, 2013

Authorized By Solger Zhang
 Solger Zhang May 23, 2013

2. TECHNICAL INFORMATION

Note: the following data is based on the information by the applicant.

EUT DESCRIPTION

The EUT is a Two-way Radio designed for voice communication. It is designed by way of utilizing the FM modulation achieves the system operating.

A major technical description of EUT is described as following:

Communication Type	Voice / Tone only
Modulation	FM
Emission Bandwidth	10.86KHz
Peak Frequency Deviation	1.86KHz
Audio Frequency Response	11.03dB
Maximum Transmitter Power	47.75dBm
Output power Modification	60W (It was fixed by the manufacturer, any individual can't arbitrarily change it)
Antenna Designation	Detachable
Power Supply	DC 13.8V by DC source
Limiting Voltage	DC 11.73V
Operation Frequency Range and Channel	Frequency Range: 136.000MHz to 174.000MHz Channel Separation: 12.5KHz
	Top Channel: 173.975MHz Centre Channel: 155.000MHz Bottom Channel:136.025MHz
Frequency Tolerance	0.551ppm

3. RF EXPOSURE MEASUREMENT

3.1 INTRODUCTION

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.

The 1992 ANSI/IEEE standard (See Listed limit table) specifies a minimum separation distance of 20 cm for performing reliable field measurements to determine adherence to MPE limits.

If the minimum separation distance between a transmitter and nearby persons is more than 20 cm under normal operating conditions, compliance with MPE limits may be determined at such distance from the transmitter. When applicable, operation instructions and prominent warning labels may be used to alert the exposed persons to maintain a specified distance from the transmitter or to limit their exposure durations and usage conditions to ensure compliance.

3.2 FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (Minutes)
0.3 -- 1.34	614	1.63	(100)*	30
1.34 -- 30	824/f	2.19/f	(180/f ²)*	30
30 -- 300	27.5	0.073	0.2	30
300 -- 1500	--	--	f/1500	30
1500 -- 100,000	--	--	1.0	30

*Note:

1. f= Frequency in MHz * Plane-wave Equivalent Power Density
2. The averaging time for General Population/Uncontrolled exposure to fixed transmitters is not applicable for mobile and portable transmitters. See 47 CFR §§2.1091 and 2.1093 on source-based time-averaging requirement for mobile and portable transmitters.

4. CLASSIFICATION OF THE ASSESSMENT METHODS

According to user manual, The antenna of the product, under normal use condition is at least 0.2m away from the body of the user. Warning statement to the user for keeping at least 2m separation distance and the prohibition of operating to a person has been printed on the user's manual. So, this product under normal use is located on electromagnetic far field between the human body.

$$S=PG/4\pi R^2$$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator R=distance to the center of radiation of the antenna

5. EUT OPERATION CONDITION

Make the EUT to transmit at lowest, middle and highest channel individually.

6. TEST RESULTS

Note: report the worst result in this part

Antenna Gain=3dBi (Numeric 2), $\pi=3.141$, Duty cycle=50%

Frequency	Output Power	Output Power	Correct Power	Power Density	Power Density Limit	Result
MHz	dBm	mW	mW	mW/cm ²	mW/cm ²	Pass/Fail
136.025	47.75	59566	29783	0.12	0.2	Pass

Note: The output power is refer to AGC00589130503F2.

Correct Power=Output Power*Duty cycle.

According to the user manual, the minimum separate distance which used for MPE calculate is 2.0m.