

Test Report

Product Name: Bluetooth Headset

FCC ID: VFU-JUNDEH201 MODEL NO. : H201

Applicant:

Junde Industrial (Shenzhen) Limited Rm 406-407, 1st Building, Pengyi Garden, Bagua 2nd Rd., Futian, Shenzhen, China

Date Received: 03/02/2008-03/07/2008

Date Tested: 03/07/2008

Junde Industrial (Shenzhen) Limited FCC ID: VFU-JUNDEH201



TABLE OF CONTENTS

APPLICANT: JUNDE INDUSTRIAL (SHENZHEN) LIMITED

FCC ID: VFU-JUNDEH201

## TEST REPORT CONTAINING:

PAGE 1.....TEST EQUIPMENT LIST PAGE 2.....TEST PROCEDURE PAGE 3-5.....POWER LINE CONDUCTED INTERFERENC AND PLOTS PAGE 6-7.....RADIATION INTERFERENCE TEST DATA PAGE 8-11....OCCUPIED 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



## EMC Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
					Interval
EMI Test Receiver	ROHDE&SCHWARZ		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	A&R	DC6080	301508	Apr 06,2007	1 Year
Coupler					
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



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 UH LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25 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: Freq (MHz) METER READING + ACF + CABLE = FS 33 20 dBuV + 10.36 dB + 0.9 dB= 31.26 dBuV/m @ 3m

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.



APPLICANT:	Junde	Indus	strial	(She	enz	hen	) Limit	ed		
FCC ID:	VFU-JUNDEH201									
NAME OF TEST:	POWER LINE CONDUCTED INTERFERENCE									
RULES PART NUMBER:	15.107									
MINIMUM REQUIREMENT	s:	FREQUE	ENCY (MI	lz)		1	LEVEL(ċ	lB U V	7) Q	įΡ
						1	AV			
		0.15-			66	to 56	56*	56	to 46	46*

5-30

\*Decreases with the logarithm of the frequency

50

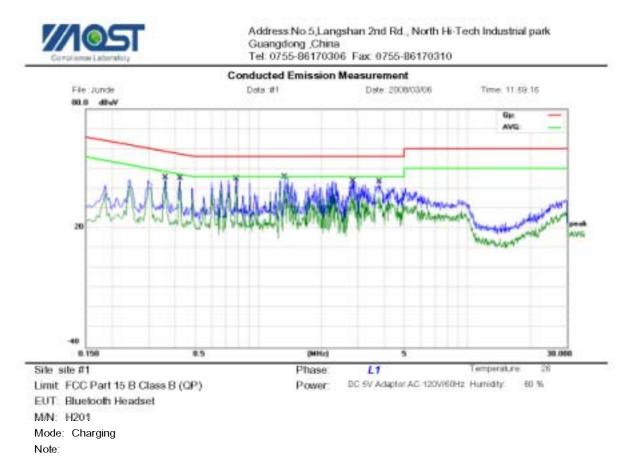
60

TEST PROCEDURE: ANSI STANDARD C63.4-2003

THE HIGHEST EMISSION READ FOR LINE 1 WAS 31.20(Average) dBUV @ 790.0kHz. THE HIGHEST EMISSION READ FOR LINE 2 WAS 30.70(Average) dBuv @ 786.0kHz.

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

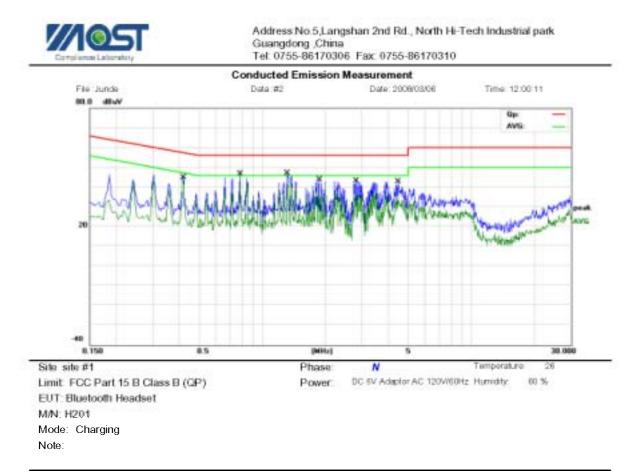




No. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.3620	34.81	10.92	45.73	58.68	-12.95	QP	
2 *	0.3620	33.20	10.92	44.12	48.68	-4.56	AVG	
3	0.4260	34.96	10.49	45.45	57.33	-11.88	QP	
4	0.4260	28.20	10.49	38.69	47.33	-8.64	AVG	
5	0.7900	35.10	10.00	45.10	56.00	-10.90	QP	
6	0.7900	31.20	10.00	41.20	46.00	-4.80	AVG	
7	1.3420	36.26	9.66	45.92	56.00	-10.08	QP	
8	1.3420	19.00	9.66	28.66	46.00	-17.34	AVG	
9	2.8500	33.95	9.85	43.80	56.00	-12.20	QP	
10	2.8500	23.60	9.85	33.45	46.00	-12.55	AVG	
11	3.8140	32.83	10.81	43.64	56.00	-12.36	QP	
12	3.8140	20.10	10.81	30.91	46.00	-15.09	AVG	

\*:Maximum data x:Over limit !:over margin





No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.4220	34.66	10.52	45.18	57.41	-12.23	QP	
2	0.4220	29.90	10.52	40.42	47.41	-6.99	AVG	
3	0.7860	36.89	10.00	46.89	56.00	-9.11	QP	
4 *	0.7860	30.70	10.00	40.70	46.00	-5.30	AVG	
5	1.3180	37.37	9.68	47.05	56.00	-8.95	QP	
6	1.3180	22.60	9.68	32.28	46.00	-13.72	AVG	
7	1.8780	34.58	9.12	43.70	56.00	-12.30	QP	
8	1.8780	24.30	9.12	33.42	46.00	-12.58	AVG	
9	2.8260	33.33	9.83	43.16	56.00	-12.84	QP	
10	2.8260	24.00	9.83	33.83	46.00	-12.17	AVG	
11	4.4660	31.41	11.47	42.88	56.00	-13.12	QP	
12	4.4660	18.40	11.47	29.87	46.00	-16.13	AVG	
-								

\*:Maximum data x:Over limit !:over margin



APPLICANT:	JUNDE INDUSTRIAL (SHENZHEN) LIMI	TED
FCC ID:	VFU-JUNDEH201	
NAME OF TEST:	RADIATION INTERFERENCE	
RULES PART NUMBER:	15.249, 15.209	
REQUIREMENTS:		
FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209
902-928 MHZ 2.4-2.4835 GHz		30 -88 MHz 40 dBuV/m @3M 88 - 216 MHz 43.5 216 - 960 MHz 46

94 dBuV/m @3m

88 - 216 MHz 43.5 216 - 960 MHz 46 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.

54 dBuV/m @3m

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

Frequency (MHz)	Antenna Polarization	Emi	ssion Level (dE	BuV/m)	FCC 15 Subpart				
		Avg	QP	Peak	C Limit (dBuV/m)				
Low frequency(2402.00MHz)									
121.00	Vertical		27.69	29.10	43.5				
126.00	Vertical		31.09	33.20	46.0				
2402.00	Vertical			86.15	94.0				
4804.10	Vertical			34.10	54.0				
7206.10	Vertical			33.75	54.0				
9608.20	Vertical			33.95	54.0				
109.65	Horizontal		31.02	32.50	43.5				
125.50	Horizontal		31.29	33.60	46.0				
2402.00	Horizontal			84.10	94.0				
4804.10	Horizontal			32.20	54.0				
7206.10	Horizontal			31.60	54.0				
9608.20	Horizontal			32.50	54.0				
	Middle	frequency(244	42.00MHz)						
101.09	Vertical		28.10	30.50	43.5				
2441.00	Vertical			84.75	94.0				
4882.10	Vertical			32.65	54.0				
7323.20	Vertical			32.25	54.0				
9764.30	Vertical			30.85	54.0				
115.25	Horizontal		30.55	33.40	43.5				
2441.00	Horizontal			84.67	94.0				
4882.10	Horizontal			30.21	54.0				
7323.20	Horizontal			32.30	54.0				
9764.30	Horizontal			31.50	54.0				



APPLICANT:	JUNDE INDUSTRIAL (SHENZHEN) LIM	ITED
FCC ID:	VFU-JUNDEH201	
NAME OF TEST:	RADIATION INTERFERENCE	
RULES PART NUMBER:	15.249, 15.209	
REQUIREMENTS:		
FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209
902-928 MHZ 2.4-2.4835 GHz		30 -88 MHz 40 dBuV/m @3M 88 - 216 MHz 43.5 216 - 960 MHz 46
94 dBuV/m @3m	54 dBuV/m @3m	ABOVE 960 MHz 46 ABOVE 960 MHz 54 dBuV/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.

Continued:

Frequency (MHz)	Antenna Polarization	Emis	Emission Level (dBuV/m)							
		Avg	QP	Peak	C Limit (dBuV/m)					
	Higfrequency(2480.00MHz)									
114.00	Vertical		29.25	31.21	43.5					
2480.00	Vertical			81.79	94.0					
4960.10	Vertical			32.90	54.0					
7440.20	Vertical			29.99	54.0					
9920.00	Vertical			30.89	54.0					
113.50	Horizontal		30.01	31.35	43.5					
2480.00	Horizontal			81.80	94.0					
4960.10	Horizontal			32.59	54.0					
7440.20	Horizontal			30.10	54.0					
9920.00	Horizontal			31.25	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.



APPLICANT: JUNDE INDUSTRIAL (SHENZHEN) LIMITED

FCC ID: VFU-JUNDEH201

NAME OF TEST: Occupied Bandwidth and Band Edge Compliance

RULES PART NUMBER: 15.249

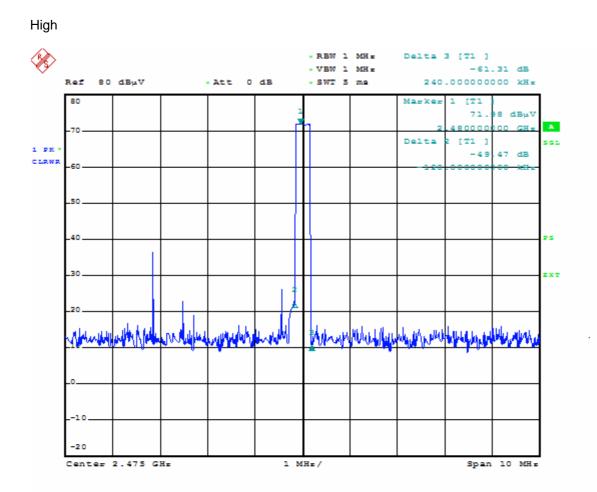
**REQUIREMENTS:** The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.249.

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.

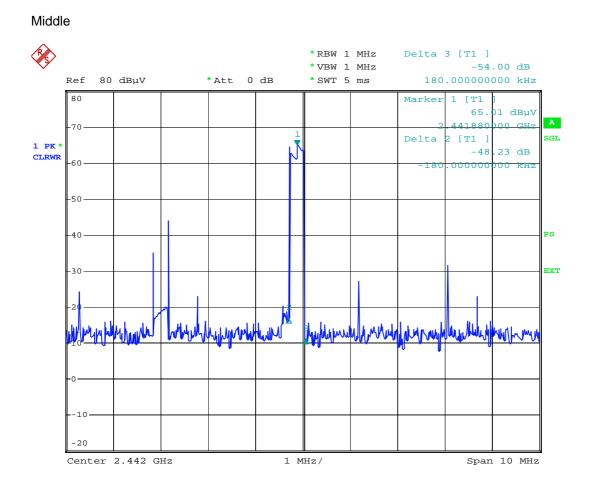
TEST RESULTS: The unit DOES meet the FCC requirements.





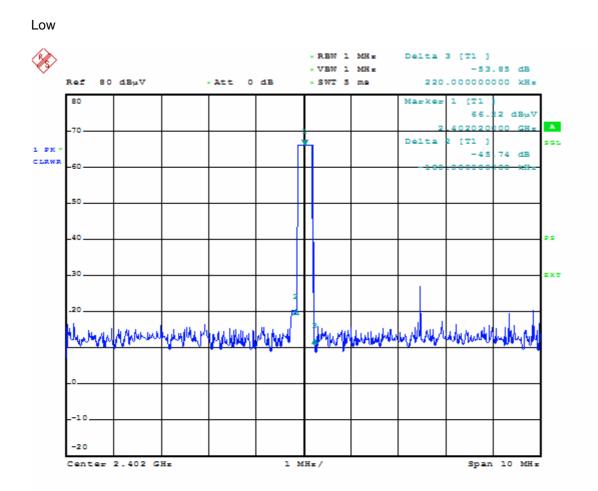
Date: 7.MAR.2008 15:31:26





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