

FCC Verification Test Report

Test Model: GT-46400-4012-T3, GT-46400-4015-T3 ,GT-46400-4019-T3, GT-46400-4024-T3

Series Model: GT-46300-40VV-X.X-T3, GT-46400-40VV-X.X-T3 (VV from 12 to 24)

Received Date: Apr. 7, 2015

Test Date: Apr. 9, 2015

Issued Date: Apr. 10, 2015

Applicant: GlobTek, Inc.

Address: 186 Veterans Drive, Northvale NJ 07647 USA

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Table of Contents

Release Control Record.....	3
1 Certificate of Conformity.....	4
2 Summary of Test Results.....	5
2.1 Measurement Uncertainty.....	5
2.2 Modification Record.....	5
3 General Information	6
3.1 Features of EUT.....	6
3.2 General Description of EUT.....	6
3.3 Operating Modes of EUT and Determination of Worst Case Operating Mode.....	7
3.4 Test Program Used and Operation Descriptions	7
3.5 Primary Clock Frequencies of Internal Source	7
4 Configuration and Connections with EUT.....	8
4.1 Connection Diagram of EUT and Peripheral Devices	8
4.2 Configuration of Peripheral Devices and Cable Connections.....	8
5 Conducted Emissions at Mains Ports	9
5.1 Limits	9
5.2 Test Instruments.....	9
5.3 Test Arrangement.....	10
5.4 Test Results (1)	11
5.5 Test Results (2)	13
5.6 Test Results (3)	15
5.7 Test Results (4)	17
6 Radiated Emissions up to 1 GHz.....	19
6.1 Limits	19
6.2 Test Instruments.....	20
6.3 Test Arrangement.....	21
6.4 Test Results	22
7 Pictures of Test Arrangements	24
7.1 Conducted Emissions at Mains Ports.....	24
7.2 Radiated Emissions up to 1 GHz.....	25

1 Certificate of Conformity

Product: Switching-Mode Power Supply

Brand: GlobTek

Test Model: GT-46400-4012-T3, GT-46400-4015-T3 ,GT-46400-4019-T3, GT-46400-4024-T3

Series Model: GT-46300-40VV-X.X-T3, GT-46400-40VV-X.X-T3 (VV from 12 to 24)

Sample Status: Engineering sample

Applicant: GlobTek, Inc.

Test Date: Apr. 9, 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 -8.69 dB at 0.19687 MHz	Pass
15.109	6.2.1	Radiated Emissions up to 1 GHz	Minimum passing Class B margin is -8.29 dB at 30.53 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	4.26 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-T3, GT-46400-4015-T3, GT-46400-4019-T3, GT-46400-4024-T3
Series Model	GT-46300-40VV-X.X-T3 (VV from 12 to 24) GT-46400-40VV-X.X-T3 (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 3-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-T3 (VV from 12 to 24)	GT-46400-4012-T3	100-240Vac, 50-60Hz, 1.0A	12V/ 3.0A
	GT-46400-4015-T3		15V/ 2.7A
	GT-46400-4019-T3		19V/ 2.1A
	GT-46400-4024-T3		24V/ 1.7A
GT-46300-40VV-X.X-T3 (VV from 12 to 24)	GT-46300-4012-T3		12V/ 2.5A
	GT-46300-4015-T3		15V/ 2.0A
	GT-46300-4019-T3		19V/ 1.7A
	GT-46300-4024-T3		24V/ 1.25A

During the test, the Model No.: GT-46400-4012-T3, GT-46400-4015-T3, GT-46400-4019-T3, GT-46400-4024-T3 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

1. 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.
2. Above four models have been pre-tested, and test **model no.: 6A-401DB19** 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-T3	120V/60Hz
	Mode 2	GT-46400-4015-T3	
	Mode 3	GT-46400-4019-T3	
	Mode 4	GT-46400-4024-T3	
Radiated Emission Test	Mode 3	GT-46400-4019-T3	230V/50Hz

3.4 Test Program Used and Operation Descriptions

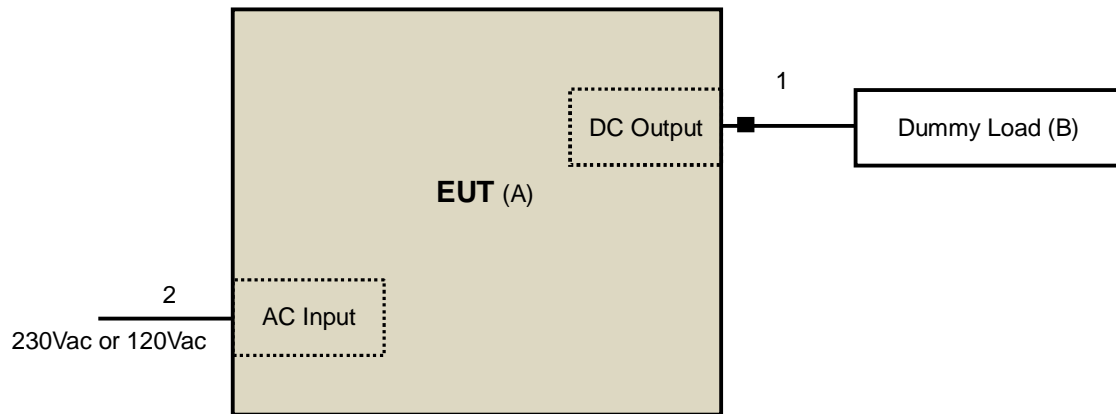
Set the EUT under full resistor load.

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-T3	-	-	-
			GT-46400-4015-T3	-	-	-
			GT-46400-4019-T3	-	-	-
			GT-46400-4024-T3	-	-	-
B.	DUMMY LOAD	BVADT	L19B	L2-010025	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 cord	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

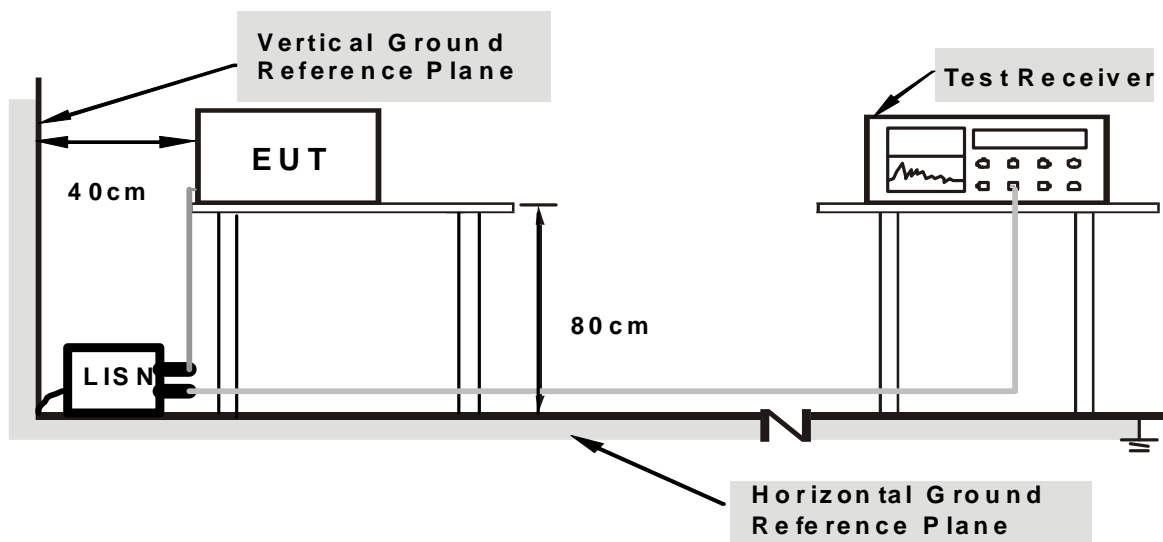
Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100292	Dec. 18, 2014	Dec. 17, 2015
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH2-Z5	100104	Dec. 04, 2014	Dec. 03, 2015
LISN With Adapter (for EUT)	AD10	C09Ada-001	Dec. 04, 2014	Dec. 03, 2015
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	847265/023	Oct. 21, 2014	Oct. 20, 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-C09.01	Feb. 24, 2015	Feb. 23, 2016
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010789	May 20, 2014	May 19, 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. 9.
 3. The VCCI Site Registration No. C-1312.
 4. Tested Date: Apr. 9, 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.

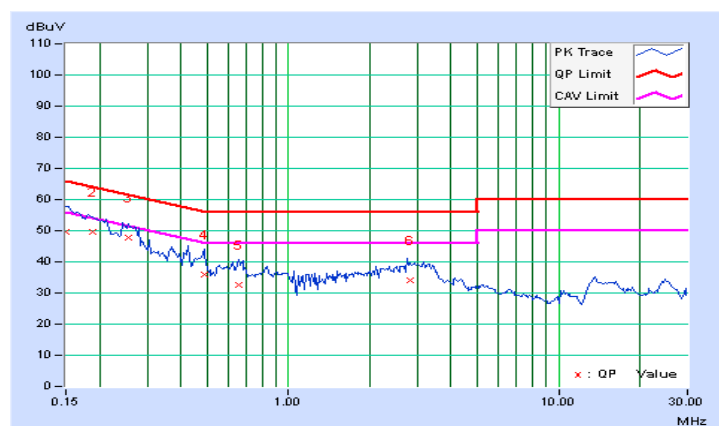
5.4 Test Results (1)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%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	0.15000	0.21	49.29	21.72	49.50	21.93	66.00	56.00	-16.50	-34.07
2	0.18906	0.22	49.51	33.22	49.73	33.44	64.08	54.08	-14.35	-20.64
3	0.25547	0.23	47.41	31.38	47.64	31.61	61.58	51.58	-13.93	-19.96
4	0.48594	0.28	35.75	21.63	36.03	21.91	56.24	46.24	-20.20	-24.32
5	0.65781	0.31	32.15	14.84	32.46	15.15	56.00	46.00	-23.54	-30.85
6	2.82031	0.50	33.51	21.79	34.01	22.29	56.00	46.00	-21.99	-23.71

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

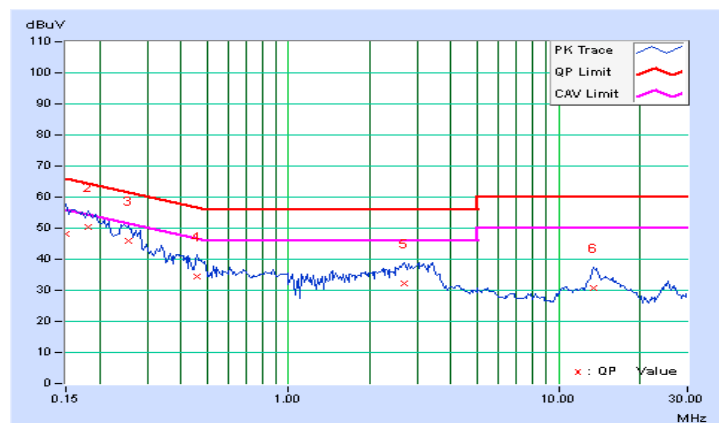


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%RH
Tested by	GlobTek		
Test Mode	Mode 1		

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	0.15000	0.21	48.11	21.44	48.32	21.65	66.00	56.00	-17.68	-34.35
2	0.18125	0.22	50.07	30.44	50.29	30.66	64.43	54.43	-14.14	-23.77
3	0.25547	0.24	45.56	29.74	45.80	29.98	61.58	51.58	-15.77	-21.59
4	0.45859	0.29	34.19	19.16	34.48	19.45	56.72	46.72	-22.24	-27.27
5	2.67578	0.50	31.90	19.66	32.40	20.16	56.00	46.00	-23.60	-25.84
6	13.40625	0.82	30.09	23.27	30.91	24.09	60.00	50.00	-29.09	-25.91

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



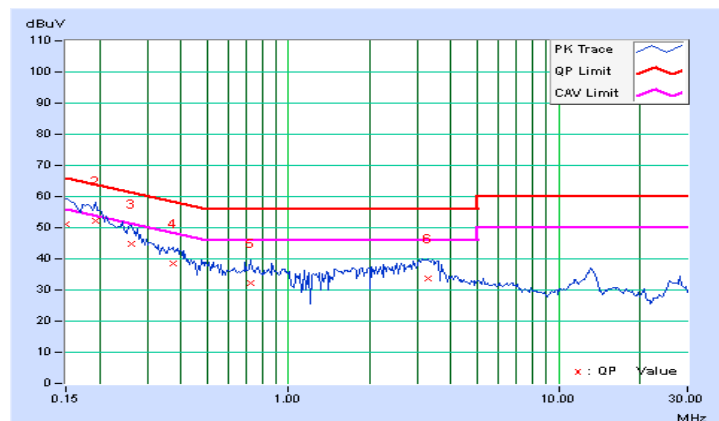
5.5 Test Results (2)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%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	0.15000	0.21	50.88	22.35	51.09	22.56	66.00	56.00	-14.91	-33.44
2	0.19297	0.22	51.97	35.68	52.19	35.90	63.91	53.91	-11.72	-18.01
3	0.26328	0.24	44.68	28.43	44.92	28.67	61.33	51.33	-16.41	-22.66
4	0.37266	0.26	38.27	23.23	38.53	23.49	58.44	48.44	-19.91	-24.95
5	0.72813	0.32	31.80	16.65	32.12	16.97	56.00	46.00	-23.88	-29.03
6	3.28125	0.52	33.28	21.74	33.80	22.26	56.00	46.00	-22.20	-23.74

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

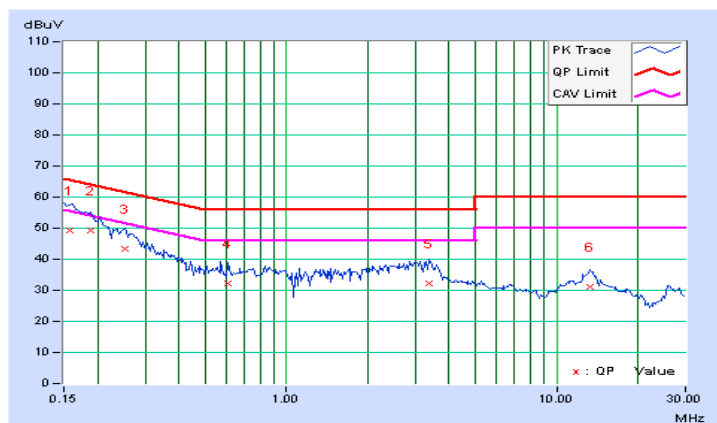


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%RH
Tested by	GlobTek		
Test Mode	Mode 2		

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	0.15781	0.21	49.00	20.39	49.21	20.60	65.58	55.58	-16.37	-34.98
2	0.18906	0.22	49.11	35.40	49.33	35.62	64.08	54.08	-14.74	-18.45
3	0.25156	0.24	43.24	29.38	43.48	29.62	61.71	51.71	-18.22	-22.08
4	0.60703	0.31	31.96	17.06	32.27	17.37	56.00	46.00	-23.73	-28.63
5	3.39063	0.54	31.80	20.17	32.34	20.71	56.00	46.00	-23.66	-25.29
6	13.25781	0.81	30.48	23.05	31.29	23.86	60.00	50.00	-28.71	-26.14

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



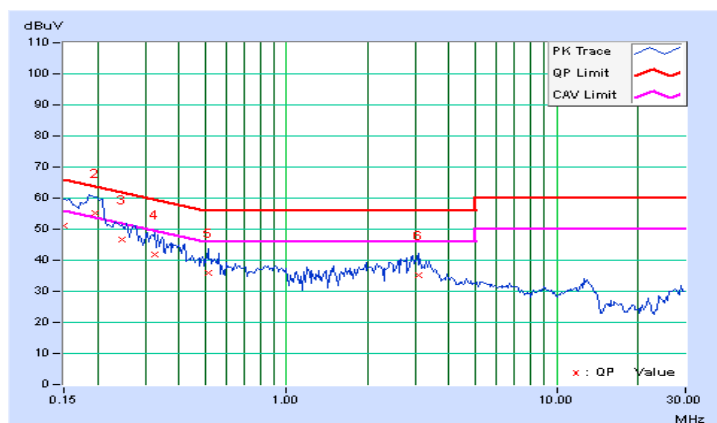
5.6 Test Results (3)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%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	0.15000	0.21	51.06	23.52	51.27	23.73	66.00	56.00	-14.73	-32.27
2	0.19687	0.22	54.83	37.54	55.05	37.76	63.74	53.74	-8.69	-15.98
3	0.24766	0.23	46.52	30.17	46.75	30.40	61.84	51.84	-15.08	-21.43
4	0.32578	0.25	41.42	24.48	41.67	24.73	59.56	49.56	-17.89	-24.83
5	0.51328	0.29	35.49	20.53	35.78	20.82	56.00	46.00	-20.22	-25.18
6	3.07031	0.51	34.85	22.38	35.36	22.89	56.00	46.00	-20.64	-23.11

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

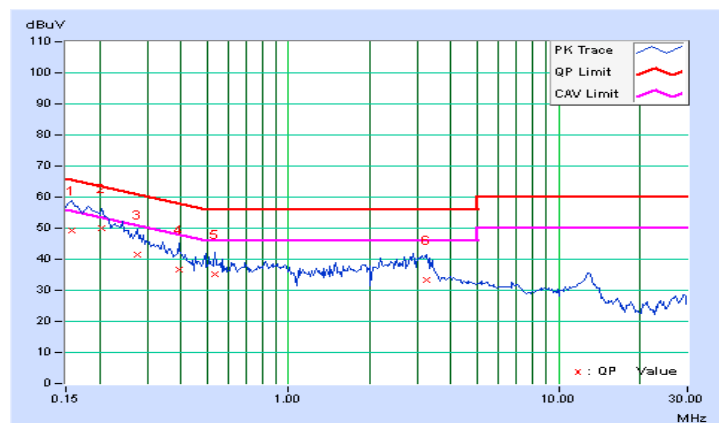


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%RH
Tested by	GlobTek		
Test Mode	Mode 3		

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	0.15781	0.21	49.16	20.61	49.37	20.82	65.58	55.58	-16.21	-34.76
2	0.20469	0.23	49.95	33.95	50.18	34.18	63.42	53.42	-13.24	-19.24
3	0.27500	0.25	41.34	25.33	41.59	25.58	60.97	50.97	-19.38	-25.39
4	0.39219	0.28	36.48	21.65	36.76	21.93	58.02	48.02	-21.26	-26.09
5	0.53672	0.30	34.75	19.62	35.05	19.92	56.00	46.00	-20.95	-26.08
6	3.22656	0.53	32.95	21.01	33.48	21.54	56.00	46.00	-22.52	-24.46

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



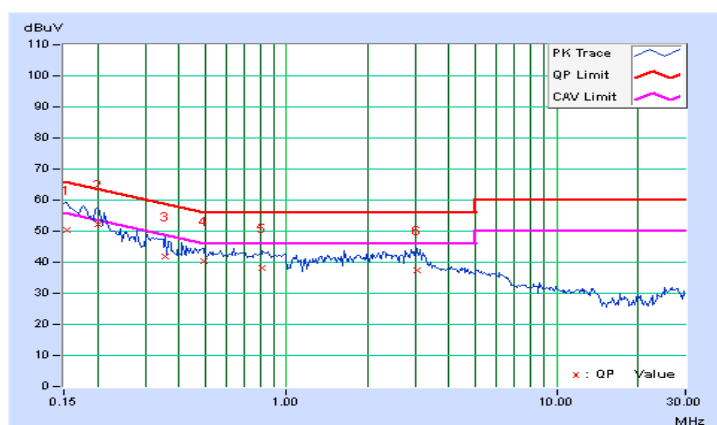
5.7 Test Results (4)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%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	0.15391	0.21	50.08	21.71	50.29	21.92	65.79	55.79	-15.50	-33.87
2	0.20078	0.22	52.18	38.60	52.40	38.82	63.58	53.58	-11.18	-14.76
3	0.35703	0.26	41.57	22.80	41.83	23.06	58.80	48.80	-16.97	-25.74
4	0.49375	0.29	39.95	27.09	40.24	27.38	56.10	46.10	-15.87	-18.73
5	0.81797	0.34	37.85	22.46	38.19	22.80	56.00	46.00	-17.81	-23.20
6	3.03516	0.51	36.95	25.81	37.46	26.32	56.00	46.00	-18.54	-19.68

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

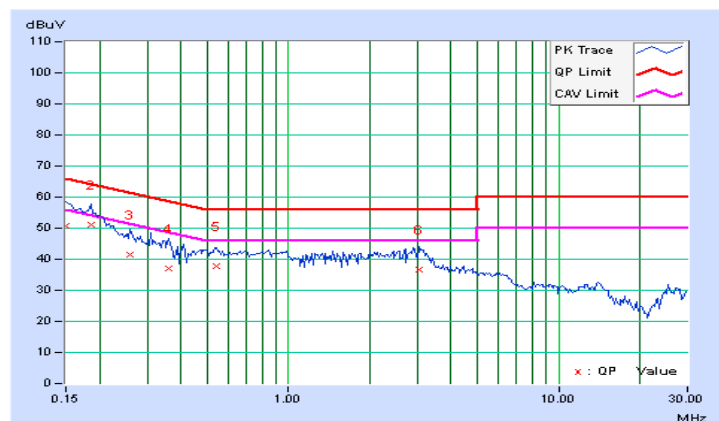


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 74%RH
Tested by	GlobTek		
Test Mode	Mode 4		

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	0.15000	0.21	50.55	22.59	50.76	22.80	66.00	56.00	-15.24	-33.20
2	0.18516	0.22	50.80	37.94	51.02	38.16	64.25	54.25	-13.23	-16.09
3	0.25938	0.24	41.25	26.97	41.49	27.21	61.45	51.45	-19.96	-24.24
4	0.36094	0.27	36.60	19.29	36.87	19.56	58.71	48.71	-21.84	-29.15
5	0.54063	0.30	37.30	22.01	37.60	22.31	56.00	46.00	-18.40	-23.69
6	3.03516	0.52	36.19	24.86	36.71	25.38	56.00	46.00	-19.29	-20.62

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 (dB μ V/m) = 20 log Emission level (uV/m).
 3. QP detector shall be applied if not specified.

6.2 Test Instruments

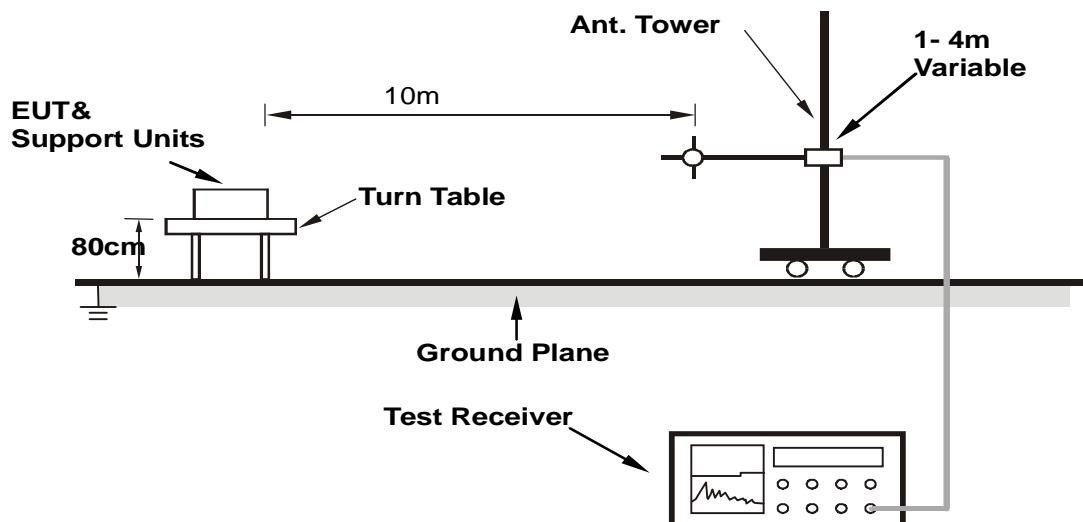
Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Agilent Preamplifier	8447D	2944A11062	Feb. 27, 2015	Feb. 26, 2016
Agilent Preamplifier	8447D	2944A11064	Feb. 27, 2015	Feb. 26, 2016
Agilent Test Receiver	N9038A	MY50010158	Jul. 22, 2014	Jul. 21, 2015
Agilent Test Receiver	N9038A	MY51210114	Dec. 09, 2014	Dec. 08, 2015
Schwarzbeck Antenna	VULB9168	9168-316	Feb. 06, 2015	Feb. 05, 2016
Schwarzbeck Antenna	VULB9168	9168-317	Feb. 06, 2015	Feb. 05, 2016
Max Full. Turn Table & Tower	MF7802	MF7802121	NA	NA
Max Full. Tower	MF7802	MF780208105	NA	NA
Software	ADT_Radiated_V8.7.07	NA	NA	NA
WOKEN RF cable	8D	CABLE-CH8-01.V	Dec. 17, 2014	Dec. 16, 2015
JYE BAO RF cable	8D	CABLE-CH8-02.H	Dec. 17, 2014	Dec. 16, 2015
JYE BAO RF cable	8D	CABLE-CH8-03.3M	Dec. 17, 2014	Dec. 16, 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 Chamber No. 8.
3. The Industry Canada Reference No. IC 7450E-8.
4. The VCCI Site Registration No. R-2946.
5. The FCC Site Registration No. 493821.
6. Tested Date: Apr. 9, 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.

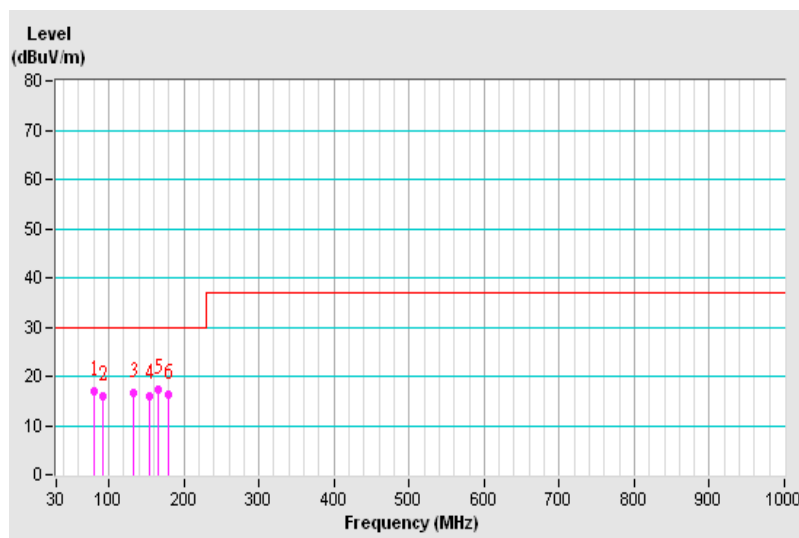
6.4 Test Results

Frequency Range	30MHz ~ 1GHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP), 120kHz
Tested by	GlobTek	Environmental Conditions	22°C, 75%RH
Test Mode	Mode 3		

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	81.12	16.82 QP	30.00	-13.18	4.00 H	180	34.04	-17.22
2	92.18	15.79 QP	30.00	-14.21	3.50 H	38	33.77	-17.98
3	132.72	16.52 QP	30.00	-13.48	4.00 H	49	29.47	-12.95
4	154.84	16.10 QP	30.00	-13.90	3.00 H	292	27.76	-11.66
5	166.28	17.18 QP	30.00	-12.82	3.00 H	327	29.06	-11.88
6	179.14	16.12 QP	30.00	-13.88	3.50 H	228	28.96	-12.84

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

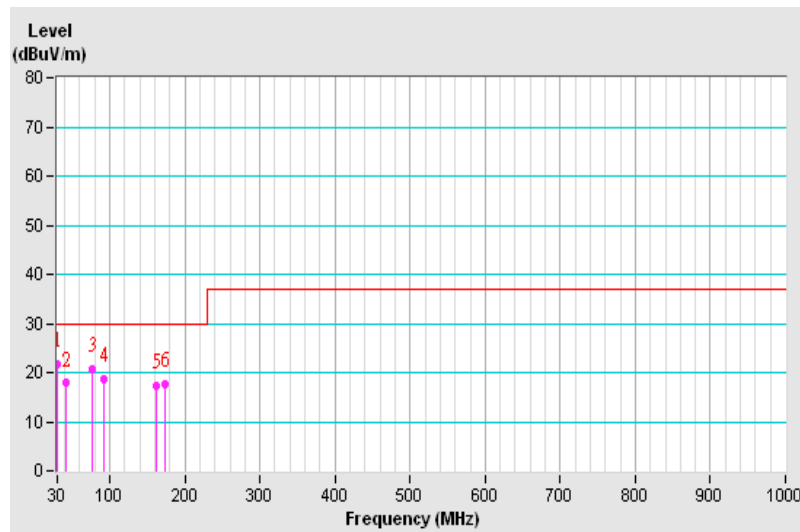


Frequency Range	30MHz ~ 1GHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP), 120kHz
Tested by	GlobTek	Environmental Conditions	22°C, 75%RH
Test Mode	Mode 3		

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	30.53	21.71 QP	30.00	-8.29	1.00 V	125	36.27	-14.56
2	42.27	17.88 QP	30.00	-12.12	1.50 V	137	30.71	-12.83
3	76.56	20.66 QP	30.00	-9.34	1.00 V	152	36.36	-15.70
4	92.18	18.79 QP	30.00	-11.21	1.00 V	217	36.25	-17.46
5	161.39	17.34 QP	30.00	-12.66	2.00 V	58	28.53	-11.19
6	172.98	17.73 QP	30.00	-12.27	1.50 V	71	29.34	-11.61

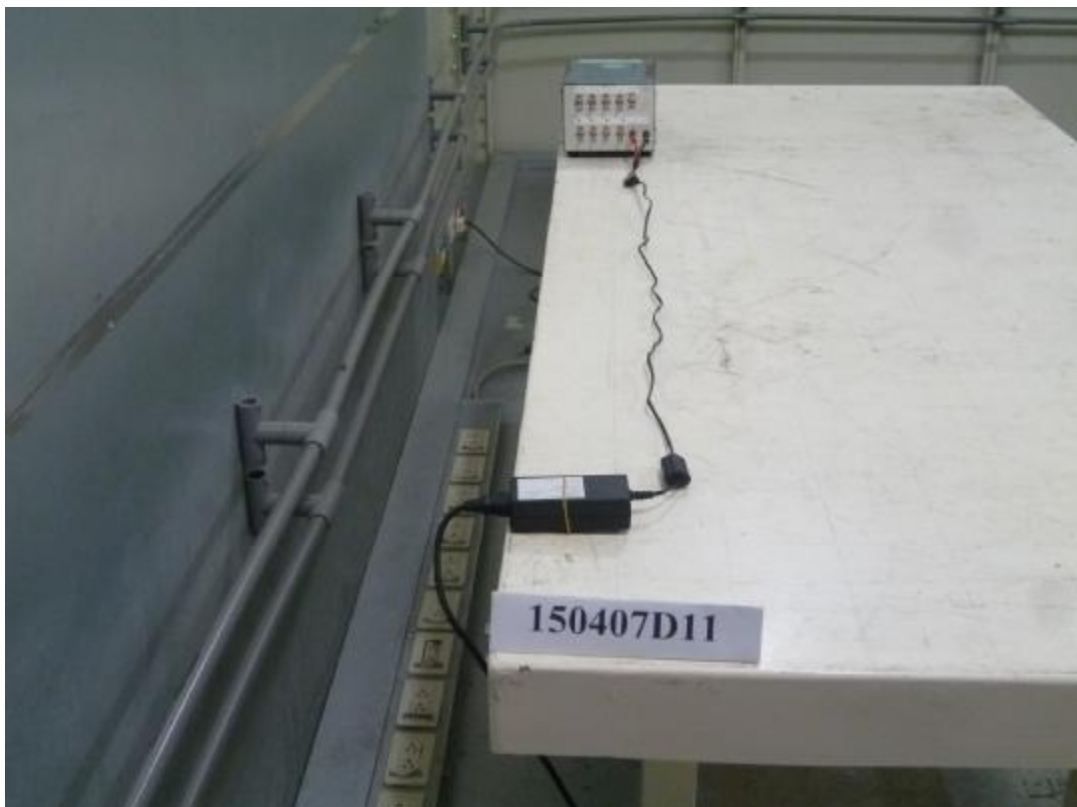
Remarks:

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

