

TEST REPORT

Reference No...... : WTS17S1195219-3E V2
FCC ID : R56-FCIDLQ
Applicant..... : Guangzhou FiiO Electronic Technology Co.,Ltd.
Address..... : 2/F, F Building, Hougang Industrial Zone, Shigang Huangshi West Road, Baiyun District, Guangzhou City, China.
Manufacturer : The same as above
Address..... : The same as above
Product..... : DAC and Headphone Amplifier
Model(s) : Q5, Q5 Mark II, Q5s, Q5 Pro, Q5 Plus, Q5k, Q1 mark III, Q3, Q3 Mark II, Q7
Brand Name..... : FiiO
Standards..... : FCC Part 2.1093
Date of Receipt sample : 2017-11-14
Date of Test : 2017-11-15 to 2017-11-25
Date of Issue..... : 2017-12-13
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Services (Shenzhen) Co., Ltd.

Address: 1/F., Fukangtai Building, West Baima Road, Songgang Street, Baoan District, Shenzhen, Guangdong, China

Tel :+86-755-83551033

Fax:+86-755-83552400

Compiled by:

Ford Wang

Ford Wang / Project Engineer

Approved by:



Philo Zhong

Philo Zhong / Manager

2 Laboratories Introduction

Waltek Services Test Group Ltd. is one of the largest and the most comprehensive third party testing organizations in China, our headquarter located in Shenzhen (CNAS Registration No. L3110, A2LA Certificate Number: 4243.01) and have branches in Foshan (CNAS Registration No. L6478), Dongguan (CNAS Registration No. L9950), Zhongshan, Suzhou (CNAS Registration No. L7754), Ningbo and Hong Kong, Our test capability covered four large fields: safety test. Electronic Magnetic Compatibility(EMC), reliability and energy performance, Chemical test. Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CPSC(Consumer Product Safety Commission), CEC(California energy efficiency), IC(Industry Canada) and ELI(Efficient Lighting Initiative). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as UL, Intertek(ETL-SEMKO), CSA, TÜV Rheinland, TÜV SÜD, etc. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

Waltek Services (Shenzhen) Co., Ltd.

A. Accreditations for Conformity Assessment (International)

Country/Region	Accreditation Body	Scope	Note
USA	CNAS (Registration No.: L3110) A2LA (Certificate No.: 4243.01)	FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India		International Services	WPC
Thailand	NTC		-
Singapore	IDA		-
Note:			
1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.			
2. IC Canada Registration No.: 7760A			

B. TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of ...	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

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4 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS17S11952 19-3E	2017-11-14	2017-11-15 to 2017-11-25	2017-11-27	original	-	Replaced
WTS17S11952 19-3E V1	2017-11-14	2017-11-15 to 2017-11-25	2017-12-11	Version 1	Updated	Replaced
WTS17S11952 19-3E V2	2017-11-14	2017-11-15 to 2017-11-25	2017-12-13	Version 2	Updated	Valid

5 General Information

5.1 General Description of E.U.T.

Product:	DAC and Headphone Amplifier
Model(s):	Q5, Q5 Mark II, Q5s, Q5 Pro, Q5 Plus, Q5k, Q1 mark III, Q3, Q3 Mark II, Q7
Model Description:	Only the model names are different.
Bluetooth Version:	Bluetooth v4.1 with BLE
Hardware Version:	V00
Software Version:	V00

5.2 Details of E.U.T.

Operation Frequency:	2402~2480MHz
Antenna installation:	internal permanent antenna
Antenna Gain:	-1.0dBi
Ratings:	DC 3.7V, 3800mAh from battery

6 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	2.1093	PASS

7 RF Exposure

Test Requirement: FCC Part 2.1093

Test Mode: The EUT work in test mode(Tx).

7.1 Procedures and Requirements

According to § 15.247 (i) and § 1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,¹⁶ where

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

7.2 Calculation Method

447498 D01 General RF Exposure Guidance v06:

$$\text{Exclusion Thresholds} = P\sqrt{F} / D$$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

7.3 Test Result

FCC Part 2.1093:

A distance of 5mm normally can be maintained between the user and the device.

Modulation	CH	Freq. (GHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2.402	-4.77	-4.5 ± 1	-3.5	0.447	0.14	3
GFSK	Mid	2.441	-4.81	-4.5 ± 1	-3.5	0.447	0.14	3
GFSK	High	2.480	-5.09	-4.5 ± 1	-3.5	0.447	0.14	3

=====End of Report=====