

Tel:(86) 755-26825180 Fax:(86) 755-86170310

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## Test Report

Product Name: Bluetooth Headphone

FCC ID: UKF-FULLJOIN-005
MODEL NO. : FJ-800

Applicant:

SHENZHEN FULL-JOIN TECHNOLOGY CO., LTD. 5/F,B2,Lianhe lndustrial Zone, Emerson Road, He Ping ,Fuyong, Shenzhen 518103,China

Date Received: 09/28/2007-09/29/2007

Date Tested: 09/29/20067

APPLICANT: SHENZHEN FULL-JOIN TECHNOLOGY CO., LTD.



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## TABLE OF CONTENTS

APPLICANT: SHENZHEN FULL-JOIN TECHNOLOGY CO., LTD.

FCC ID: UKF-FULLJOIN-005

## TEST REPORT CONTAINING:

PAGE	1TEST EQUIPMENT LIST
PAGE	3-5POWER LINE CONDUCTED INTERFERENC AND PLOTS
PAGE	6-7RADIATION INTERFERENCE TEST DATA
PAGE	8-11OCCUPIED BANDWIDTH AND PLOTS

# EXHIBIT INCLUDED:

PAGE 1BLOCK DIAGRAM
PAGE 2SCHEMATIC
PAGE 3USERS MANUAL
PAGE 4LABEL SAMPLE
PAGE 5LABEL LOCATION
PAGE 6EXTERNAL PHOTOGRAPHS
PAGE 7INTERNAL PHOTOGRAPHS
PAGE 8OPERATIONAL DESCRIPTION
PAGE 9TEST SET UP PHOTOGRAPHS

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# EMC Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
					Interval
EMI Test Receiver	ROHDE&SCHWARZ	ESCI 100492		Apr 06,2007	1 Year
LISN	ROHDE&SCHWARZ	ENV216	100093	Apr 06,2007	1Year
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101202	Apr 06,2007	1 Year
Spectrum Analyzer	ANRITSU	MS2651B	6200238316	Apr 06,2007	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 06,2007	1 Year
Bilog Antenna	Sunol	JB3	A121206	Apr 06,2007	1 Year
Horn Antenna	EMCO	3115	640201028-0 6	Apr 06,2007	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 06,2007	1 Year
Cable	Resenberger	N/A	NO.1	Apr 06,2007	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Apr 06,2007	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Apr 06,2007	1 Year
Single Phase Power	Kikusui	LIN40MA-PC	LM002352	Apr 06,2007	1Year
Line Filter		R-L			
AC Power Source	Kikusui	AC40MA	LM003232	Apr 06,2007	1Year
Test analyzer	Kikusui	KHA1000	LM003720	Apr 06,2007	1Year
ESD Tester	Kikusui	KES4021	LM003537	Apr 08,2007	1 Year
Signal Generator	IFR	2032	203002/100	Apr 08,2007	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
Dual Directional Coupler	A&R	DC6080	301508	Apr 06,2007	1 Year
Power Head	A&R	PH2000	301193	Apr 06,2007	1 Year
Power Meter	A&R	PM2002	302799	Apr 06,2007	1 Year
Field Monitor	A&R	FM5004	300329	Apr 06,2007	1 Year
Field Probe	A&R	FP5000	300221	Apr 06,2007	1 Year
EMCPRO System	EM Test	UCS-500-M4	V064810202 6	Apr 06,2007	1 Year
EMCPRO System	EM Test	UCS-500-M4	V064810202 6	Apr 06,2007	1 Year

#### Remark:

Test Firm Name: Most Technology Service Co., Ltd.

Test Firm Address:

No. 5, 2nd Langshan Road, North District, Hi-tech Industrial

Park, Nanshan, Shenzhen, Guangdong, China

FCC Registered Test Site Number: 490827

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#### TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of MOST TECHNOLOGY SERVICE CO., LTD. The EUT was transmitting a test signal during the testing.

**POWER LINE CONDUCTED INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 using a 50 U H LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was with a humidity of 58%.

RADIATION INTERFERENCE: The test procedure used was ANSI Standard C63.4-2003 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. The ambient temperature of the EUT was 25 with a humidity of 58%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard C63.4-2003 10.1.7 with the EUT 40 cm from the vertical ground wall.

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APPLICANT: SHENZHEN FULL-JOIN TECHNOLOGY CO., LTD.

FCC ID: UKF-FULLJOIN-005

NAME OF TEST: POWER LINE CONDUCTED INTERFERENCE

RULES PART NUMBER: 15.107

 MINIMUM REQUIREMENTS:
 FREQUENCY
 LEVEL

 MHz
 UV

 0.150-30
 250

TEST PROCEDURE: ANSI STANDARD C63.4-2003

THE HIGHEST EMISSION READ FOR LINE 1 WAS 34.1dBuv @ 558kHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 34.2dBuV @ 562kHz.

THE PLOTS ON THE NEXT PAGE REPRESENT THE EMISSIONS READ FOR POWER LINE CONDUCTED FOR THIS DEVICE.

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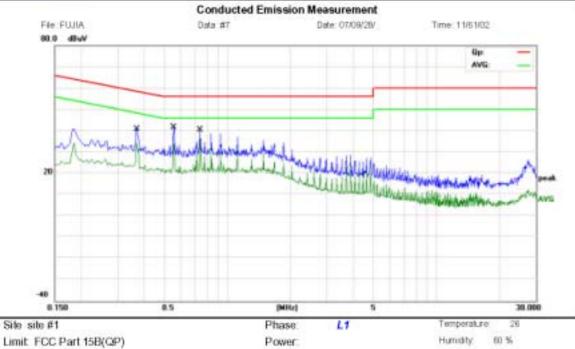


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Limit FCC Part 15B(QP)

EUT:

M/N:

Mode:

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.3740	29.90	10.84	40.74	58.41	-17.67	QP		
2	0.3740	24.20	10.84	35.04	48.41	-13.37	AVG		
3	0.5580	30.10	10.00	40.10	56.00	-15.90	QP		
4 *	0.5580	24.10	10.00	34.10	46.00	-11.90	AVG		
5	0.7460	29.10	10.00	39.10	56.00	-16.90	QP		
6	0.7460	23.70	10.00	33.70	46.00	-12.30	AVG		

<sup>\*:</sup>Maximum data x:Over limit !:over margin

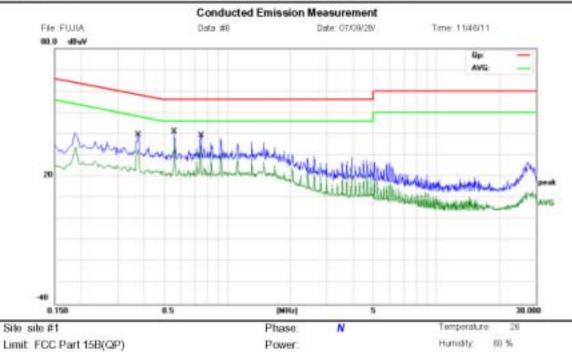


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Limit FCC Part 15B(QP)

EUT: M/N:

Mode:

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.3740	28.60	10.84	39.44	58.41	-18.97	QP	
2	0.3740	24.00	10.84	34.84	48.41	-13.57	AVG	
3	0.5620	29.50	10.00	39.50	56.00	-16.50	QP	
4 *	0.5620	24.20	10.00	34.20	46.00	-11.80	AVG	
5	0.7539	27.60	10.00	37.60	56.00	-18.40	QP	
6	0.7539	22.30	10.00	32.30	46.00	-13.70	AVG	

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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APPLICANT: SHENZHEN FULL-JOIN TECHNOLOGY CO., LTD.

FCC ID: UKF-FULLJOIN-005

NAME OF TEST: RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.249, 15.209

**REQUIREMENTS:** 

FIELD STRENGTH of FIELD STRENGTH S15.209

Fundamental: of Harmonics

902-928 MHZ 30 -88 MHz 40 dBuV/m @3M

2.4-2.4835 GHz 88 - 216 MHz 43.5 216 - 960 MHz 46

54 dBuV/m @3m 94 dBuV/m @3m ABOVE 960 MHz 54dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

REMARK: Emissions attenuated more than 20 dB below the permissible value are not reported.

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)					
Low frequency(2402.00 MHz)								
153.10	Vertical	32.10	43.5					
312.05	Vertical	32.30	46.0					
2402.00	Vertical	82.05	94.0					
4804.05	Vertical	33.50	54.0					
7206.15	Vertical	33.65	54.0					
12010.20	Vertical	32.25	54.0					
157.25	Horizontal	32.43	43.5					
315.10	Horizontal	31.20	46.0					
2402.00	Horizontal	82.50	94.0					
4804.05	Horizontal	33.20	54.0					
7206.15	Horizontal	32.60	54.0					
12010.17	Horizontal	31.05	54.0					
	Middle freque	ncy(2441.00 MHz)						
168.20	Vertical	31.10	43.5					
2441.00	Vertical	82.65	94.0					
4882.10	Vertical	33.15	54.0					
7323.50	Vertical	33.45	54.0					
171.05	Horizontal	32.40	43.5					
2441.00	Horizontal	82.85	94.0					
7323.98	Horizontal	33.05	54.0					
12206.00	Horizontal	32.01	54.0					

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FCC ID: UKF-FULLJOIN-005

NAME OF TEST: RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.249, 15.209

**REQUIREMENTS:** 

FIELD STRENGTH of FIELD STRENGTH S15.209

Fundamental: of Harmonics

902-928 MHz 30 -88 MHz 40 dBuV/m @3M

2.4-2.4835 GHz 88 - 216 MHz 43.5 216 - 960 MHz 46

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

REMARK: Emissions attenuated more than 20 dB below the permissible value are not reported.

#### Continued:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)						
	High frequency(2480.0 MHz)								
169.10	Vertical	31.45	43.5						
2480.00	Vertical	82.85	94.0						
4960.10	Vertical	31.55	54.0						
7440.25	Vertical	32.30	54.0						
12410.20	Vertical	31.10	54.0						
172. 90	Horizontal	32.15	43.5						
2480.00	Horizontal	82.76	94.0						
4960.10	Horizontal	33.35	54.0						
7440.30	Horizontal	32.50	54.0						
12410.20	Horizontal	32.15	54.0						

TEST PROCEDURE: ANSI Standard C63.4-2003 using a ANRITSU spectrum analyzer with a pre-selector and an appropriate antenna. The resolution bandwidth of spectrum analyzer was 100 kHz below 1 GHz and 1 MHz above 1 GHz. An appropriate sweep speed was used. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth (10) harmonic of the fundamental.

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APPLICANT: SHENZHEN FULL-JOIN TECHNOLOGY CO., LTD.

FCC ID: UKF-FULLJOIN-005

NAME OF TEST: Occupied Bandwidth and Band Edge Compliance

RULES PART NUMBER: 15.249

**REQUIREMENTS:** The field strength of any emissions appearing outside the band

edges and up to  $10~\mathrm{kHz}$  above and below the band edges shall be attenuated at least  $50~\mathrm{dB}$  below the level of the carrier or to

the general limits of 15.249.

Band edge emissions plots are included on the following pages

**METHOD OF MEASUREMENT:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dB per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

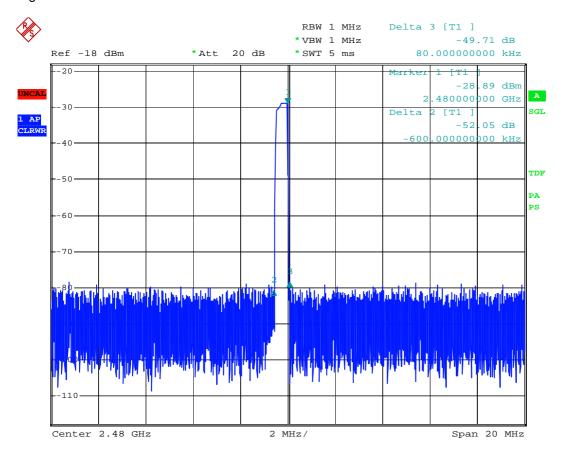
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# High



Date: 29.NOV.2007 13:11:12

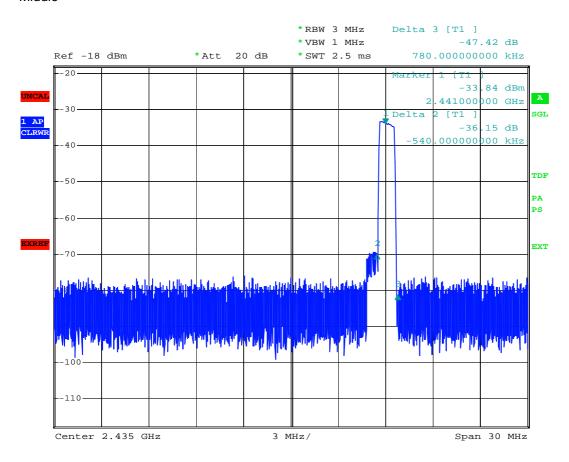
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# Middle



Date: 29.NOV.2007 13:21:15

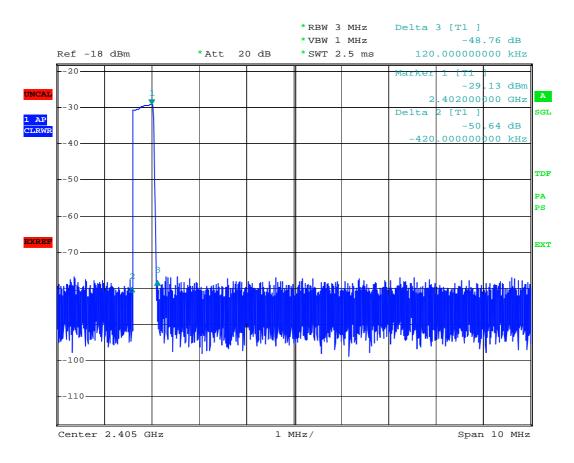
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## Low



Date: 29.NOV.2007 15:27:20

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