



## Multi-Function Power Meter Calibration Report

Report number : EC2012015101

Issued date : 2012/07/25

Laboratory : Electrical and Temperature Calibration Laboratory

Address:No.6-6, Ronggong S Rd., Guanyin Township, Taoyuan  
County 328, Taiwan, R.O.C.

Laboratory Accreditation Number : 0061



### Taiwan Electric Research & Testing Center

Address:No.6-6, Ronggong S Rd., Guanyin Township, Taoyuan County 328, Taiwan, R.O.C.

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財團法人

台灣大電力研究試驗中心  
Taiwan Electric Research & Testing CenterElectrical and Temperature Calibration Laboratory  
Report No. : EC2012015101

## Calibration Report

Applicant : Chang Shuan Electronics Co.,Ltd  
4F.-18, No.14, Ln. 609, Sec. 5, Chongxin Rd.,  
Address : Sanchong Dist., New Taipei City 241, Taiwan (R.O.C.)  
Equipment : Multi-Function Power Meter  
Manufacturer : Chang Shuan Electronics Co.,Ltd  
Model No. : CPM-10-A5V1-OPC1-A11-U81-ADH  
Serial No. : 17090006-1879

Issued Date : 2012/07/25  
Calibration Date : 2012/07/23  
Temperature : 23±2°C  
Humidity : 50±10%  
Procedure Used : 60I-07-1811 , 60I-07-1812 , 60I-07-1819

Remark :

Calibration Standard			
Equipment	Manufacturer / Model No.	I.D. Number	Cal. Source / Cal. Date/ Report No/Cycle
Three Phase Standard	RADIAN/RD-30-231	300130	TERTEC / 101..04.09 / EC1010015 / 1 year.
Multi Calibration Standard	FLUKE/5500A	6670008	Pink Technology/100.08.23/P108060-C/1 year.

### 一、 Calibration Item & Result :

#### 1.AC Current (60Hz)

Display	Standard Value(A)	Indication Value(A)	Error(%)	Uncertainty(%)
I	1.0000	0.999	-0.10	0.20

#### 2.Watt-hour(60Hz)

Power Source Set Value				Error(%)	Uncertainty(%)
Phase/Wire	Voltage(V)	Current(A)	P.F		
3P4W	220	5	1.0	-0.09	0.05

#### 3.AC Power(60Hz)

Power Source Set Value				Standard Value(kW)	Indication Value(kW)	Error Value(%)	Uncertainty (%)
Phase/Wire	Voltage(V)	Current(A)	P.F				
3P4W	220	5	1.0	3.3000	3.294	-0.18	0.05
3P4W	220	5	0.5LAG	1.6500	1.647	-0.18	0.05
3P4W	220	1	1.0	0.6600	0.659	-0.15	0.05

The report issued by : *Beng-yeem Lai*

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60T-07-1801D



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Electrical and Temperature Calibration Laboratory  
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## Calibration Report

### 二、Instruction :

1. Test method : according to AC Voltage,AC Current calibration procedure, used of P,F source correction devices apply the watt/var Standard calculating the 3Phase compact Power Meter error value(%).
2.  $Error(\%) = ((E_{UUT} - E_{STD}) / E_{STD}) \times 100\%$  ,  $E_{UUT}$  : 3Phase compact smart Meter Energy Standard ,  $E_{STD}$  : Energy Standard
3. Expanded uncertainty the level of confidence is 95% and the coverage factor  $k=2$ .
4. Three phase compact smart Meter Energy used single phase two wire theorem.
5. The use of standard calibration devices traceable to national standards of weights and measurement laboratory and Pink Technology Co.Ltd (report No.P108060-C, traceable data 2011.08.23, calibration cycle is one year).





## Multi-Function Power Meter Calibration Report

Report number : EC2012015101D

Issued date : 2012/07/25

Laboratory : Electrical and Temperature Calibration Laboratory  
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Taiwan Electric Research & Testing CenterElectrical and Temperature Calibration Laboratory  
Report No. : EC2012015101D

## Calibration Report

Applicant : Chang Shuan Electronics Co.,Ltd  
4F.-18, No.14, Ln. 609, Sec. 5, Chongxin Rd.,  
Address : Sanchong Dist., New Taipei City 241, Taiwan (R.O.C.)  
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Model No. : CPM-10-A5V1-OPC1-A11-U81-ADH  
Serial No. : 17090006-1879

Issued Date : 2012/07/25  
Calibration Date : 2012/07/23  
Temperature : 23±2°C  
Humidity : 50±10%  
Procedure Used : 60I-07-1812 , 60I-07-1818 , 60I-07-1819

Remark :

Calibration Standard			
Equipment	Manufacturer / Model No.	I.D. Number	Cal. Source / Cal. Date/ Report No/Cycle
Three Phase Standard	RADIAN/RD-30-231	300130	TERTEC / 101.04.09 / EC1010015 / 1 year
Multi Calibration Standard	FLUKE/5500A	6670008	Pink Technology/100.08.23/P108060-C/1 year.

一、 Calibration Item &amp; Result :

## 1.AC Voltage (60 Hz)

Display	Standard Value(V)	Indication Value(V)	Error(%)
V	110.00	110.0	0
V	220.00	220.0	0

## 2.AC Current (60Hz)

Display	Standard Value(A)	Indication Value(A)	Error(%)
I	2.5000	2.497	-0.12
I	5.0000	4.995	-0.10

## 3.AC Power(60Hz)

Power Source Set Value				Standard Value(kW)	Indication Value (kW)	Error(%)
Phase/Wire	Voltage(V)	Current(A)	P.F			
3P4W	220	5	0.5LEAD	1.6500	1.652	+0.12

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