Shenzhen Huatongwei International Inspection Co., Ltd.
Keji S,12th , Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China
Phone:86-755-26748099 Fax:86-755-26748089 http://www.szhtw.com.cn

MPE TEST REPORT

FCC Per 47 CFR 2.1091(b)

Report Reference No. ..... :	**TRE1301007602 R/C: 89798**
FCC ID. ..... :	**S5XALK300-45**
Compiled by (position+printed name+signature)..:	File administrators Jerome Luo
Supervised by (position+printed name+signature)..:	Test Engineer Yuchao Wang
Approved by (position+printed name+signature)..:	Manager Wenliang Li
Date of issue.....:	Aug 09, 2013
Testing Laboratory Name .....:	**Shenzhen Huatongwei International Inspection Co., Ltd**
Address.....:	Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Applicant's name.....:	**VictelGlobal Communications Corporation Limited**
Address.....:	FLAT/RM 803 8/F C C WU BLDG 302-308 HENNESSY RD WANCHAI, Hong Kong, China
Test specification:	
Standard .....:	**FCC Per 47 CFR 2.1091(b)**
	KDB447498 v05r01
TRF Originator.....:	Shenzhen Huatongwei International Inspection CO., Ltd
Master TRF.....:	Dated 2006-06

Test item description ..... :	VictelGlobal KH Digital Transceiver
Trade Mark .....:	VictelGlobal
Manufacturer .....:	**Guangzhou Victel Technology Co., Ltd**
Model/Type reference.....:	ALK300-45
Listed Models .....:	/
Ratings.....:	AC 120V/60Hz
Modulation .....:	FM&4FSK
Channel Separation.....	12.5KHz
Rated Power	50 Watts(46.98dBm)/15 Watts(41.76dBm)
Operation Frequency Range.....	From 400 MHz to 470 MHz
Result.....:	**Positive**

MPE T E S T R E P O R T

Test Report No. :	**TRE1301007602**	Aug 09, 2013 Date of issue

Equipment under Test	:	VictelGlobal KH Digital Transceiver
Model /Type	:	ALK300-45
Listed Models	:	/
Applicant	:	**VictelGlobal Communications Corporation Limited**
Address	:	FLAT/RM 803 8/F C C WU BLDG 302-308 HENNESSY RD WANCHAI, Hong Kong, China
Manufacturer		**Guangzhou Victel Technology Co., Ltd**
Address	:	13th Building, No.161 DongGuanZhuang Road, Tianhe District, Guangzhou, China

Contents

1. SUMMARY

1.1. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

1.2. NOTE

1. The EUT is a U frequency band (400-470MHz) VictelGlobal KH Digital Transceiver,The functions of the EUT listed as below:

	Test Standards	Reference Report
Radio	FCC Part 90	TRE1301007601
MPE	Oet 65	TRE1301007602

.

2. TEST ENVIRONMENT

2.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd
Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Phone: 86-755-26715686 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2009) and CISPR Publication 22.

2.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

3. Method of measurement

3.1. Applicable Standard

According to §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.
According to §1.1310 and §2.1091 RF exposure is calculated.
KDB447498 v05r01:Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

3.2. Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density

3.3. MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$S=PG/4\pi R^2$

Where: S=power density
P=power input to antenna
G=power gain of the antenna in the direction of interest relative to an isotropic radiator
R=distance to the center of radiation of the antenna

As declared by the Applicant, the EUT transmits with the maximum soure-baed Duty Cycle of 100%-see the User manual, and the EUT is a wireless device used in a mobile application, at least 170 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum mobile separation distance, r =170cm, as well as the gain of the used antenna is 8.0dBi, the RF power density can be obtained.

TEST RESULTS

FM 12.5KHz@Maximum Rated Power

Test Frequency (MHz)	Minimum Separation Distance (cm)	Output Power (dBm)	Output Power (mW)	Antenna Gain (Numeric)	Power Density At 170 cm (mW/cm^2)	Scaling Factor	Power Density At 170 cm (mW/cm^2) Including Scaling Factor	Power Density Limit (mW/cm^2)	Test Results
406.5000	170.00	47.44	55462.57	6.3096	0.9636	1.0818	1.0424	1.3550	PASS
418.0000	170.00	46.18	41495.40	6.3096	0.7209	1.4459	1.0424	1.3933	PASS
435.5000	170.00	47.61	57676.65	6.3096	1.0021	1.0403	1.0424	1.4516	PASS
453.0000	170.00	47.37	54575.79	6.3096	0.9482	1.0994	1.0424	1.5100	PASS
469.5000	170.00	46.53	44977.99	6.3096	0.7814	1.3340	1.0424	1.5650	PASS

4FSK 12.5KHz@Maximum Rated Power

Test Frequency (MHz)	Minimum Separation Distance (cm)	Output Power (dBm)	Output Power (mW)	Antenna Gain (Numeric)	Power Density At 170 cm (mW/cm^2)	Scaling Factor	Power Density At 170 cm (mW/cm^2) Including Scaling Factor	Power Density Limit (mW/cm^2)	Test Results
406.5000	170.00	47.38	54701.60	6.3096	0.9504	1.0969	1.0424	1.3550	PASS
418.0000	170.00	46.17	41399.97	6.3096	0.7193	1.4493	1.0424	1.3933	PASS
435.5000	170.00	47.57	57147.86	6.3096	0.9929	1.0499	1.0424	1.4516	PASS
453.0000	170.00	47.19	52360.04	6.3096	0.9097	1.1459	1.0424	1.5100	PASS
469.5000	170.00	46.47	44360.86	6.3096	0.7707	1.3525	1.0424	1.5650	PASS

FM 12.5KHz@Minimum Rated Power

Test Frequency (MHz)	Minimum Separation Distance (cm)	Output Power (dBm)	Output Power (mW)	Antenna Gain (Numeric)	Power Density At 170 cm (mW/cm^2)	Scaling Factor	Power Density At 170 cm (mW/cm^2) Including Scaling Factor	Power Density Limit (mW/cm^2)	Test Results
406.5000	170.00	39.49	8892.01	6.3096	0.1545	2.8115	0.4344	1.3550	PASS
418.0000	170.00	41.22	13243.42	6.3096	0.2301	1.8877	0.4344	1.3933	PASS
435.5000	170.00	42.56	18030.18	6.3096	0.3133	1.3866	0.4344	1.4516	PASS
453.0000	170.00	41.27	13396.77	6.3096	0.2328	1.8661	0.4344	1.5100	PASS
469.5000	170.00	40.25	10592.54	6.3096	0.1840	2.3601	0.4344	1.5650	PASS

4FSK 12.5KHz@Minimum Rated Power

Test Frequency (MHz)	Minimum Separation Distance (cm)	Output Power (dBm)	Output Power (mW)	Antenna Gain (Numeric)	Power Density At 170 cm (mW/cm^2)	Scaling Factor	Power Density At 170 cm (mW/cm^2) Including Scaling Factor	Power Density Limit (mW/cm^2)	Test Results
406.5000	170.00	39.55	9015.71	6.3096	0.1566	2.7729	0.4344	1.3550	PASS
418.0000	170.00	41.22	13243.42	6.3096	0.2301	1.8877	0.4344	1.3933	PASS
435.5000	170.00	42.26	16826.74	6.3096	0.2923	1.4857	0.4344	1.4516	PASS
453.0000	170.00	41.79	15100.80	6.3096	0.2624	1.6555	0.4344	1.5100	PASS
469.5000	170.00	40.87	12218.00	6.3096	0.2123	2.0462	0.4344	1.5650	PASS

4. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the controlled RF Exposure.

.....End of Report.....