



Report No: FCC1603088 File reference No: 2016-03-24

Applicant: Obihai Technology, inc.

Product: GFPB VoIP Adapter

Model No: GFPB100

Trademark: N/A

Test Standards: FCC Part 15 Subpart B

Test result: It is herewith confirmed and found to comply with the requirements

set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of

electromagnetic compatibility

Approved By

## Jack Chung

Jack Chung

Manager

Dated: March 24, 2016

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

## SHENZHEN TIMEWAY TESTING LABORATORIES

Room 512-519, 5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

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## **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

## **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

## FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

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# **Test Report Conclusion**

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## 1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Room 512-519,5/F., East Tower, Building 4, Anhua Industrial Zone, Futian

District, Shenzhen, Guangdong China

Telephone: (755) 83448688 Fax: (755) 83442996

1.2 Applicant Details

Applicant: Obihai Technology, inc.

Address: 2105 S.Bascom Ave, S285, Campbell, CA 95008, USA

Telephone: --Fax: ---

1.3 Description of EUT

Product: GFPB VoIP Adapter

Manufacturer: Hopeful Electric CO.,LTD

Address: 148 Ronggui Road (mid) Ronggui Town Shunde District FoshanCity

Gangdong.Prov, China

Brand Name: N/A

Model Number: GFPB100

Additional Model Number: N/A

Power Adapter Model No.: PB-1180-29

Input: 100-120V, 50/60Hz, 0.6A; Output: DC12V, 1.5A

1.4 Submitted Sample: 2 Samples

1.5 Test Duration: 2016-03-17 to 2016-03-23

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

leng lang

The sample tested by

Print Name: Terry Tang

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## 2.0 List of Measurement Equipment

## 2.1 Conducted Emission Test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESH3	860905/006	RS	2015.08.22	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	НР	2015.08.22	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2015.08.22	1Year
LISN	ESH3-Z5	100294	RS	2015.08.22	1Year
LISN	ESH3-Z5	100253	RS	2015.08.22	1Year

## 2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESVD	100008	RS	2015.08.22	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Amplifier	8447D	2727A05017	HP	2015.08.22	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2015.08.23	1Year
Horn Antenna	BBHA 9120D	9120D-631	Schwarebeck	2015.08.24	1Year
Horn Antenna	BBHA 9170	BBHA9170265	Schwarebeck	2015.08.24	1Year
Test Receiver	ESI26	838786/013	RS	2015.08.22	1Year

## 2.3 Auxiliary Equipment

					FCC DOC/
Name	Model No.	Serial No.	Manufacturer	Cable	ID
Telephone	HCD737TSDL 70		GAOKE		FCC VOC
Passive Earphone					FCC VOC
Mouse	M-F105		L.SEletron		FCC DOC
USB			Kingstone		FCC DOC
PC	R45		IBM		FCC DOC

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## 3.0 Technical Details

3.1 Investigations Requested
Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

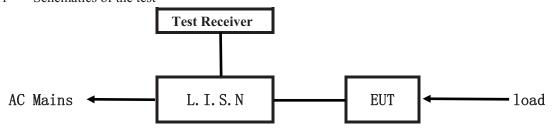
**FCC Part 15 Subpart B** 

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#### 4.0 Conducted Power line Test

#### 4.1 Schematics of the test



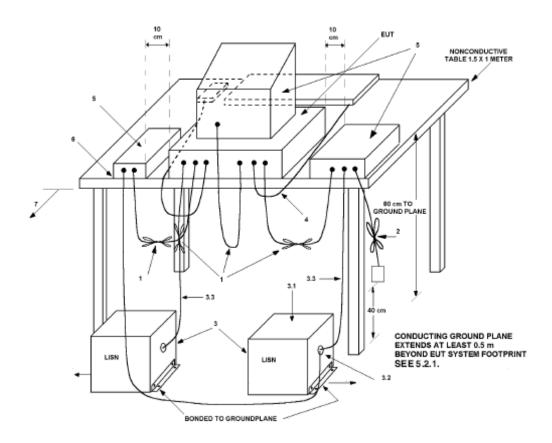
**EUT: Equipment Under Test** 

#### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2014. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Actual Working Voltage and Frequency: 120V~, 60Hz

Block diagram of Test setup



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#### 4.3 Power line conducted Emission Limit

Eraguanay (MHz)	Class A Li	mits dB(μV)	Class B Limits $dB(\mu V)$		
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level	
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*	
$0.50 \sim 5.00$	73.00	60.00	56.00	46.00	
5.00 ~ 30.00	73.00	60.00	60.00	50.00	

Notes:

- 1. \*decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

#### 4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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## A: Conducted Emission on Live Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

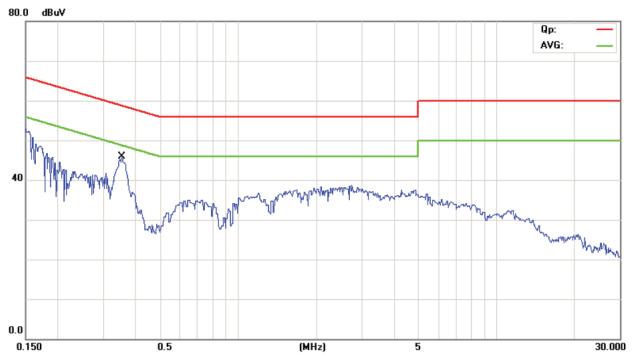
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Communication with PC** 

**Equipment Level: Class B** 

**Results: PASS** 

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.3542	32.20	11.22	43.42	58.86	-15.44	QP	
2	0.3542	16.50	11.22	27.72	48.86	-21.14	AVG	

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## B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

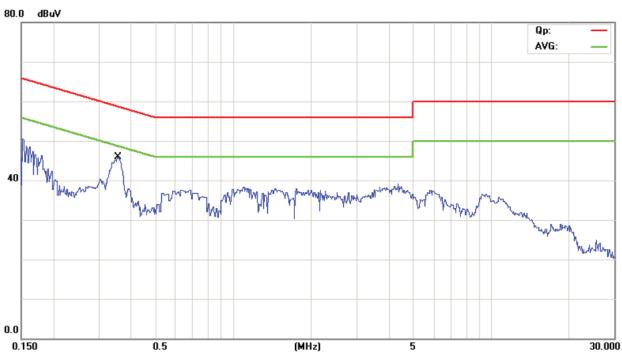
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Communication with PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.3550	32.30	11.22	43.52	58.84	-15.32	QP	
2	0.3550	17.20	11.22	28.42	48.84	-20.42	AVG	

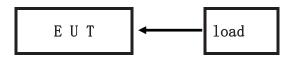
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#### 5.0 Radiated Disturbance Test

#### 5.1 Schematics of the test

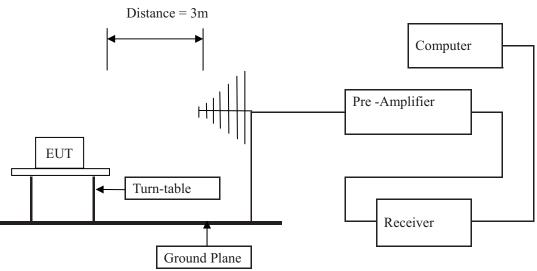


#### 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4-2014; The frequency spectrum from 30MHz to 18GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK

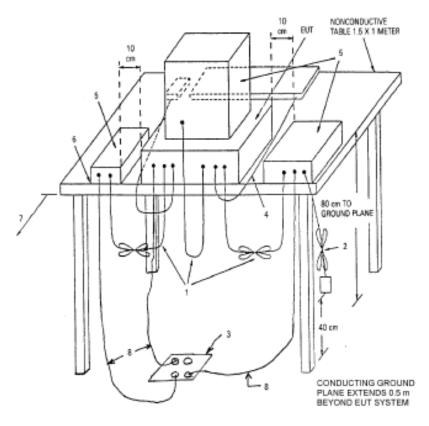
Actual Working Voltage and Frequency: 120V~, 60Hz

## **Block diagram of Test setup**



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### 5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB µ V/m)				
30-88	3	40.00				
88-216	3	43.50				
216-960	3	46.00				
Above 960	3	54.00				

Note: The lower limit shall apply at the transition frequencies

#### 5.4 Test result

The frequency spectrum from 30MHz to 18GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120KHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK. Measurements were made at 3 meters.

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#### Test result

#### General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal/ In Vertical (30MHz----1000MHz)

**EUT set Condition:** Communication with PC

**Results:** Pass

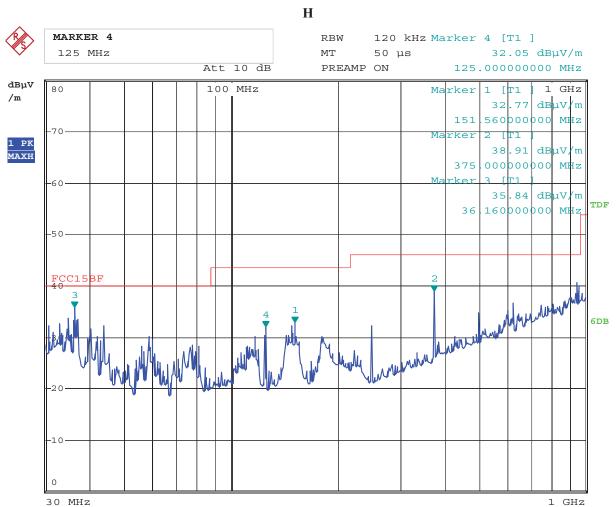
Frequency (MHz)	Level@3m (dB \u03bc V/m)	Antenna Polarity	Limit@3m (dB \( \mu \) V/m)
125.000	32.05	Н	43.50
151.560	32.77	Н	43.50
375.000	38.91	Н	46.00
36.160	35.84	Н	40.00
62.960	28.71	V	40.00
39.480	37.84	V	40.00
34.680	38.67	V	40.00
125.000	33.11	V	43.50

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## Test Figure:



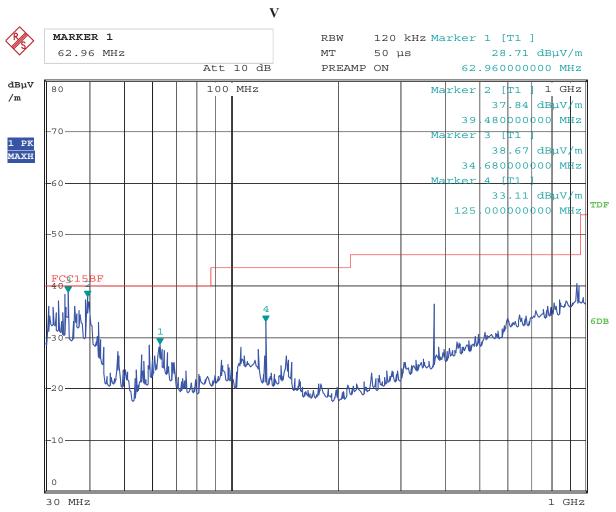
Date: 23.MAR.2016 14:57:28

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## Test Figure:



Date: 23.MAR.2016 15:01:51

Date: 2016-03-24



## Radiated Disturbance (1000MHz----18000MHz)

**EUT Operating Environment** 

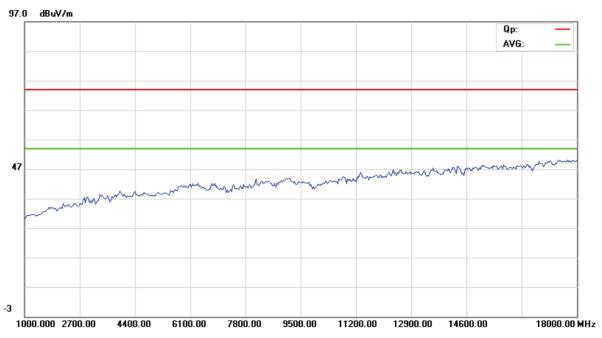
Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Connected to PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		Н	54(AV)

Note: PK value are lower than AV limit, So only show PK curve as above

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## Radiated Disturbance (1000MHz----18000MHz)

**EUT Operating Environment** 

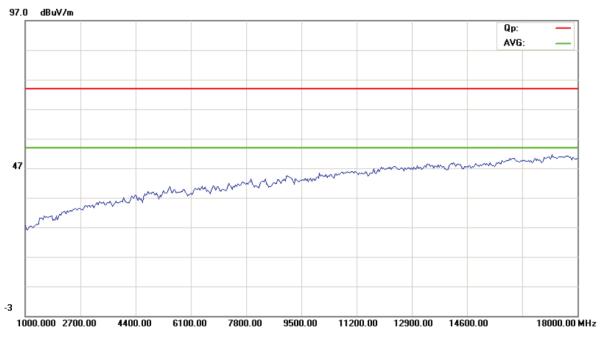
Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Connected to PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		V	54(AV)

Note: PK value are lower than AV limit, So only show PK curve as above

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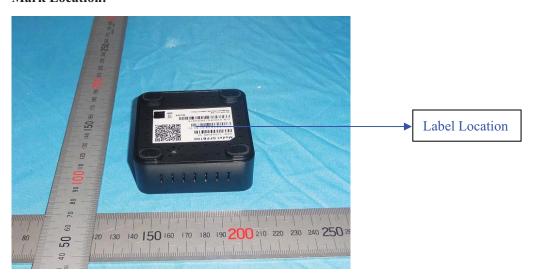


#### 6.0 FCC ID Label

#### FCC ID: 2ADXF-GFPB100PLUS

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### **Mark Location:**



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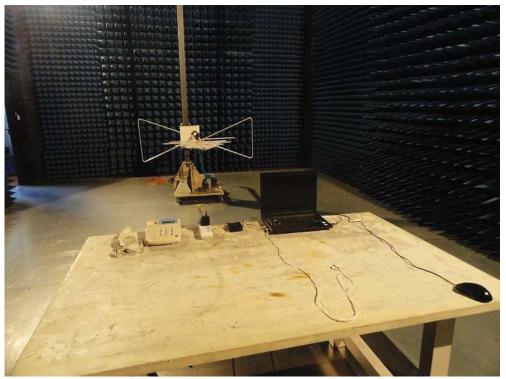
- 7.0 Photo of testing
- Conducted test View--7.1



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#### 7.2 Radiated emission test view--





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## Photographs - EUT

Outside view





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Outside view





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Outside view





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Outside view





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Inside view





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Inside view





End of the report

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