

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

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## Test Report

Product Name: Bluetooth Hands Free Car Kit

FCC ID: T56VITEBO01 MODEL NO. : VTB-88

# Applicant:

SHENZHEN VITEBO SCIENCE TECHNOLOGY DEVELOP CO., LTD.

Xin Sheng Road No. 245, Long Gang Street, Long Gang Area,
Shenzhen City, Guang Dong Province

Date Received: 4/13/2006-4/26/2006

Date Tested: 4/26/2006

APPLICANT: SHENZHEN VITEBO SCIENCE TECHNOLOGY DEVELOP CO., LTD.



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FCC ID: T56VITEB001

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# EMC Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
					Interval
EMI Test Receiver	ROHDE&SCHWARZ		100307	Mar 20,2006	1 Year
LISN	ROHDE&SCHWARZ	ESH3-Z5	100305	Mar 20,2006	1Year
Pulse Limiter	ROHDE&SCHWARZ		100305	Mar 20,2006	1Year
50 Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 20,2006	1 Year
Spectrum Analyzer	ANRITSU	MS2651B	6200238856	Mar 20,2006	1 Year
Bilog Antenna	SCHWARZBECK	VULB 9163	9163-194	Mar 20,2006	1 Year
50 Ω Coaxial Switch	ANRITSU CORP	MP59B	620028393 3	Mar 20,2006	1 Year
Cable	Resenberger	N/A	NO.1	Mar 20,2006	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 20,2006	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 20,2006	1 Year
DC Power Filter	DuoJi	DL2×30B	N/A	N/A	N/A
Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A
AC Power Source	California Instruments	5001iX-400	55689	Mar 20,2006	1Year
Test analyzer	California Instruments	PACS-1	72254	Mar 20,2006	1Year
ESD Tester	HAEFELY	PESD 1610	H4001552	Mar 20,2006	1 Year
Signal Generator	IFR	2032	203002/100	Mar 20,2006	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
Dual Directional Coupler	A&R	DC6080	301508	Mar 20,2006	1 Year
Power Head	A&R	PH2000	301193	Mar 20,2006	1 Year
Power Meter	A&R	PM2002	302799	Mar 20,2006	1 Year
Field Monitor	A&R	FM5004	300329	Mar 20,2006	1 Year
Field Probe	A&R	FP5000	300221	Mar 20,2006	1 Year
EMCPRO System	Thermo	RO-BASE	0403271	Mar 20,2006	1 Year
Capacitive Clamp	Thermo	PRO-CCL	0403272	Mar 20,2006	1 Year
EMCPRO System	Thermo	PRO-BASE	0403271	Mar 20,2006	1 Year
Coupler decoupler	Thermo	CM-TEL-CD	0403273	Mar 20,2006	1 Year
for telecom lines					
Signal Generator	IFR	2032	203002/100	Mar 20,2006	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
EMCPRO System	Thermo	PRO-BASE	0403271	Mar 20,2006	1 Year

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#### TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of SHENZHEN MOST ELECTRONICS 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  $50\,\mathrm{u\,H}$  LISN. Both Lines were observed. The bandwidth of the receiver was  $10\,\mathrm{kHz}$  with an appropriate sweep speed. The ambient temperature of the EUT was  $25\,\mathrm{°C}$  with a humidity of  $58\,\mathrm{°k}$ .

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°Cwith 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. The antenna correction factors 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 = FS

33 20 dBuV + 10.36 dB = 30.36 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.

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FCC ID: T56VITEBO01

NAME OF TEST: POWER LINE CONDUCTED INTERFERENCE

RULES PART NUMBER: 15.107

 MINIMUM REQUIREMENTS:
 FREQUENCY
 LEVEL

 MHz
 u V

 0.450-30
 250

TEST PROCEDURE: ANSI STANDARD C63.4-2003

THE HIGHEST EMISSION READ FOR LINE 1 WAS 28.0 uV @ 510kHz.

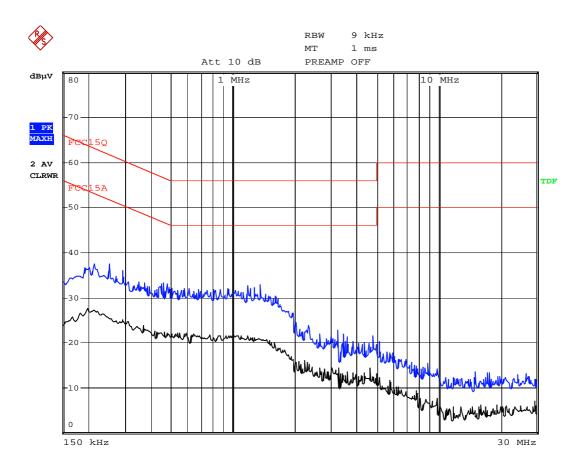
THE HIGHEST EMISSION READ FOR LINE 2 WAS 28.6 u V @ 510kHz.

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

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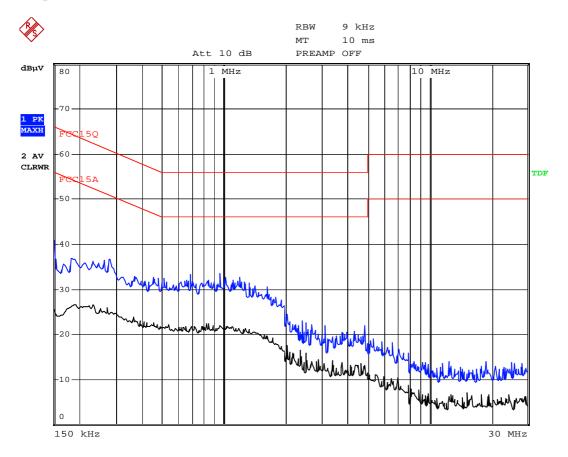


Date: 26.APR.2006 16:38:15 L Line

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Date: 26.APR.2006 16:39:21 N Line

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APPLICANT: SHENZHEN VITEBO SCIENCE TECHNOLOGY DEVELOP CO., LTD.

FCC ID: T56VITEB001

NAME OF TEST: RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.239, 15.209

**REQUIREMENTS:** 

FIELD STRENGTH of

S15.209

Fundamental:

88-108 MHZ 30 -88 MHz 40 dBuV/m @3M

88 - 216 MHz 43.5 216 - 960 MHz 46

47.96 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.

Fundamental Radiation Interference Data:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit
			(dBuV/m)
89.400	Horizontal	38.50	47.96
89.400	Vertical	40.01	47.96

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FCC ID: T56VITEBO01

NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.239, 15.209

**REQUIREMENTS:** 

FIELD STRENGTH of S15.209

Fundamental:

88-108 MHz 30 -88 MHz 40 dBuV/m @3M

88 - 216 MHz 43.5 216 - 960 MHz 46

47.96 dBuV/m @3m 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.

#### Continued:

General Radiation Interference Data:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)
32.040	Horizontal	32.16	40.0
33.560	Vertical	32.05	40.0
336.150	Vertical	33.85	46.0

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 VITEBO SCIENCE TECHNOLOGY DEVELOP CO., LTD.

FCC ID: T56VITEB001

NAME OF TEST: Occupied Bandwidth and Band Edge Compliance

RULES PART NUMBER: 15.239

**REQUIREMENTS:** Emissions from the intentional radiator shall be confined

within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range

of 88-108 MHz.

Band edge emissions plots are included on the following pages

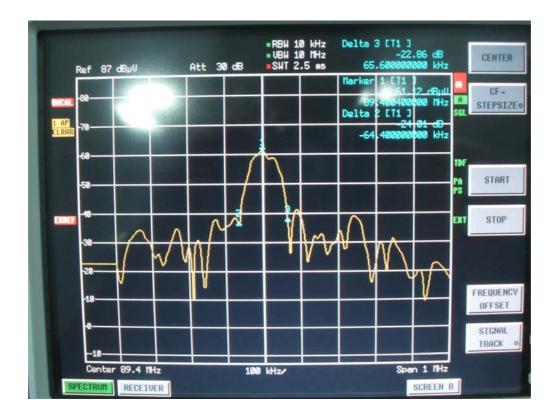
**METHOD OF MEASUREMENT:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to 10 dB per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

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