

# TEST REPORT

Product Name : Wireless calculator Mobile Mini Keypad  
Product ID : WKP-270  
Applicant : ORtek Technology Inc.  
Address of Applicant : 13F, No. 150, Jian Yi Rd., Chung Ho city  
Taipei Hsien, Taiwan, R.O.C.

Standards:

## FCC Part 15 subpart C

In the configuration tested, the EUT complied with the standards specified above. The test data, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4(1992).

### **Remarks:**

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This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan E&E Services or testing done by SGS Taiwan E&E Services in connection with distribution or use of the product described in this report must be approved by SGS Taiwan E&E Services in writing.

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Tested by : Alex Hsieh Date : July. 11, 2003

Approved by : Robert Chang Date : July. 11, 2003

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## 1. General Information

### 1.1 Testing Laboratory

SGS Taiwan Ltd. ( FCC Registration number: 573967 )  
1F, No. 134, Wukung Road, Wuku industrial zone  
Taipei county , Taiwan , R.O.C.  
Telephone : +886-2-2299-3279  
Fax : +886-2-2298-2698  
Internet : <http://www.sgs.com.tw>

### 1.2 Details of Applicant

Name : ORtek Technology Inc.  
Address : 13F, No. 150, Jian Yi Rd., Chung Ho city,  
Taipei Hsien, Taiwan, R.O.C.  
Contact : Mr. Chang  
Telephone : +886-2-82265123 ext 119

### 1.3 Description of EUT(s)

1	Product name	Wireless Calculator Mobile Mini Keypad
2	Product ID	WKP-270
3	Supply Voltage	DC 1.2V , AAA Ni-Cd battery x 1
4	Carrier Frequency	27.105 Mhz
5	Modulation Method	FSK

#### **1.4 Testing Procedure**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m chamber , then 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

#### **1.5 Testing Method**

The testing standard follows CFR 47, Part 15 , and ANSI C63.4 1992.

## 2. Summary of Results

subclause	Parameter to be measures	Verdict	Page
15.209	<b>Radiated emission Limits, general requirement</b>	<b>PASS</b>	<b>7</b>
15.227	<b>Fundamental Strength Limit</b>	<b>PASS</b>	<b>9</b>

### 3. Instruments List

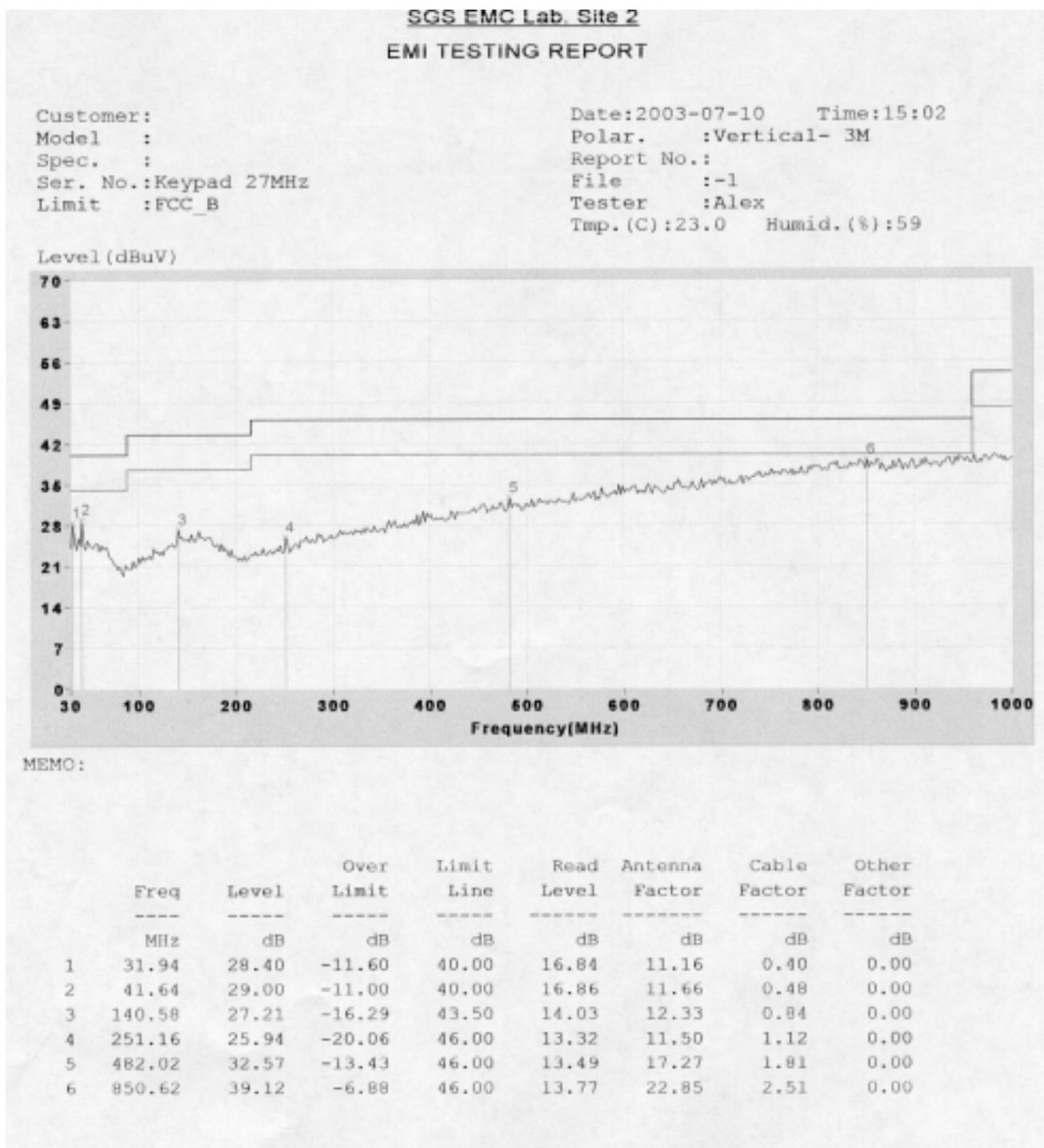
Instrument	Model	Serial number	Calibration date
Desktop PC	HP Pavillion 723D	N/A	N/A
Spectrum Analyzer	R&S FSP 40	100034	Mar. 27, 2003
Antenna	Schwarzbeck VULB9160	152	July 01, 2003

## 4. Measurements

### 4.1 Radiated emission Limits, general requirement SUBCLAUSE 15.209

RBW=120Khz , VBW=120Khz

#### Vertical

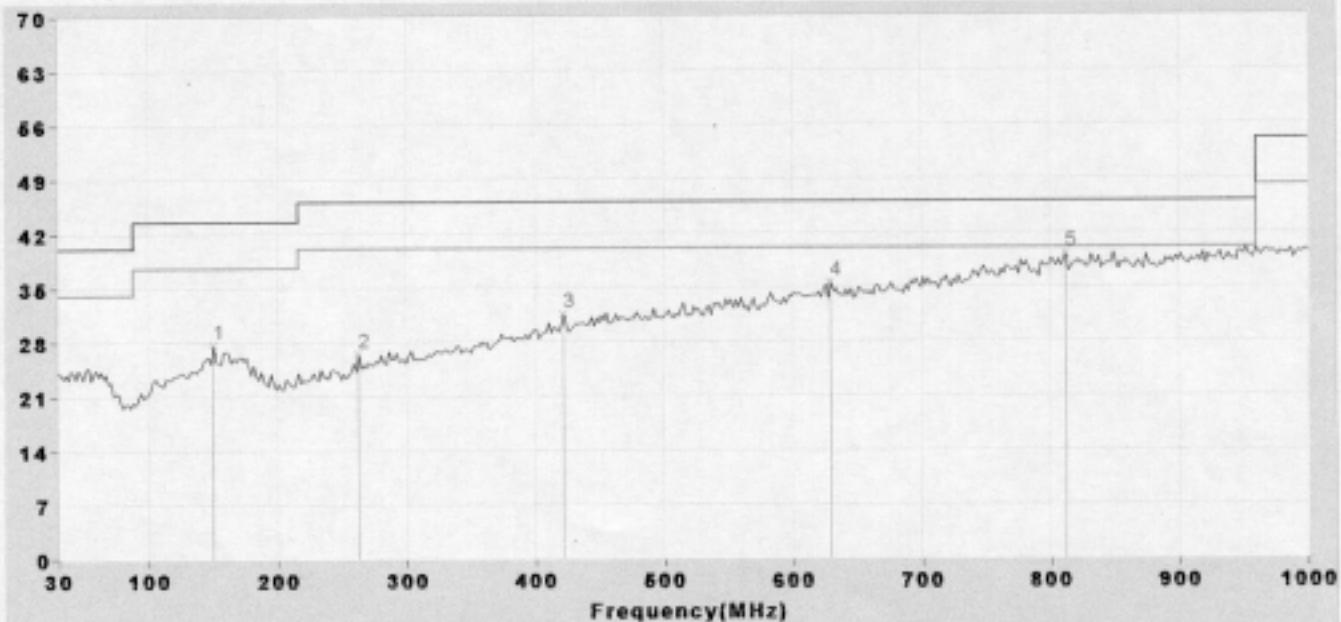


**Horizontal**

**SGS EMC LAB. SITE 2**  
**EMI TESTING REPORT**

Customer: Date:2003-07-10 Time:15:02  
Model : Polar. :Horizontal- 3M  
Spec. : Report No.:  
Ser. No.:Keypad 27MHz File :-1  
Limit :FCC\_B Tester :Alex  
Tmp. (C):23.0 Humid. (%):59

Level (dBuV)

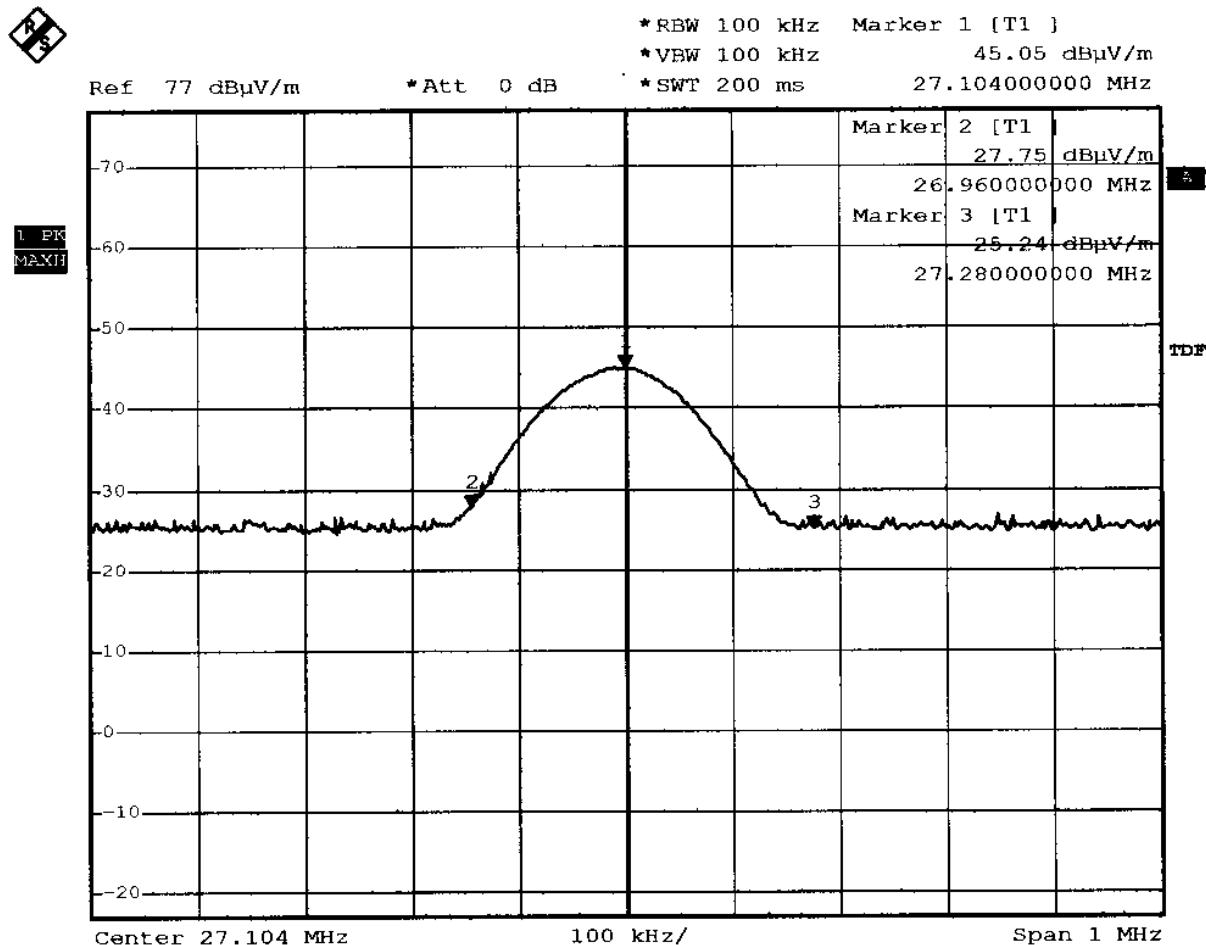


MEMO:

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Factor	Other Factor
	-----	-----	-----	-----	-----	-----	-----	-----
	MHz	dB	dB	dB	dB	dB	dB	dB
1	150.28	27.65	-15.85	43.50	13.94	12.84	0.87	0.00
2	262.80	26.37	-19.63	46.00	13.38	11.85	1.15	0.00
3	421.88	31.48	-14.52	46.00	13.83	15.99	1.65	0.00
4	629.46	35.52	-10.48	46.00	13.51	19.88	2.13	0.00
5	811.82	39.12	-6.88	46.00	14.07	22.60	2.46	0.00

## 4.2 Fundamental strength limit

### SUBCLAUSE 15.227



Date: 10.JUL.2003 15:38:00

Frequency (Mhz)	Read value (dB $\mu$ V)	Ant factor (dB)	Cable loss (dB)	Real value (dB $\mu$ V)	Strength limit at 3 meter (dB $\mu$ V/m)
27.104	45.05	11.35	0.24	56.64	80
26.96	27.75	11.35	0.24	39.34	50
27.28	25.24	11.35	0.24	36.83	50

**APPENDIX: Photographs of Test Setup**

<Photos are saved separately>

**APPENDIX : Photographs of EUT**

**Internal Photo**

<Photos are saved separately>

**External Photo**

<Photos are saved separately>