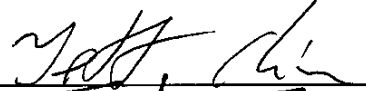

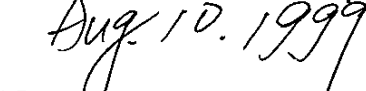


***EXHIBIT B***

***Test Report***

Report No.	G2115652
Specifications	FCC Part 15 Class B, Certification.
Test Metho	ANSI C63.4 1992
Applicant Address	6F, No.2, Lane 348, Chung Shan RD., Sec. 2, Chung Ho City, Taipei Hsien, Taiwan, R.O.C.
Applicant	Powertech Industrial Co., Ltd
Kind of Equipment	Superregenerative Receiver
Items tested	Receiver of Wireless Remote Outlet
Model No.	PTRX194, PTRX196 (Sample # G21652)
Results	<b>Compliance</b> (As detailed within this report)
Sample received date	08/10/99 (month / day / year)
Prepared by	 project engineer
Authorized by	 General Manager Frank Tsai
Issue date	 (month / day / year)
Modifications	None
Tested by	Training Research Co., Ltd.
Office at	2, Lane 194, Huan-Ho Street, Hsichih, Taipei Hsien 221, Taiwan
Chamber at	2, Lane 194, Huan-Ho Street, Hsichih, Taipei Hsien 221, Taiwan

**Conditions of issue:**

- (1) **This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.**
- (2) **This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.**

★ FCC ID: NHSPTRX196

Report No.: G2115652, Receiver of Wireless Remote Outlet, FCC Part 15 Class B, Certification

Test date: 08/10/99, Training Research Co., Ltd., TEL: 886-2-26935155, Fax: 886-2-26934440

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## ***Chapter 1 Introduction***

### ***Description of EUT:***

This device is a receiver of wireless remote outlet that connected with the AC power source and the transmitter will control the EUT to power on or power off the outlet. The largest difference between the two samples is PTRX194 has no power cable and PTRX196 has one short, extra power cable.

### ***Connection of EUT:***

- (1)The Ac input jack of EUT is connected with the AC power source via an extending power outlet cable.
- (2)The AC outlet jack of EUT is connected with three 100W bulbs.

### ***Test method:***

When the receiver receives the signal, the bulbs will be on. When the receiver doesn't receive the signal, the bulbs will not be on.

Make sure the EUT is in "receiving" mode. There is a near field probe placed approximately to the EUT to radiate an unmodulated continuous wave (CW) signal to EUT at its operating frequency in order to "cohere" from such a receiver. The signal level may need to be increased for this to occur pursuant to FCC ANSI C63.4 Section 12.1.1.1. The amplitude and frequency of the signal was varied to yield the maximum emission.

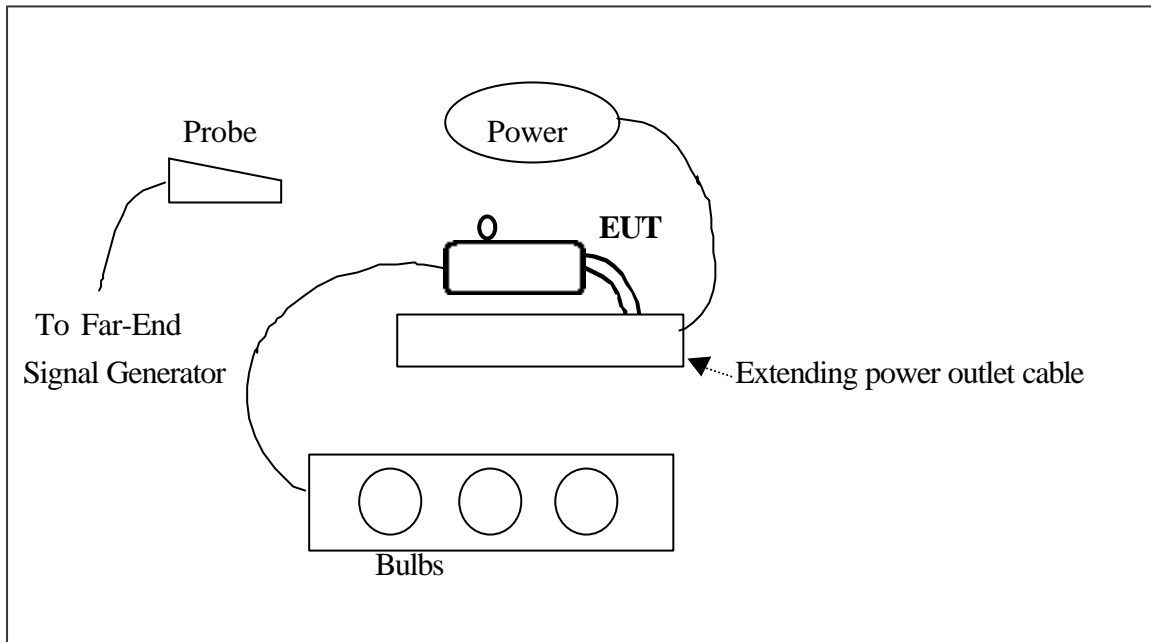
The test placement as the photographs showed is the worst case emission placed. (If the emission is close to the ambient, the resolution BW and view resolution will be reduced and the data will be recorded by detection of maximum hold peak mode.)

### ***Statement of transition provision for compliance with the rules***

The EUT receives the signal that only sends from the remote controller. The EUT won't be influenced by the transition provision, it will be continuous comply with the regulations of the FCC Part 15. ( The relative remote controller FCC ID : NHSPTTX01).

***The testing configuration of test setup is showing in the next page.***

**Configuration of test setup:**



**Connections:**

**EUT:**

- \*AC In jack --- (1) directly connected with the AC power source  
(Model: PTRX194)
- (2) via a 30cm long, non-shielded, no ferrite bead, power cable to the AC power source via a extending power outlet cable.  
(Model: PTRXD196)
- \*AC outlet jack--- via a 1.2m long, non-shielded, no ferrite bead, power cable to three 100W bulbs.

***List of support equipment***

**Field Probe : HP Field Probe 30MHz~1GHz**

Model No. : HP11940A

Serial No. : 2650A03038

Power type : by signal generator

Data cable : 1.8m long, non-shielded, no ferrite bead,

**Signal Generator : HP 9KHz~4000MHz**

Model No. : 8648D

Serial No. : 3613A00117

## **Chapter 2 Conducted emission test**

### **Test condition and setup:**

All the equipment is placed and setup according to the ANSI C63.4 - 1992. The EUT is assembled on a wooden table that is 80 cm high, is placed 40 cm from the back-wall that is a vertical conducting plane. One LISN is for EUT, the other LISN is for support equipment. They are all placed on the conductive ground. The EUT' s LISN connect a line switch box for selecting L1 or L2, then connect to a preamplifier and Spectrum.

The spectrum scans from 450KHz to 30MHz. Conducted emission levels are detected at max. peak mode. But if the max. peak mode failed, it will be measured by CISPR' s quasi-peak detection mode.

While testing, there is the worst-emission plot printed at peak detection mode, and there are more than 6 highest emissions relative to limit recorded. The plot is kept as the original data, not included in test report.

### **List of test Instrument:**

<u>Instrument Name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Calibration Date</u>	
				<u>Last time</u>	<u>Next time</u>
Spectrum analyzer	8591EM	H P	3619A00821	10/29/98	10/29/99
LISN (EUT)	3825/2	EMCO	9411-2284	05/20/99	05/20/00
LISN (Support E.)	3825/2	EMCO	9210-2007	05/20/99	05/20/00
Preamplifier	8447F	H P	2944A03706	05/20/99	05/20/00
Line switch box	AC1-003	TRC	-----	05/20/99	05/20/00
Line selector	AC1-002	TRC	-----	05/20/99	05/20/00

The level of confidence of 95%, the uncertainty of measurement of conducted emission is ± 2.4 dB.

### **Test Result: Pass(Appendix A)**

**Conducted Test Placement:**





### **Chapter 3 Radiated emission test**

**Test condition and setup:**

**Pretest :** Prior to the final test (OATS test) ,the EUT is placed in a shielded enclosure, and scan from 30MHz to 20GHz. This is done to ensure the radiation exactly emits form the EUT.

**Final test:** Final radiation measurement is made on a **3 - meter**, open-field test site. The EUT is placed on a nonconductive table which is 0.8m height, the top surface is 1.0 x 1.5 meter. The placement is according to ANSI C63.4 - 1992.

The spectrum is examined from 30 MHz to 1000 MHz measured by HP spectrum.

The SCHAFFNER whole range Antenna is used to measure frequency from 30 MHz to 2 GHz. The final test is used the spectrum analyzer.

Measure more than six top marked frequencies generated form pretest by computer step by step at each frequency. The EUT is rotated 360 degrees, and antenna is raised and lowered from 1 to 4 meters to find the maximum emission levels. The antenna is used with both horizontal and vertical polarization.

Appropriated preamplifier which is made by TRC is used for improving sensitivity and precautions is taken to avoid overloading. The spectrum analyzer' s 6dB bandwidth is set to 120 KHz, and the EUT is measured at quasi-peak mode.

If the emission is close to the frequency band of ambient, the data will be rechecked by the tester and the corrected data will be written in the test data sheet. If the emission is just within the ambient, the data from shield room will be taken as the final data.

**List of test Instrument:**

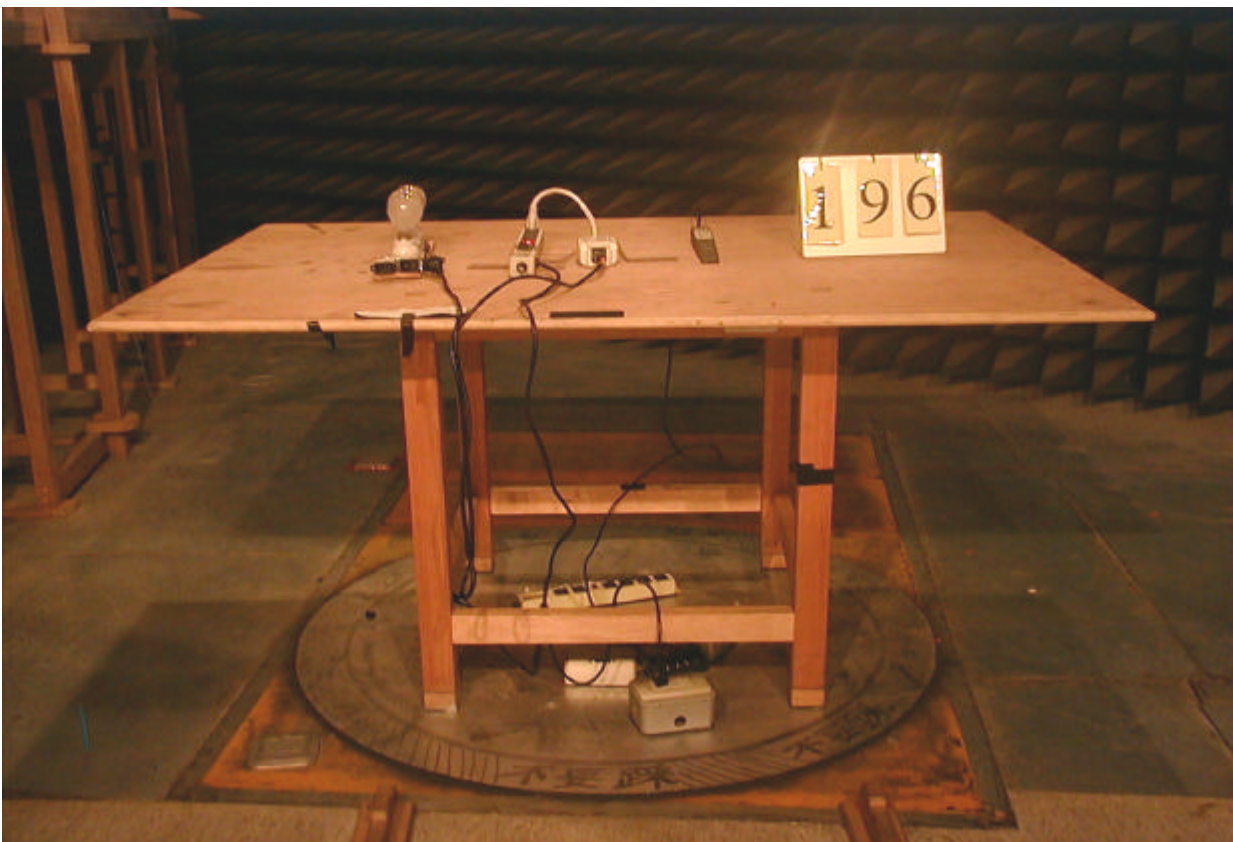
**Calibration Date**

<u>Instrument Name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Last</u>	<u>Next</u>
EMI Receiver	8546A	H P	3520A00242	01/07/99	01/07/00
RF Filter Section	85460A	H P	3448A00217	01/07/99	01/07/00
Bi-log Antenna CBL6141A	SCHAFFNER		4150	05/21/99	05/21/00
Anechoic Chamber (Amplify, cable calibrated together)				04/16/99	04/16/00

The level of confidence of 95%, the uncertainty of measurement of radiated emission is ± 4.96 dB.

**Test Result: Pass (Appendix B)**

***Radiated Test Placement: (Photographs)***



**Appendix A**

**Conducted Emission Test Result: (Sample: PTRX194)(Test Mode: Bulbs On)**

Testing room : Temperature : 23 ° C Humidity : 64 % RH

**Line 1**

FREQUENCY ( KHz)	READING AMPLITUDE			LIMIT		MARGIN ( dB )
	Peak (dBμV/m)	Quasi-peak (dBμV/m)	Average (dBμV/m)	Quasi-Peak (dBμV/m)	Average (dBμV/m)	
764	22.73	***.**	***.**	48.00	48.00	-25.27
***						

**Line 2**

FREQUENCY ( KHz)	READING AMPLITUDE			LIMIT		MARGIN ( dB )
	Peak (dBμV/m)	Quasi-peak (dBμV/m)	Average (dBμV/m)	Quasi-Peak (dBμV/m)	Average (dBμV/m)	
***	***	***	***	***	***	***

\*The reading amplitudes are all under average limit.

\*The other emissions of two lines are all under the limit more than 20dB.

**Conducted Emission Test Result: (Sample: PTRX196)(Test Mode: Bulbs Off)**

Testing room : Temperature : 23 ° C Humidity : 64 % RH

**Line 1**

FREQUENCY ( KHz)	READING AMPLITUDE			LIMIT		MARGIN ( dB )
	Peak (dBμV/m)	Quasi-peak (dBμV/m)	Average (dBμV/m)	Quasi-Peak (dBμV/m)	Average (dBμV/m)	
769	22.75	***.**	***.**	48.00	48.00	-25.25
13450	22.61	***.**	***.**	48.00	48.00	-25.39
14300	20.45	***.**	***.**	48.00	48.00	-27.55
14860	21.64	***.**	***.**	48.00	48.00	-26.36
15160	21.19	***.**	***.**	48.00	48.00	-26.81
15710	21.81	***.**	***.**	48.00	48.00	-26.19
24650	20.52	***.**	***.**	48.00	48.00	-27.48
***						

**Line 2**

FREQUENCY ( KHz)	READING AMPLITUDE			LIMIT		MARGIN ( dB )
	Peak (dBμV/m)	Quasi-peak (dBμV/m)	Average (dBμV/m)	Quasi-Peak (dBμV/m)	Average (dBμV/m)	
24650	22.77	***.**	***.**	48.00	48.00	-25.23
***						

\* The reading amplitudes are all under average limit.

\*The other emissions of two lines are all under the limit more than 20dB.

## Appendix A

**Radiated Emission Test Result: (Horizontal)(Sample: PTRX194)  
(Test Mode: Bulbs On)**

Test Conditions:

Testing room : Temperature : 23 ° C      Humidity : 68 % RH  
 Testing site : Temperature : 24 ° C      Humidity : 65 % RH

Frequency	Reading Amplitude	Ant. Heigh	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBµV	m	degree	dB/m	dBµV/m	dBµV/m	dB

57.225	38.60	3.99	82	-12.28	26.32	40.00	-13.68
95.642	36.05	0.99	82	-11.92	24.13	43.50	-19.37
114.700	40.33	2.48	227	-13.87	26.46	43.50	-17.04
115.002	40.36	2.48	31	-13.90	26.46	43.50	-17.04
133.757	39.18	0.99	28	-14.70	24.48	43.50	-19.02
523.612	53.94	0.99	37	-21.09	32.85	46.00	-13.15
***							

Note:

1. Margin = Amplitude - limit, if margin is minus means under limit.
  2. Corrected Amplitude = Reading Amplitude + Correction Factors
  3. Correction factor = Antenna factor + ( Cable Loss - Amplitude gain)
- (For example: 30MHz correction factor = 15.5 + (-15.26) = 0.24 dB/m)

**Radiated Emission Test Result: (Vertical) (Sample: PTRX194)  
(Test Mode: Bulbs On)**

Frequency	Reading Amplitude	Ant. Heigh	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBµV	m	degree	dB/m	dBµV/m	dBµV/m	dB

57.225	39.01	4.00	173	-12.14	26.87	40.00	-13.13
101.995	37.39	0.99	285	-11.65	25.74	43.50	-17.76
114.700	43.34	2.49	217	-13.01	30.33	43.50	-13.17
133.757	38.48	0.99	137	-14.02	24.46	43.50	-19.04
***							

**Radiated Emission Test Result: (Horizontal) (Sample: PTRX196)  
(Test Mode: Bulbs On)**

Test Conditions:

Testing room : Temperature : 21 ° C                      Humidity :41 % RH  
 Testing site : Temperature : 23 ° C                      Humidity :49 % RH

Frequency	Reading Amplitude	Ant. Heigh	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBµV	m	degree	dB/m	dBµV/m	dBµV/m	dB

39.983	49.51	2.50	23	-20.05	29.46	40.00	-10.54
57.225	42.46	2.50	342	-12.28	30.18	40.00	-9.82
95.340	43.28	2.50	7	-11.88	31.40	43.50	-12.10
114.700	42.68	4.01	289	-13.87	28.81	43.50	-14.69
133.757	43.37	0.99	247	-14.70	28.67	43.50	-14.83
152.265	38.07	0.99	306	-14.57	23.50	43.50	-20.00
***							

Note:

- 4.Margin = Amplitude - limit, if margin is minus means under limit.
  - 5.Corrected Amplitude = Reading Amplitude + Correction Factors
  - 6.Correction factor = Antenna factor + ( Cable Loss - Amplitude gain)
- (For example: 30MHz correction factor = 15.5 + (-15.26) = 0.24 dB/m)

**Radiated Emission Test Result: (Vertical) (Sample: PTRX196)  
(Test Mode: Bulbs On)**

Frequency	Reading Amplitude	Ant. Heigh	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBµV	m	degree	dB/m	dBµV/m	dBµV/m	dB

57.225	41.80	0.99	39	-12.14	29.66	40.00	-10.34
95.642	42.86	0.99	323	-11.16	31.70	43.50	-11.80
102.297	36.46	0.99	46	-11.67	24.79	43.50	-18.71
114.700	43.80	0.99	313	-13.01	30.79	43.50	-12.71
133.455	43.60	0.99	46	-14.03	29.57	43.50	-13.93
***							

**The emissions of EUT are not find at frequency range 1GHz to 20 GHz.**

**Final statement:**

***This test report, measurements made by TRC are traceable to the NIST.***



