

## FCC Verification Test Report

**Test Model:** GT-46400-4012-T2, GT-46400-4015-T2 ,GT-46400-4019-T2, GT-46400-4024-T2

**Series Model:** GT-46300-40VV-X.X-T2, GT-46400-40VV-X.X-T2 (VV from 12 to 24)

**Received Date:** Apr. 10, 2015

**Test Date:** Apr. 17, 2015

**Issued Date:** Apr. 21, 2015

**Applicant:** GlobTek, Inc.

**Address:** 186 Veterans Drive, Northvale NJ 07647 USA

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## 1 Certificate of Conformity

**Product:** Switching-Mode Power Supply

**Brand:** GlobTek

**Test Model:** GT-46400-4012-T2, GT-46400-4015-T2 ,GT-46400-4019-T2, GT-46400-4024-T2

**Series Model:** GT-46300-40VV-X.X-T2, GT-46400-40VV-X.X-T2 (VV from 12 to 24)

**Sample Status:** Engineering sample

**Applicant:** GlobTek, Inc.

**Test Date:** Apr. 17, 2015

**Standards:** 47 CFR FCC Part 15, Subpart B, Class B

ICES-003:2012 Issue 5, Class B

ANSI C63.4:2009

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart B / ICES-003:2012 Issue 5, Class B

ANSI C63.4:2009

FCC Clause	ICES-003 Clause	Test Item	Result/Remarks	Verdict
15.107	6.1	AC Power Line Conducted Emissions	Minimum passing Class B margin is -11.12 dB at 0.18505 MHz	Pass
15.109	6.2.1	Radiated Emissions up to 1 GHz	Minimum passing Class B margin is -6.89 dB at 86.26 MHz	Pass
	6.2.2	Radiated Emissions above 1 GHz	EUT's highest frequency is below 108MHz	N/A

Note: 1. There is no deviation to the applied test methods and requirements covered by the scope of this report.  
 2. N/A: Not Applicable

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Frequency	Expanded Uncertainty (k=2) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	3.43 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.20 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 Features of EUT

The tests reported herein were performed according to the method specified by GlobTek, Inc., for detailed feature description, please refer to the manufacturer's specifications or user's manual.

#### 3.2 General Description of EUT

Product	Switching-Mode Power Supply
Brand	GlobTek
Test Model	GT-46400-4012-T2, GT-46400-4015-T2, GT-46400-4019-T2, GT-46400-4024-T2
Series Model	GT-46300-40VV-X.X-T2 (VV from 12 to 24) GT-46400-40VV-X.X-T2 (VV from 12 to 24)
Model Difference	Refer to note as below
Sample Status	Engineering sample
Operating Software	N/A
Power Supply	Rating: refer to Note below Power Cord: Non-shielded DC (1.15 m) with one ferrite core

Note:

The EUT is a Switching Power Supply (AC 2-pin) and it has several models, which are identical to each other except for following:

Model No.		AC I/P	DC O/P
GT-46400-40VV-X.X-T2 (VV from 12 to 24)	GT-46400-4012-T2	100-240Vac, 50-60Hz, 1.0A	12V/ 3.0A
	GT-46400-4015-T2		15V/ 2.7A
	GT-46400-4019-T2		19V/ 2.1A
	GT-46400-4024-T2		24V/ 1.7A
GT-46300-40VV-X.X-T2 (VV from 12 to 24)	GT-46300-4012-T2		12V/ 2.5A
	GT-46300-4015-T2		15V/ 2.0A
	GT-46300-4019-T2		19V/ 1.7A
	GT-46300-4024-T2		24V/ 1.25A

During the test, the Model No.: GT-46400-4012-T2, GT-46400-4015-T2, GT-46400-4019-T2, GT-46400-4024-T2 were selected as the representative one for the test and therefore only its test data were recorded in this report.

#### 3.3 Operating Modes of EUT and Determination of Worst Case Operating Mode

- The EUT is designed with AC power of rating 100-240Vac, 50-60Hz. For radiated emission evaluation, 230Vac/50Hz (for EN 55022), 120Vac/60Hz (for FCC Part 15), had been covered during the pre-test. The worst data was found at **230Vac/50Hz** and recorded in the applied test report. Then the other test item was tested at 120Vac/60Hz.
- Above four models have been pre-tested, and test **model no.: 6A-401DA15** was the worst case. Therefore test modes are presented in the report as below.

Test Item	Test Mode	Model No.	Input Power
Conducted Emission Test	Mode 1	GT-46400-4012-T2	120V/60Hz
	Mode 2	GT-46400-4015-T2	
	Mode 3	GT-46400-4019-T2	
	Mode 4	GT-46400-4024-T2	
Radiated Emission Test	Mode 2	GT-46400-4015-T2	230V/50Hz

### **3.4 Test Program Used and Operation Descriptions**

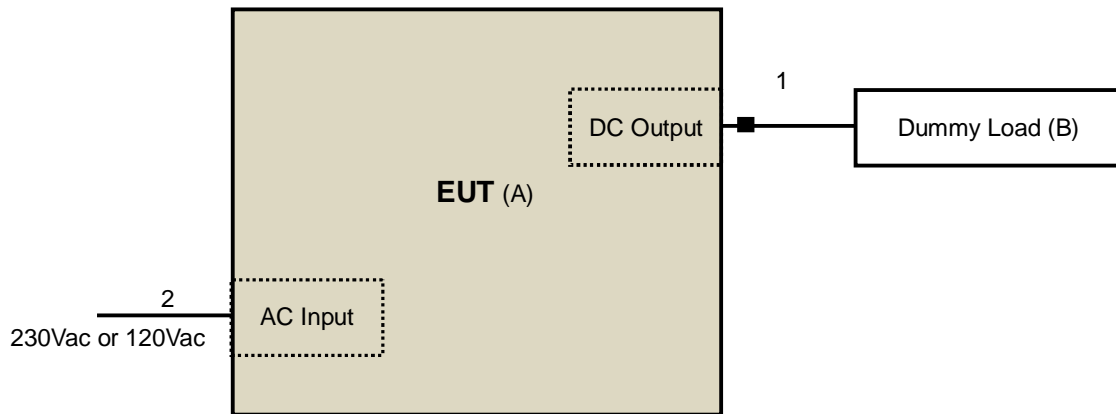
Set the EUT under full resistor load.

### **3.5 Primary Clock Frequencies of Internal Source**

The highest frequency generated or used within the EUT or on which the EUT operates or tunes is below 108MHz, provided by GlobTek, Inc., for detailed internal source, please refer to the manufacturer's specifications.

## 4 Configuration and Connections with EUT

### 4.1 Connection Diagram of EUT and Peripheral Devices



### 4.2 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	EUT	GlobTek	GT-46400-4012-T2	-	-	-
			GT-46400-4015-T2	-	-	-
			GT-46400-4019-T2	-	-	-
			GT-46400-4024-T2	-	-	-
B.	DUMMY LOAD	BVADT	L19B	L2-010028	N/A	Provided by Lab

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC cable	1	1.15	N	1	Supplied by client
2.	AC power cable	1	1.8	N	0	Provided by Lab

Note: The core(s) is(are) originally attached to the cable(s).

## 5 Conducted Emissions at Mains Ports

### 5.1 Limits

Frequency (MHz)	Class A (dBUV)		Class B (dBUV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Notes: 1. The lower limit shall apply at the transition frequencies.  
 2. The limit decreases linearly with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

### 5.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100276	Apr. 01, 2015	Mar. 31, 2016
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ENV216	101197	Apr. 18, 2014	Apr. 17, 2015
LISN With Adapter (for EUT)	AD10	C10Ada-002	Apr. 18, 2014	Apr. 17, 2015
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Nov. 25, 2014	Nov. 24, 2015
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 08, 2014	May 07, 2015
Software	ADT_Cond_V7.3.7	NA	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	Feb. 17, 2015	Feb. 16, 2016
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-011484	May 27, 2014	May 26, 2015
ROHDE & SCHWARZ Artificial Mains Network (For TV EUT)	ESH3-Z5	100220	Nov. 20, 2014	Nov. 19, 2015
LISN With Adapter (for TV EUT)	100220	N/A	Nov. 20, 2014	Nov. 19, 2015

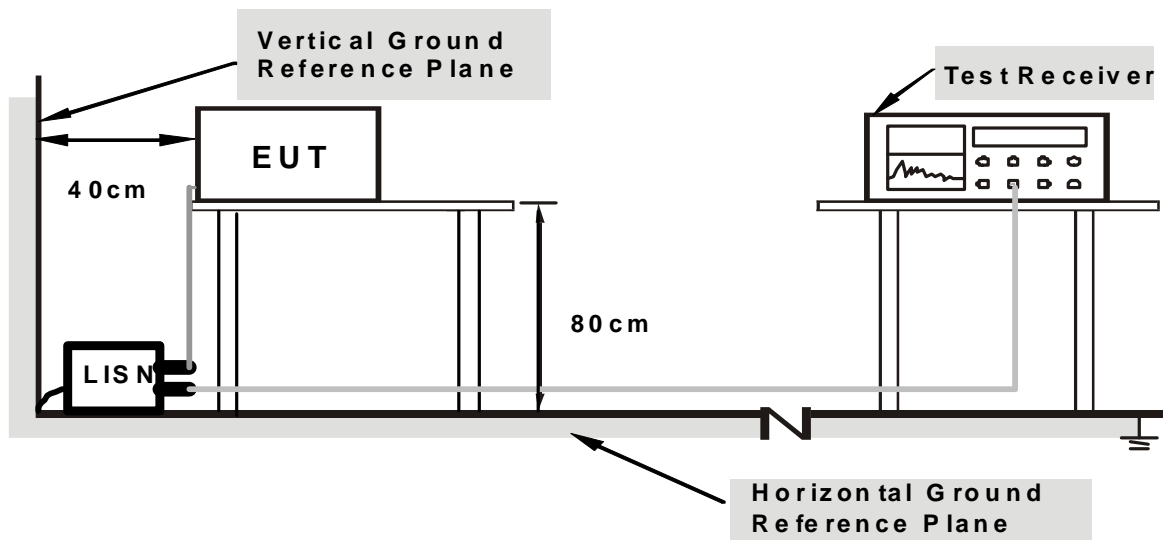
Notes: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
 2. The test was performed in Shielded Room No. 10.  
 3. The VCCI Site Registration No. C-1852.  
 4. Tested Date: Apr. 17, 2015.



### 5.3 Test Arrangement

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The test results of conducted emissions at mains ports are recorded of six worst margins for quasi-peak (mandatory) [and average (if necessary)] values against the limits at frequencies of interest unless the margin is 20 dB or greater.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.



**Note: Support units were connected to second LISN.**

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

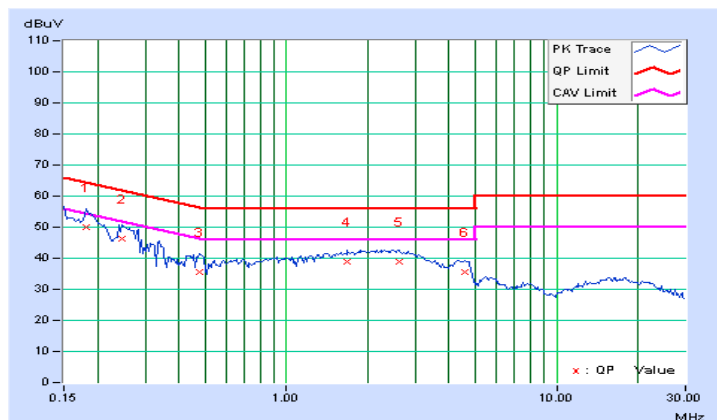
#### 5.4 Test Results (1)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	20°C, 70%RH
Tested by	GlobTek		
Test Mode	Mode 1		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	9.65	40.51	18.57	50.16	28.22	64.43	54.43	-14.27	-26.21
2	0.24766	9.65	36.50	19.43	46.15	29.08	61.84	51.84	-15.68	-22.75
3	0.47813	9.66	25.74	13.25	35.40	22.91	56.37	46.37	-20.97	-23.46
4	1.67969	9.70	29.02	18.48	38.72	28.18	56.00	46.00	-17.28	-17.82
5	2.61719	9.73	29.19	19.79	38.92	29.52	56.00	46.00	-17.08	-16.48
6	4.57422	9.77	25.89	19.76	35.66	29.53	56.00	46.00	-20.34	-16.47

#### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

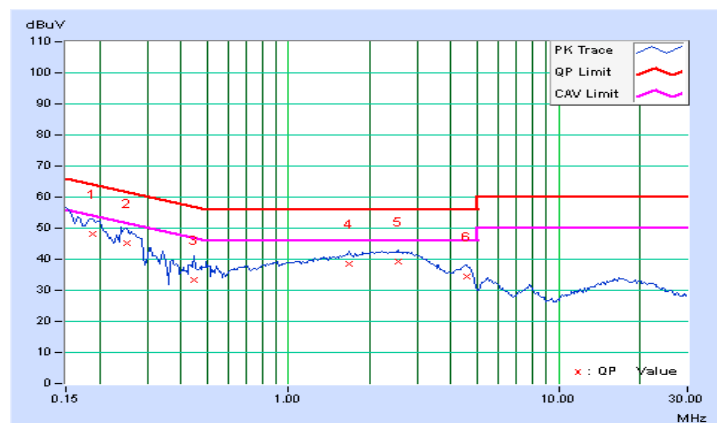


<b>Frequency Range</b>	150kHz ~ 30MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9kHz
<b>Input Power</b>	120Vac, 60Hz	<b>Environmental Conditions</b>	20°C, 70%RH
<b>Tested by</b>	GlobTek		
<b>Test Mode</b>	Mode 1		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	9.66	38.51	20.44	48.17	30.10	64.08	54.08	-15.91	-23.98
2	0.25156	9.66	35.56	18.20	45.22	27.86	61.71	51.71	-16.48	-23.84
3	0.44688	9.67	23.62	11.55	33.29	21.22	56.93	46.93	-23.64	-25.71
4	1.67578	9.70	28.89	19.52	38.59	29.22	56.00	46.00	-17.41	-16.78
5	2.54688	9.73	29.53	20.23	39.26	29.96	56.00	46.00	-16.74	-16.04
6	4.55859	9.78	24.73	18.49	34.51	28.27	56.00	46.00	-21.49	-17.73

**Remarks:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



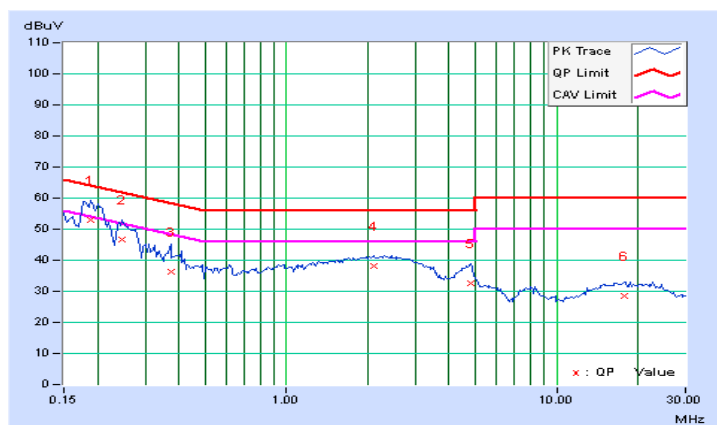
## 5.5 Test Results (2)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	20°C, 70%RH
Tested by	GlobTek		
Test Mode	Mode 2		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	9.65	43.24	24.41	52.89	34.06	64.08	54.08	-11.19	-20.02
2	0.24766	9.65	36.98	18.56	46.63	28.21	61.84	51.84	-15.20	-23.62
3	0.37266	9.66	26.47	11.43	36.13	21.09	58.44	48.44	-22.31	-27.35
4	2.09766	9.71	28.26	17.98	37.97	27.69	56.00	46.00	-18.03	-18.31
5	4.81641	9.78	22.63	16.57	32.41	26.35	56.00	46.00	-23.59	-19.65
6	17.83203	9.96	18.68	12.36	28.64	22.32	60.00	50.00	-31.36	-27.68

### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

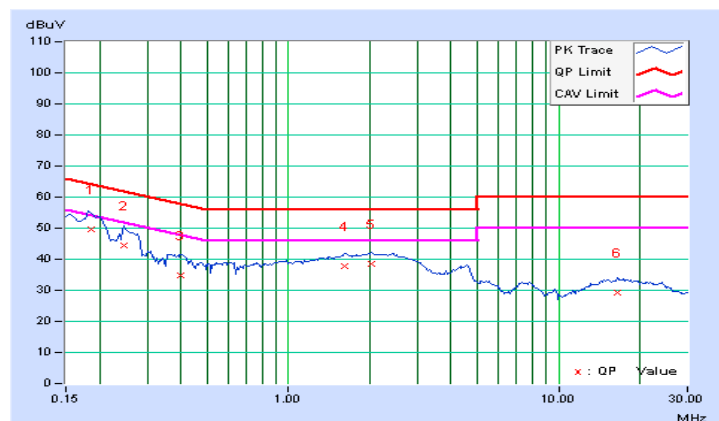


<b>Frequency Range</b>	150kHz ~ 30MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9kHz
<b>Input Power</b>	120Vac, 60Hz	<b>Environmental Conditions</b>	20°C, 70%RH
<b>Tested by</b>	GlobTek		
<b>Test Mode</b>	Mode 2		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18634	9.66	40.10	22.17	49.76	31.83	64.20	54.20	-14.44	-22.37
2	0.24766	9.66	34.87	17.13	44.53	26.79	61.84	51.84	-17.30	-25.04
3	0.40002	9.67	25.23	11.58	34.90	21.25	57.85	47.85	-22.95	-26.60
4	1.61328	9.70	28.20	16.55	37.90	26.25	56.00	46.00	-18.10	-19.75
5	2.03125	9.71	28.92	18.42	38.63	28.13	56.00	46.00	-17.37	-17.87
6	16.44531	9.96	19.28	13.30	29.24	23.26	60.00	50.00	-30.76	-26.74

**Remarks:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



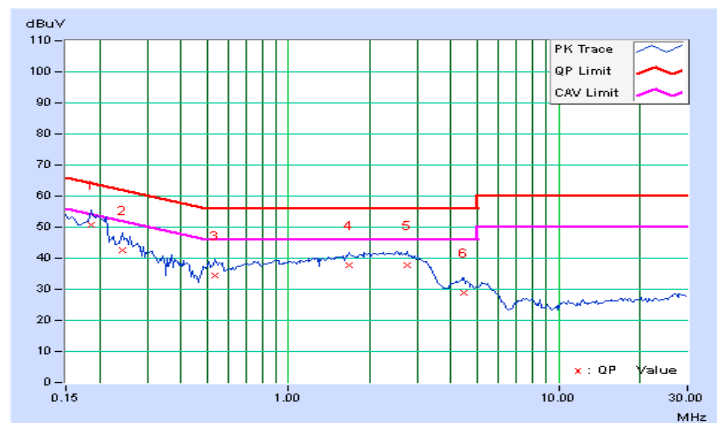
## 5.6 Test Results (3)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	20°C, 70%RH
Tested by	GlobTek		
Test Mode	Mode 3		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18516	9.65	40.93	23.70	50.58	33.35	64.25	54.25	-13.67	-20.90
2	0.24375	9.65	33.03	16.45	42.68	26.10	61.97	51.97	-19.29	-25.87
3	0.53672	9.67	24.93	11.78	34.60	21.45	56.00	46.00	-21.40	-24.55
4	1.67578	9.70	28.02	17.72	37.72	27.42	56.00	46.00	-18.28	-18.58
5	2.76172	9.73	27.90	18.24	37.63	27.97	56.00	46.00	-18.37	-18.03
6	4.48438	9.77	19.19	11.87	28.96	21.64	56.00	46.00	-27.04	-24.36

### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

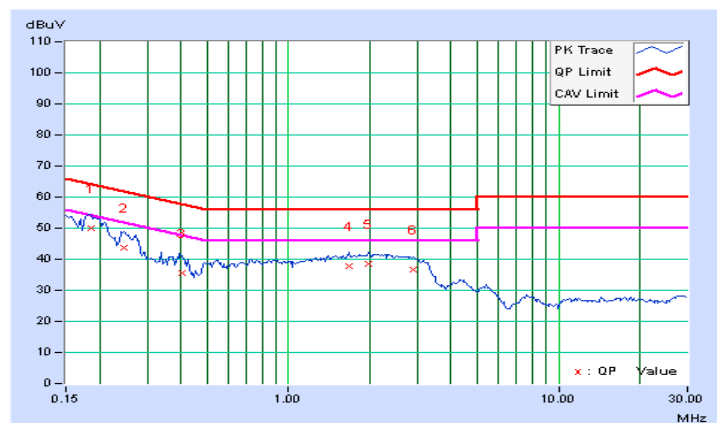


<b>Frequency Range</b>	150kHz ~ 30MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9kHz
<b>Input Power</b>	120Vac, 60Hz	<b>Environmental Conditions</b>	20°C, 70%RH
<b>Tested by</b>	GlobTek		
<b>Test Mode</b>	Mode 3		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18516	9.66	40.32	23.38	49.98	33.04	64.25	54.25	-14.27	-21.21
2	0.24766	9.66	34.14	17.11	43.80	26.77	61.84	51.84	-18.03	-25.06
3	0.40391	9.67	26.05	12.27	35.72	21.94	57.77	47.77	-22.05	-25.83
4	1.66797	9.70	28.18	18.67	37.88	28.37	56.00	46.00	-18.12	-17.63
5	1.98438	9.71	28.67	17.28	38.38	26.99	56.00	46.00	-17.62	-19.01
6	2.88281	9.74	26.88	17.41	36.62	27.15	56.00	46.00	-19.38	-18.85

**Remarks:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



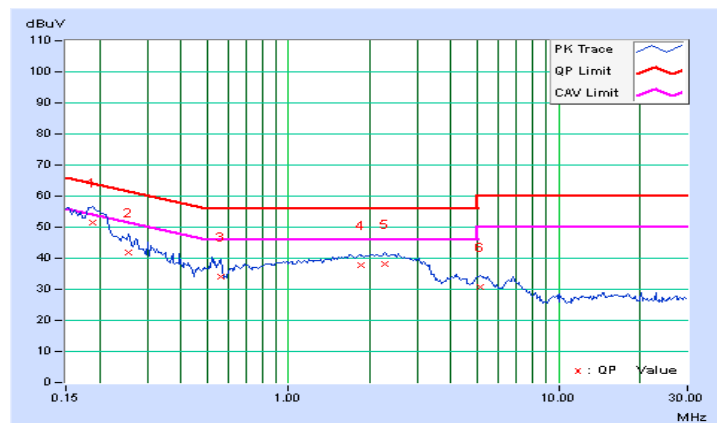
## 5.7 Test Results (4)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	20°C, 70%RH
Tested by	GlobTek		
Test Mode	Mode 4		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	9.65	41.99	24.80	51.64	34.45	64.08	54.08	-12.44	-19.63
2	0.25547	9.65	32.07	14.28	41.72	23.93	61.58	51.58	-19.85	-27.64
3	0.56406	9.67	24.36	11.62	34.03	21.29	56.00	46.00	-21.97	-24.71
4	1.84766	9.71	28.04	16.65	37.75	26.36	56.00	46.00	-18.25	-19.64
5	2.27344	9.72	28.31	18.09	38.03	27.81	56.00	46.00	-17.97	-18.19
6	5.13672	9.78	21.06	15.01	30.84	24.79	60.00	50.00	-29.16	-25.21

### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



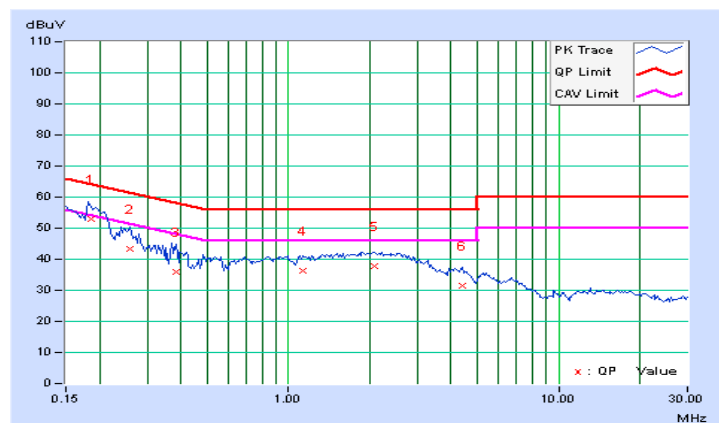


<b>Frequency Range</b>	150kHz ~ 30MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9kHz
<b>Input Power</b>	120Vac, 60Hz	<b>Environmental Conditions</b>	20°C, 70%RH
<b>Tested by</b>	GlobTek		
<b>Test Mode</b>	Mode 4		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18505	9.66	43.48	25.00	53.14	34.66	64.26	54.26	-11.12	-19.60
2	0.25938	9.66	33.72	14.93	43.38	24.59	61.45	51.45	-18.07	-26.86
3	0.38438	9.67	26.08	11.53	35.75	21.20	58.18	48.18	-22.44	-26.99
4	1.12503	9.69	26.79	12.96	36.48	22.65	56.00	46.00	-19.52	-23.35
5	2.07422	9.71	27.90	17.12	37.61	26.83	56.00	46.00	-18.39	-19.17
6	4.39063	9.78	21.88	14.74	31.66	24.52	56.00	46.00	-24.34	-21.48

**Remarks:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



## 6 Radiated Emissions up to 1 GHz

### 6.1 Limits

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960				
960-1000	49.5	43.5	47	37

Radiated Emissions Limits at 3 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960				
960-1000	60	54	57.5	47.5

- Notes:
1. The lower limit shall apply at the transition frequencies.
  2. Emission level (dBμV/m) = 20 log Emission level (uV/m).
  3. QP detector shall be applied if not specified.

### 6.2 Test Instruments

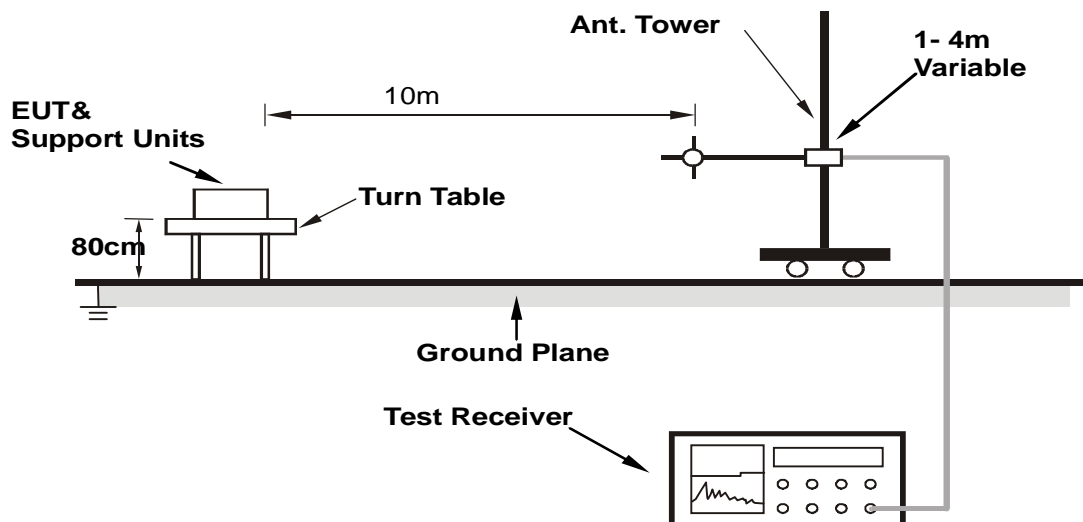
Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	845552/004	Aug. 25, 2014	Aug. 24, 2015
Schaffner Bilog Antenna	CBL6111D	22262	Feb. 11, 2015	Feb. 10, 2016
ADT. Turn Table	TT100	0205	NA	NA
ADT. Tower	AT100	0205	NA	NA
Software	ADT_Radiated_V7.6.15.9.4	NA	NA	NA
ADT RF Switches BOX	EMH-011	1001	Oct. 31, 2014	Oct. 30, 2015
WOKEN RF cable	8D	CABLE-ST2-01	Oct. 31, 2014	Oct. 30, 2015

- Notes:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in Open Site No. 2.
  3. The VCCI Site Registration No. R-237.
  4. The FCC Site Registration No. 90424.
  5. Tested Date: Apr. 17, 2015.

### 6.3 Test Arrangement

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency below 1GHz.



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

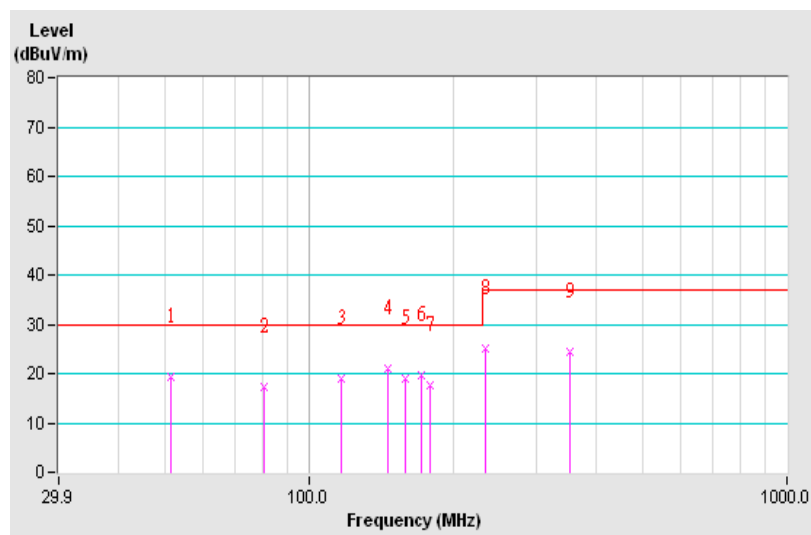
#### 6.4 Test Results

<b>Frequency Range</b>	30MHz ~ 1GHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP), 120kHz
<b>Tested by</b>	GlobTek	<b>Environmental Conditions</b>	20°C, 70%RH
<b>Test Mode</b>	Mode 2		

Antenna Polarity & Test Distance : Horizontal at 10 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	51.46	19.39 QP	30.00	-10.61	4.00 H	209	10.75	8.64
2	80.46	17.26 QP	30.00	-12.74	4.00 H	70	8.39	8.87
3	116.50	18.97 QP	30.00	-11.03	4.00 H	308	5.75	13.22
4	146.22	20.94 QP	30.00	-9.06	4.00 H	228	7.14	13.80
5	158.91	19.03 QP	30.00	-10.97	4.00 H	102	6.16	12.87
6	172.28	19.81 QP	30.00	-10.19	4.00 H	34	7.89	11.91
7	178.96	17.77 QP	30.00	-12.23	4.00 H	352	6.29	11.48
8	233.82	25.21 QP	37.00	-11.79	4.00 H	252	11.48	13.73
9	351.12	24.51 QP	37.00	-12.49	4.00 H	322	5.80	18.70

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)  
– Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value

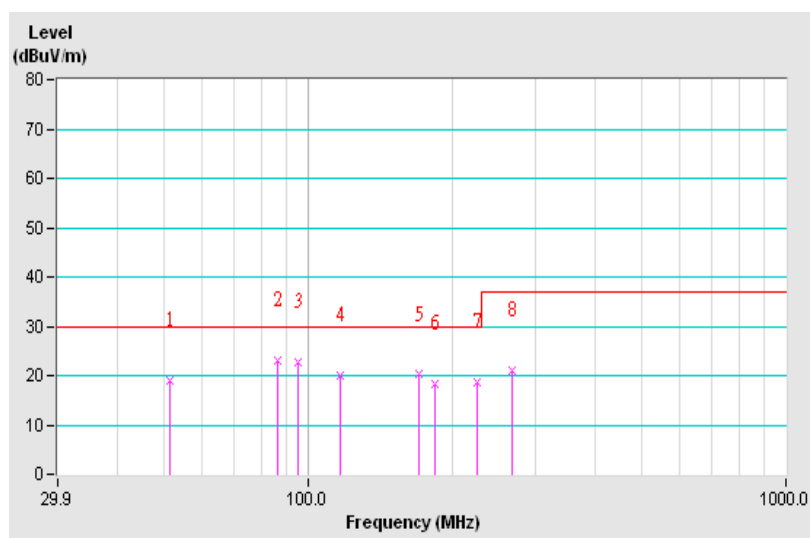


<b>Frequency Range</b>	30MHz ~ 1GHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP), 120kHz
<b>Tested by</b>	GlobTek	<b>Environmental Conditions</b>	20°C, 70%RH
<b>Test Mode</b>	Mode 2		

Antenna Polarity & Test Distance : Vertical at 10 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	51.46	19.13 QP	30.00	-10.87	1.00 V	165	10.49	8.64
2	86.26	23.11 QP	30.00	-6.89	1.53 V	198	13.49	9.62
3	95.45	22.66 QP	30.00	-7.34	1.00 V	130	11.59	11.07
4	116.61	20.11 QP	30.00	-9.89	1.00 V	215	6.89	13.22
5	171.04	20.19 QP	30.00	-9.81	1.00 V	334	8.19	12.00
6	183.95	18.39 QP	30.00	-11.61	1.00 V	282	7.09	11.30
7	225.47	18.78 QP	30.00	-11.22	1.00 V	157	6.11	12.67
8	266.76	21.12 QP	37.00	-15.88	1.00 V	355	4.95	16.17

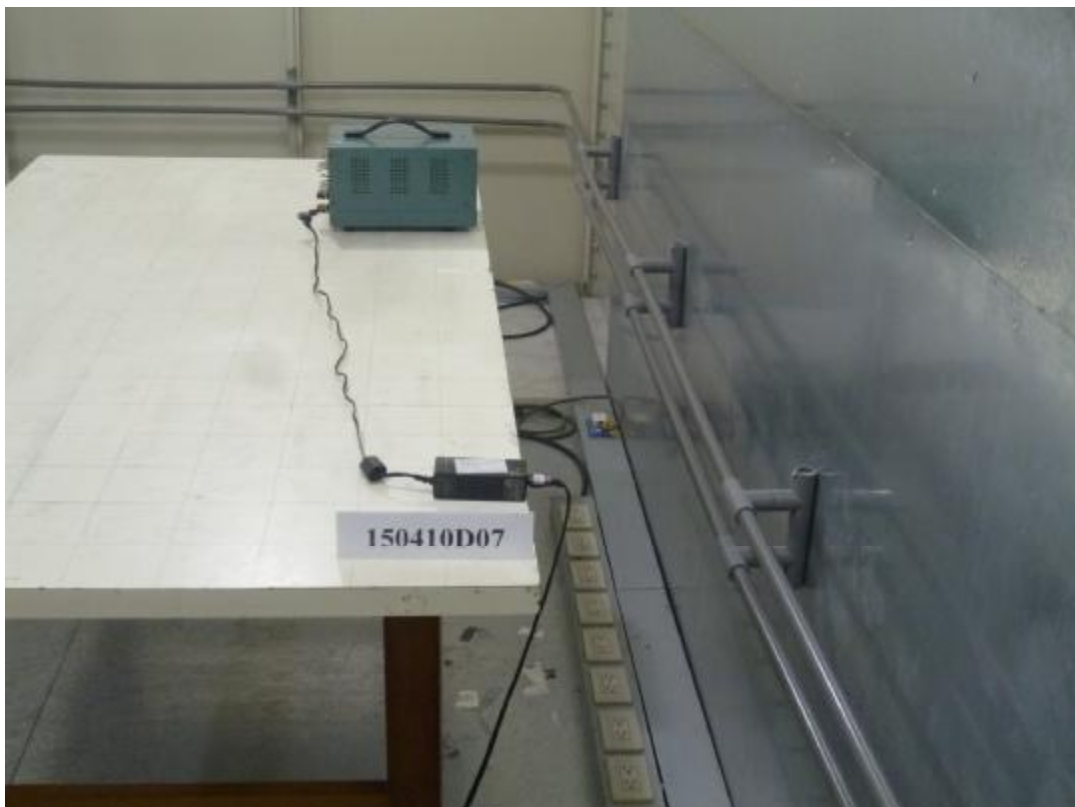
Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)  
– Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value



## 7 Pictures of Test Arrangements

### 7.1 Conducted Emissions at Mains Ports



## 7.2 Radiated Emissions up to 1 GHz

