

Test Report

Report No.: CQASZ170401373E-01

Test Description: Bluetooth RF Conformance Test Report

Product/Design Name: BLUETOOTH® HEADSET

Product/Design ID: S570, Sxy0(x=5~6,y=0~9), Kx,(x=1~30), S530PLUS, S8xy,(x=0~3,y=0~9), Xy,(y=6~30), S520-TWS, S530PLUS-TWS, S560-TWS, S570-TWS, S590-TWS, Xz-TWS,(z=5~20), EW-BE002, EW-BE010, EW-BE011, EW-BE013, EW-ZR030

Trademark:

Applicant: Shenzhen KeYueDuo Intelligent Electronics Co., Ltd.

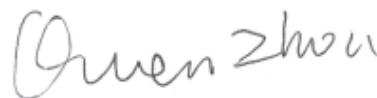
Manufacturer: Shenzhen KeYueDuo Intelligent Electronics Co., Ltd.

Test Specification: Radio Frequency (RF) *Bluetooth*® Test Specification
Document Number RF.TS.5.0.0



Test Report Prepared by.....

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***Bluetooth*® Radio Frequency (RF) Conformance Test Report**

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1 General Information

1.1 General

1.1.1 Administrative data of Test Report Issuer

Test Facility	Shenzhen Centre Quality Accreditation Technology Co., Ltd.
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1.1.2 Administrative data of Applicant

Applicant: Shenzhen KeYueDuo Intelligent Electronics Co., Ltd.

Applicant Address: F-4, Bldg.A, LiJiaFa Ind. Garden, XinTang Ind. Area, BaiShiXia E., FuYong Sub-dist., Bao'an Dist., Shenzhen, Guangdong, China

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1.1.3 Administrative data of EUT Manufacturer

EUT Manufacturer: Shenzhen KeYueDuo Intelligent Electronics Co., Ltd.

Manufacturer Address: F-4, Bldg.A, LiJiaFa Ind. Garden, XinTang Ind. Area, BaiShiXia E., FuYong Sub-dist., Bao'an Dist., Shenzhen, Guangdong, China

Responsible Person: Ruizhi Yang

Phone Number : +86 18033442650

Fax :

Email : john.yang@keyueduo.com

1.2 Description of EUT

Product name: BLUETOOTH® HEADSET

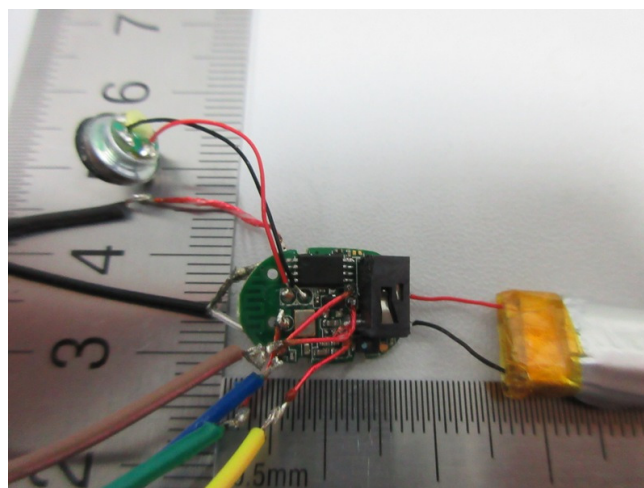
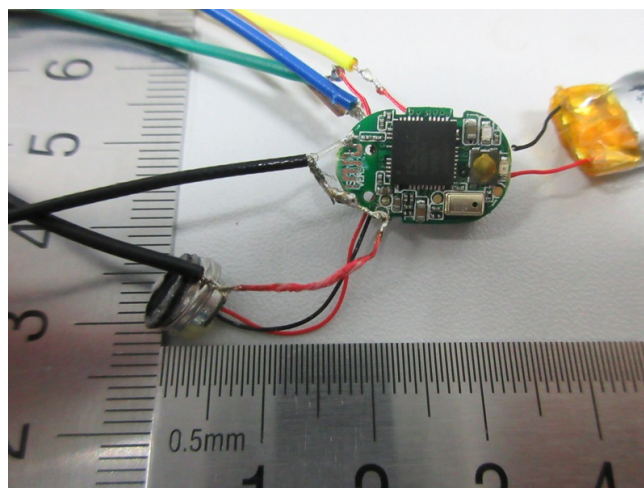
Product description: BLUETOOTH® HEADSET

Product ID/Model: S570, Sxy0($x=5\sim6, y=0\sim9$), Kx, ($x=1\sim30$), S530PLUS, S8xy, ($x=0\sim3, y=0\sim9$), Xy, ($y=6\sim30$), S520-TWS, S530PLUS-TWS, S560-TWS, S570-TWS, S590-TWS, Xz-TWS, ($z=5\sim20$), EW-BE002, EW-BE010, EW-BE011, EW-BE013, EW-ZR030

Hardware Version: V1.1

Software Version: V1.1

Photos of Product:



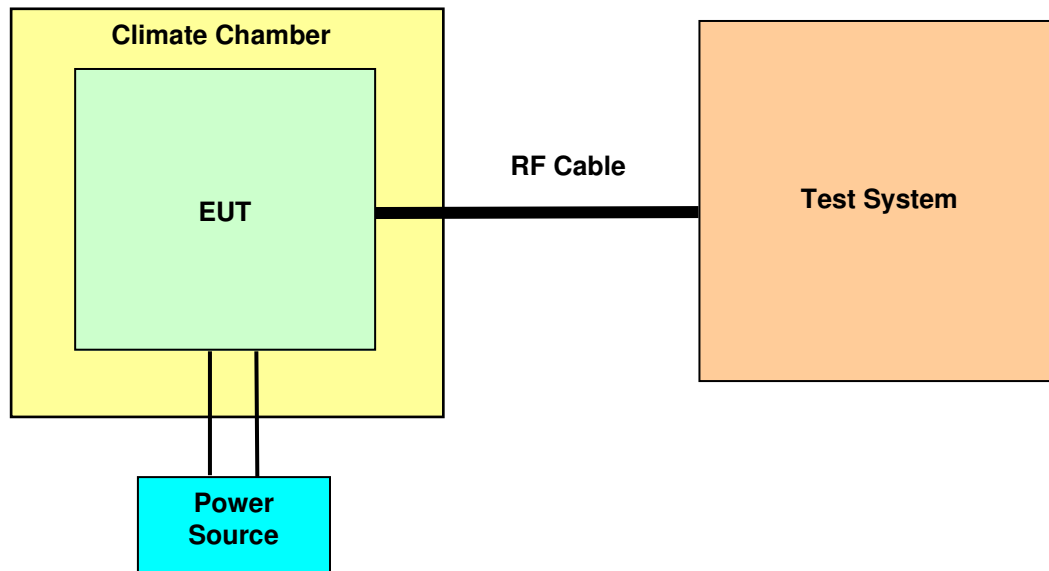


2 Summary List of All Test Cases

Bluetooth RF Conformance Testing				
No.	TC identifier	Description	Verdict	Comments
1	TP/TRM/CA/BV-01-C	Output Power	Pass	NTC
2	TP/TRM/CA/BV-02-C	Power Density	Pass	NTC
3	TP/TRM/CA/BV-03-C	Power Control	Pass	NTC
4	TP/TRM/CA/BV-04-C	TX Output Spectrum - Frequency range	Pass	NTC
5	TP/TRM/CA/BV-05-C	TX Output Spectrum - 20 dB Bandwidth	Pass	NTC
6	TP/TRM/CA/BV-06-C	TX Output Spectrum - Adjacent channel power	Pass	NTC
7	TP/TRM/CA/BV-07-C	Modulation Characteristics	Pass	NTC
8	TP/TRM/CA/BV-08-C	Initial Carrier Frequency Tolerance	Pass	NTC
9	TP/TRM/CA/BV-09-C	Carrier Frequency Drift	Pass	NTC
10	TP/TRM/CA/BV-10-C	EDR Relative Transmit Power	Pass	NTC
11	TP/TRM/CA/BV-11-C	EDR Carrier Frequency Stability and Modulation Accuracy	Pass	NTC
12	TP/TRM/CA/BV-12-C	EDR Differential Phase Encoding	Pass	NTC
13	TP/TRM/CA/BV-13-C	EDR In-band Spurious Emissions	Pass	NTC
14	TP/TRM/CA/BV-14-C	Enhanced Power Control	Pass	NTC
15	TP/RCV/CA/BV-01-C	Sensitivity - single slot packets	Pass	NTC
16	TP/RCV/CA/BV-02-C	Sensitivity - multi-slot packets	Pass	NTC
17	TP/RCV/CA/BV-03-C	C/I performance	Pass	NTC
18	TP/RCV/CA/BV-04-C	Blocking performance	Pass	NTC
19	TP/RCV/CA/BV-05-C	Intermodulation Performance	Pass	NTC
20	TP/RCV/CA/BV-06-C	Maximum Input Level	Pass	NTC
21	TP/RCV/CA/BV-07-C	EDR Sensitivity	Pass	NTC
22	TP/RCV/CA/BV-08-C	EDR BER Floor Performance	Pass	NTC
23	TP/RCV/CA/BV-09-C	EDR C/I Performance	Pass	NTC
24	TP/RCV/CA/BV-10-C	EDR Maximum Input Level	Pass	NTC

3 RF Conformance Testing

3.1 Description of Test Set-up



The Test System is a Bluetooth SIG validated Bluetooth RF conformance tester for Bluetooth Qualification.

All RF conformance test cases are carried out via conducted method to minimize measurement uncertainty.

3.2 List of Performed Test Cases

Core Specification Version of EUT: ☐ 2.0 ☐ 2.0+EDR ☐ 2.1 ☐ 2.1+EDR ☐ 3.0 ☐ 4.0 ☒ 4.1 ☐ 4.2

TC-Identifier	Final Verdict	Date of Test
TP/RCV/CA/BV-01-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-02-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-03-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-04-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-05-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-06-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-07-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-08-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-09-C	Pass	2017-05-24 ~ 2017-05-25
TP/RCV/CA/BV-10-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-01-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-02-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-03-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-04-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-05-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-06-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-07-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-08-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-09-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-10-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-11-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-12-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-13-C	Pass	2017-05-24 ~ 2017-05-25
TP/TRM/CA/BV-14-C	Pass	2017-05-24 ~ 2017-05-25

3.3 Referenced Documents

Document Name	Version	Issue Date
Radio Frequency (RF) <i>Bluetooth</i> ® Test Specification	RF.TS.5.0.0	2016-12-13
Radio (RF) <i>Bluetooth</i> ® Implementation Conformance Statement (ICS) Proforma	RF.ICS.5.0.0	2016-12-13
Test Case Reference List for the Bluetooth Qualification Program (Bluetooth Core 2.0 – 5.0 Implementations)	Core.TCRL.2016-2	2016-12-13

3.4 Additional Information

The test results presented in this test report apply only to the particular equipment under test (EUT) Declared in Clause 1.2 of this report, for the functionality described in the relevant Protocol Implementation Statement (PICS), as presented for test on the date(s) declared in the relevant Protocol Implementation Extra Information for testing (PIXIT).

This test report does not constitute or imply, by its own, to be an approval of the product by Qualification Bodies, Certification Bodies or competent Authorities.

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Abbreviations in this report:	OK, Pass, P	=	passed
	F	=	failed
	N/A	=	not applicable
	NT	=	not tested
	EUT	=	equipment under test
	NTC	=	normal test conditions (RF test spec Section 6.4)
	ETC	=	extreme test conditions (RF test spec Section 6.5)
	PICS	=	protocol implementation conformance statement
	PIXIT	=	protocol implementation extra information for test

Explanation of model designation:

The applicant declared that models S570, Sxy0(x=5~6,y=0~9), Kx,(x=1~30), S530PLUS , S8xy,(x=0~3,y=0~9), Xy,(y=6~30), S520-TWS, S530PLUS-TWS, S560-TWS, S570-TWS, S590-TWS, Xz-TWS,(z=5~20), EW-BE002, EW-BE010, EW-BE011, EW-BE013 and EW-ZR030 are identical in both design and implementation and differ only by non-functional characteristics. Tested model is S570.

3.5 Test Sample Information

The following sample was used for testing.

Sample No	Serial No/BT address	Date Of Reception
SZCR170508-01	0011671165DC	2017-05-08

3.6 List of Test Equipments

Validated *Bluetooth* RF conformance test system for all test cases is InterLab Bluetooth RF test Solution V3.2.8.

3.7 Measurement Uncertainty

Measurements and results are all in compliance with the applied test specification listed in this report.

The measurement uncertainties of the test laboratory which carried out the test cases are compliant with requirements stated in Section 6.10 of the applied test specification.

All measurements and results are recorded and maintained at the laboratory performing the tests. Measurements uncertainties are taken into account when concluding measurement to pass / fail criteria.

The detailed measurement uncertainty is defined in relative lab's documents.

3.8 List of Integrated Tested Components in EUT

Bluetooth QD ID	Product ID	Manufacturer
68000 (D0326347	momentISSC Bluetooth 4.2 Dual Mode Core System Component	Microchip Technology

Annex 1 PICS

Radio
Vol 2, Part A

Table 1: RF Capabilities

Item	Capability	System Spec Reference	Status	Support [Yes] or [No]
1	Power Class = 1 ?	RF, 3	C.5	☐ ☒
2	Power Class = 2	RF, 3	C.5	☒ ☐
3	Power Class = 3	RF, 3	C.5	☐ ☒
4	Power Control ?	RF, 3	C.1	☒ ☐
5	1-slot packets supported	BB, 6.5	M	☒ ☐
6	3-slot packets supported	BB, 6.5	O	☒ ☐
7	5-slot packets supported	BB, 6.5	O	☒ ☐
8	79 Channels	RF, 2	M	☒ ☐
9	Support for GFSK modulation	RF, 3.1	M	☒ ☐
10	Support for pi/4-DQPSK modulation	RF, 3.2	C.2	☒ ☐
11	Support for 8DPSK modulation	RF, 3.3	C.3	☒ ☐
12	Enhanced Power Control	RF, 3	C.4	☒ ☐

C.5: At least one of 1/1 (Power Class 1) OR 1/2 (Power Class 2) OR 1/3 (Power Class 3) shall be supported.

C.1: Mandatory if 1/1 is supported, otherwise Optional.

C.2: Mandatory if (SUM ICS 22/1 or 22/2 or 22/3 or 22/4) is supported, otherwise Excluded.

C.3: Mandatory if (SUM ICS 22/1 or 22/2 or 22/3) is supported; Optional if (SUM ICS 22/4) is supported, otherwise Excluded.

C.4: Optional if Core Specification 3.0 or later and 1/4 is supported, otherwise Excluded.

Annex 2 PIXIT

PIXIT Reference	PICS Reference	Identifier	Value/Type	Units (if applicable)
RF:P2	23.B.301-A.2/2	Inband Image frequency	0	MHz
RF:P3	23.B.301-A.2/3	Value n for Intermodulation test	5	Integer
RF:P6	23.B.301-A.2/6	Type of power source	DC	N/A
RF:P7	23.B.301-A.2/7	Nominal power source voltage	3.7	V
RF:P8	23.B.301-A.2/8	Operating temperature range	-10 ~ +55	°C
RF:P9	23.B.301-A.2/9	Extreme power source voltage	3.3 ~ 4.2	V
RF:P10	23.B.301-A.2/10	Antenna gain	0	dBi

Annex 3 Test Plan (generated by TPG)

Test Cases for RF			
TP/RCV/CA/BV-01-C	Sensitivity - single slot packets (Nominal + Extremes)	RF.TS.5.0.0	A
TP/RCV/CA/BV-02-C	Sensitivity - multi-slot packets (Nominal + Extremes)	RF.TS.5.0.0	A
TP/RCV/CA/BV-03-C	C/I performance (Nominal Only)	RF.TS.5.0.0	A
TP/RCV/CA/BV-04-C	Blocking performance (Nominal Only)	RF.TS.5.0.0	A
TP/RCV/CA/BV-05-C	Intermodulation Performance (Nominal Only)	RF.TS.5.0.0	A
TP/RCV/CA/BV-06-C	Maximum Input Level (Nominal Only)	RF.TS.5.0.0	A
TP/RCV/CA/BV-07-C	EDR Sensitivity (Nominal + Extremes)	RF.TS.5.0.0	A
TP/RCV/CA/BV-08-C	EDR BER Floor Performance (Nominal Only)	RF.TS.5.0.0	A
TP/RCV/CA/BV-09-C	EDR C/I Performance (Nominal Only)	RF.TS.5.0.0	A
TP/RCV/CA/BV-10-C	EDR Maximum Input Level (Nominal Only)	RF.TS.5.0.0	A
TP/TRM/CA/BV-01-C	Output Power (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-02-C	Power Density (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-03-C	Power Control (Nominal Only)	RF.TS.5.0.0	A
TP/TRM/CA/BV-04-C	TX Output Spectrum - Frequency range (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-05-C	TX Output Spectrum - 20 dB Bandwidth (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-06-C	TX Output Spectrum - Adjacent channel power (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-07-C	Modulation Characteristics (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-08-C	Initial Carrier Frequency Tolerance (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-09-C	Carrier Frequency Drift (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-10-C	EDR Relative Transmit Power (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-11-C	EDR Carrier Frequency Stability and Modulation Accuracy(Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-12-C	EDR Differential Phase Encoding (Nominal Only)	RF.TS.5.0.0	A
TP/TRM/CA/BV-13-C	EDR In-band Spurious Emissions (Nominal + Extremes)	RF.TS.5.0.0	A
TP/TRM/CA/BV-14-C	Enhanced Power Control (Nominal Only)	RF.TS.5.0.0	A