TIMCO ENGINEERING, Inc.

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FCC PART 15 SUB PART B

CLASS B TEST REPORT

Applicant	ELECTRONE AMERICAS LTD., CO.
Address	2920 N.W. BOCA RATON BLVD.
	SUITE 12 BOCA RATON FL 33431 USA
FCC ID	P207A20U
Product Description	KEYPAD
Date Sample Received	5/15/2007
Date Tested	5/28/2007
Tested By	NAM NGUYEN
Approved By	NAM NGUYEN
Report Number	E\ELECTRONE\2052UT7\2052UT7TestReport.doc
Total Pages	13
Test Results	☒ PASS ☐ FAIL

ACCREDITED
Certificate # 0955-01

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STATEMENT OF COMPLIANCE

This equipment has been tested in accordance with the standards identified in the referenced test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report and demonstrate that the equipment complies with the appropriate standards.

I attest that the necessary measurements were made by me or under my supervision, at TIMCO ENGINEERING, INC. located at 849 N.W. State Road 45, Newberry, Florida 32669 USA.

Certificate #0955-01

Authorized by: Nam Nguyen

Authorized Signature: <*Nam Nguyen*>

Function: Engineering Tech.

Date: 6/25/2007

GENERAL INFORMATION

The test results relate only to the items tested.	
DUT Description	KEYPAD
FCC ID	P2O7A20U
DUT Power Source	☒ 110–120Vac/50– 60Hz
	☐ DC Power
	☐ Battery Operated Exclusively
Test Item	☐ Prototype
	☒ Pre-Production
	☐ Production
Type of Equipment	☒ Fixed
	☐ Mobile
	☐ Portable
Laboratory Test Conditions	Temperature: 26ºC Humidity: 55%
Modifications to DUT:	☒ No ☐ Yes (explanation below)
Test Configuration	Dell Laptop computer Model PPO1L Low voltage computer cable permanently attached to keypad – 6ft, 2.5" in length

TEST EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/20/07	3/19/10
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
3-Meter Semi-Anechoic Chamger	Panashield	N/A	N/A	Listed 5/11/07	5/10/10
Antenna: Biconnical	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Antenna: Biconnical	Eaton	94455-1	1096	CAL 10/11/06	10/11/08
Analyzer Tan Tower Quasi-Peak Adapter	HP	85650A	3303A01690	CAL 12/8/05	12/8/07
Analyzer Tan Tower RF Preselector	HP	85685A	3221A01400	CAL 12/7/05	12/7/07
Analyzer Tan Tower Spectrum Analyzer	HP	8568B	3138A07786 3144A20661	CAL 12/7/05	12/7/07
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/5/06	10/5/08
Antenna: Log-Periodic	Eaton	96005	1243	CAL 12/14/05	12/14/07

TEST PROCEDURES

Radiation Interference: The test procedure used was ANSI C63.4-2003 using an Agilent spectrum analyzer with a preselector. In the frequency range 10 kHz to 30 MHz the RBW was 10 kHz and from 30-1000 MHz the RBW of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The video bandwidth was always greater than or equal to the RBW.

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 in dB/m. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Example:

Freq (MHz)	Meter Reading	+ ACF	+CL	= FS
33	20 dBuV	+ 10.36 dB/m	+0.40 dB	=30.36 dBuV/m @ 3m

ANSI C63.4-2003 Section 8.2.1 Measurement Procedures: The DUT was placed on a non-conducting table 80 cm above the ground plane with the DUT located in the center of the table. With the antenna vertical a preliminary scan was done at a 1 meter distance, the DUT was then moved to a 3 meter distance and the antenna height varied. Measurements were again made this time with the antenna placed in the horizontal position. The frequency was scanned from 30 MHz to 1.0 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The DUT was measured in three (3) orthogonal planes when necessary.

RADIATED SPURIOUS EMISSIONS

Rules Part No.: 15.109(a) - Class B Digital Device

Requirements:

Frequency	Limits
30 – 88	40.0 dBµV/m measured @ 3 meters
80 – 216	43.5 dBµV/m measured @ 3 meters
216 – 960	46.0 dBµV/m measured @ 3 meters
Above 960	54.0 dBµV/m measured @ 3 meters

Test Procedure: The procedure used was ANSI C63.4-2003 Section 8.2. The frequency was scanned from 30 MHz to 1.0 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The DUT was measured in three (3) orthogonal planes when necessary.

Test Data:

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
40.28	8.2	V	0.45	9.72	18.37	21.63
46.96	11.7	V	0.48	10.49	22.67	17.33
46.97	8.9	H	0.48	11.20	20.58	19.42
48.08	7.2	H	0.49	11.20	18.89	21.11
59.01	6.7	H	0.53	11.12	18.35	21.65
66.75	7.8	V	0.56	8.73	17.09	22.91
86.38	9.3	V	0.62	8.27	18.19	21.81
87.11	4.8	H	0.62	7.62	13.04	26.96
94.78	8.6	V	0.64	10.65	19.89	23.61
95.26	7.3	H	0.64	9.51	17.45	26.05
163.61	4.2	V	0.75	15.55	20.50	23.00
190.55	5.8	H	0.86	17.41	24.07	19.43
204.04	24.3	H	0.91	12.02	37.23	6.27
211.70	20.6	V	0.92	11.62	33.14	10.36
211.98	25.3	H	0.92	11.82	38.04	5.46
228.08	22.3	H	0.96	11.50	34.76	11.24
240.06	16.0	V	0.98	11.90	28.88	17.12
240.16	23.2	H	0.98	12.01	36.19	9.81
244.08	21.7	H	0.99	12.20	34.89	11.11
259.04	12.2	V	1.02	12.86	26.08	19.92
259.14	24.5	H	1.02	12.87	38.39	7.61
274.82	19.0	H	1.05	13.64	33.69	12.31
287.24	17.6	H	1.07	13.94	32.61	13.39
287.98	8.9	V	1.08	13.84	23.82	22.18

TEST DATA CONTD.

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
306.04	10.7	H	1.11	14.88	26.69	19.31
336.28	10.2	V	1.14	14.56	25.90	20.10
336.44	14.7	H	1.14	14.84	30.68	15.32
353.76	9.3	H	1.15	15.00	25.45	20.55
366.16	12.3	V	1.17	14.98	28.45	17.55
369.48	7.2	H	1.17	15.19	23.56	22.44
384.60	14.9	H	1.18	15.58	31.66	14.34
397.82	18.4	V	1.20	15.68	35.28	10.72
431.34	13.1	H	1.23	16.54	30.87	15.13
431.34	13.9	V	1.23	16.13	31.26	14.74
456.08	12.2	H	1.26	16.84	30.30	15.70
468.04	13.1	V	1.27	17.06	31.43	14.57
504.02	12.3	H	1.31	18.26	31.87	14.13
504.16	15.4	V	1.31	18.15	34.86	11.14
532.64	17.5	V	1.40	17.81	36.71	9.29
663.96	11.8	V	1.66	20.32	33.78	12.22

POWER LINE CONDUCTED INTERFERENCE

Rules Part No.: Part 15.107 Class B

Requirements:

Frequency (MHz)	Quasi Peak Limits (dBuV)	Average Limits (dBuV)
0.15 – 0.5	66 – 56	56 – 46
0.5 – 5.0	56	46
5.0 – 30	60	50

Test Procedure: ANSI Standard C63.4-2003. The spectrum was scanned from 0.15 to 30 MHz.

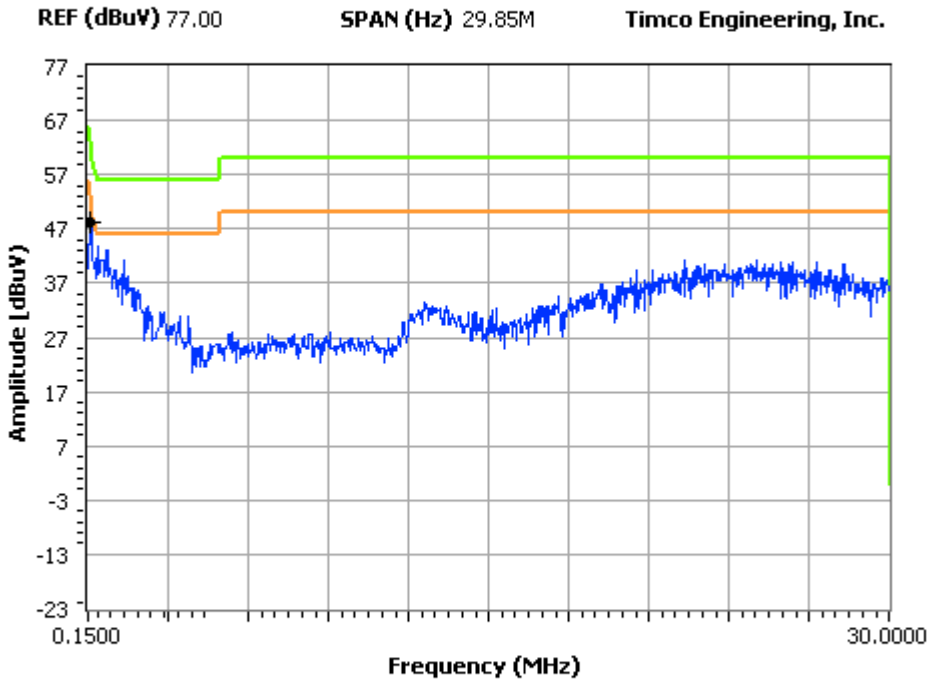
Test Data: The attached plots represent the power line conducted emissions. Both sides of the line were observed.

POWERLINE CONDUCTED EMISSIONS – LINE 1

NOTES:

ELECTRONE AMERICAS LTD., CO. - MODEL NUMBER: 7A20U
POWER LINE CONDUCTED PLOT - LINE 1

FCC 15.107 Mask Class B



RBW	VBW	ST (sec)
10 kHz	30 kHz	2

Center Frequency (Hz) 15.075M

Marker Delta (Hz) 0.00

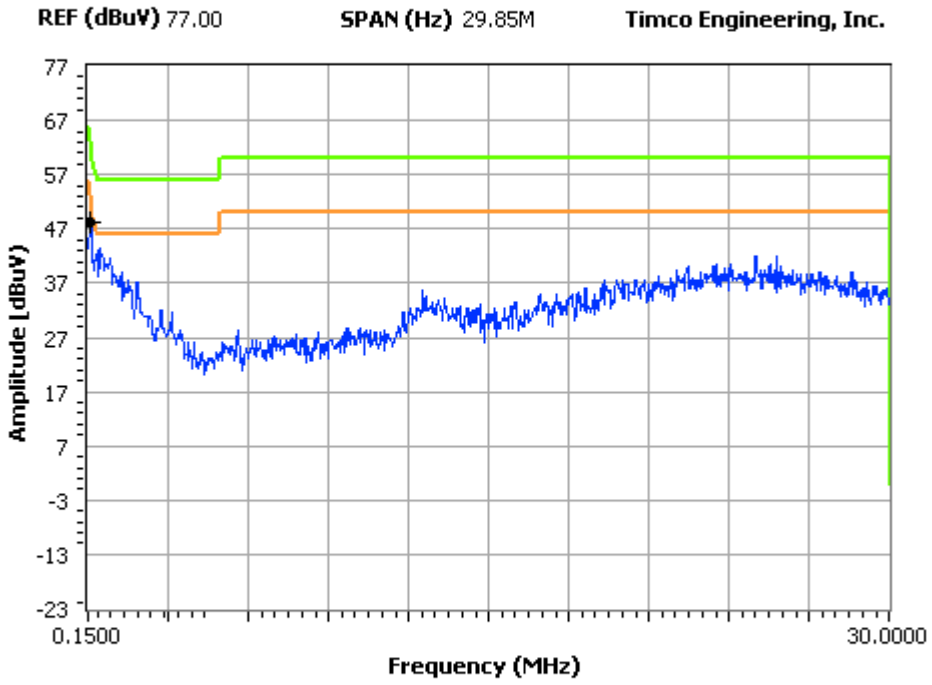
Peak	0.210	48.10
MKR2	0.000	0.00
MKR3	0.000	0.00
HWMK	23.076	6.27

POWERLINE CONDUCTED EMISSIONS – LINE 2

NOTES:

ELECTRONE AMERICAS LTD., CO. - MODEL NUMBER: 7A20U
POWER LINE CONDUCTED PLOT - LINE 2

FCC 15.107 Mask Class B



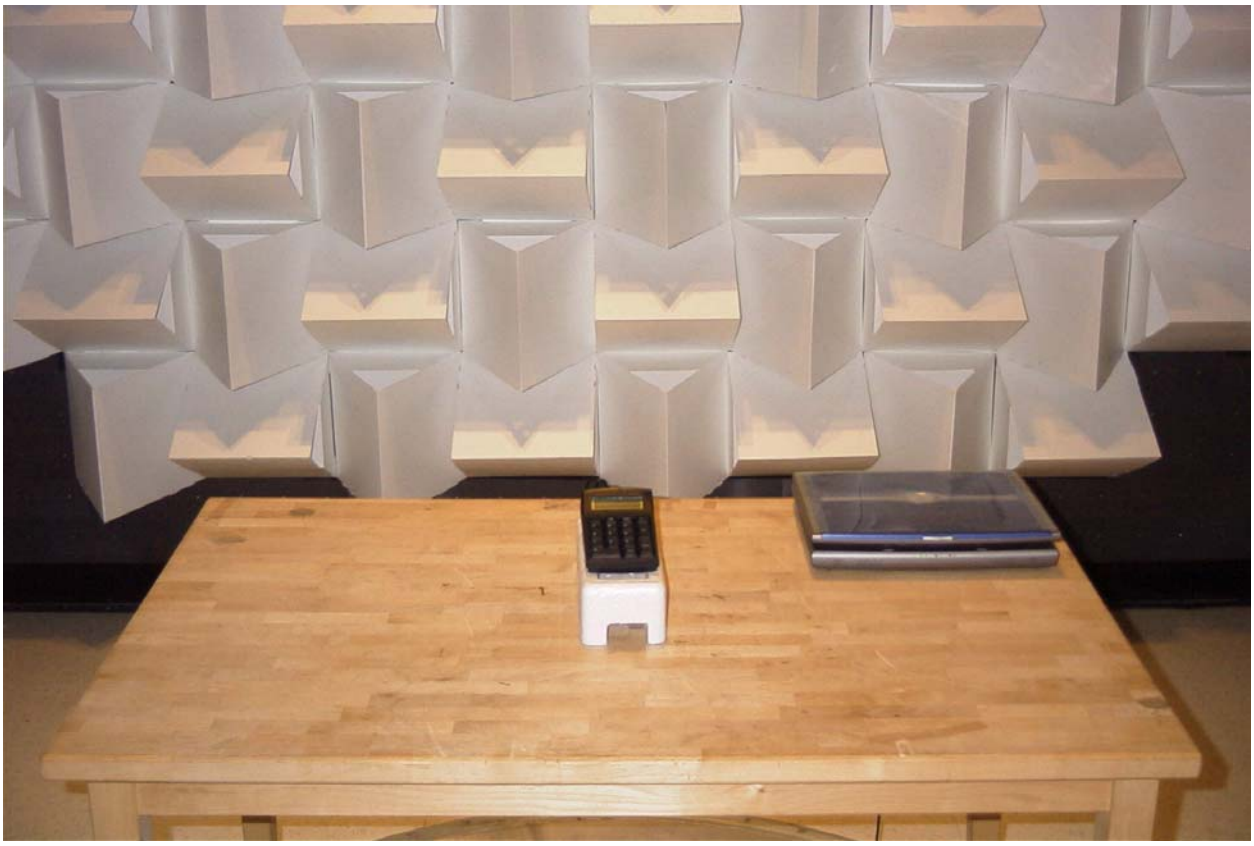
RBW	VBW	ST (sec)
10 kHz	30 kHz	2

Center Frequency (Hz) 15.075M

Marker Delta (Hz) 0.00

Peak	0.240	48.40
MKR2	0.000	0.00
MKR3	0.000	0.00
HWMK	23.076	6.27

RADIATED EMISSIONS TEST SETUP PHOTO



POWERLINE CONDUCTED EMISSIONS TEST SET UP PHOTO