

Application for FCC Certification  
On behalf of

Hisense Broadband Multimedia Technologies Co., Ltd

Product Name: GPON SFU

Model No.: G7281G

Brand Name: Hisense, iPHOTONIX, Ligent

FCC ID: R66001

(MPE Calculation)

Prepared For : Hisense Broadband Multimedia Technologies Co., Ltd  
11 Jiangxi Road, Qingdao Shandong 266071 PR China

Prepared By : Audix Technology (Shanghai) Co., Ltd.  
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Report No. : ACI-F13012A1  
Date of Test : Jan. 23, 2013  
Date of Report : Jan. 24, 2013

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## TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Broadband Multimedia Technologies Co., Ltd

Manufacturer : Hisense Broadband Multimedia Technologies Co., Ltd

EUT Description : GPON SFU

(A) Model No. : 7281G

(B) Brand Name : Hisense, iPHOTONIX, Ligent

(C) Test Voltage : AC 120V/60Hz

Test Procedure Used:

*FCC OET Bulletin 65 August 1997*

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC OET Bulletin 65.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report also shows that the EUT (M/N: Refer to Sec2.1), which was tested on Jan. 23, 2013 is technically compliance with the FCC limits.

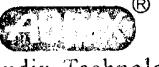
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Jan. 23, 2013 Date of Report : Jan. 18, 2013

Producer : Yenny Yu  
YENNY YU/Assistant

Review : DIO YANG  
DIO YANG/Assistant Manager

 For and on behalf of  
Audix Technology (Shanghai) Co., Ltd.

Signatory : SAMMY CHEN  
Authorized Signature EMC SAMMY CHEN/ Deputy Manager

## 1 GENERAL INFORMATION

### 1.1 Description of Equipment Under Test

Description : GPON SFU

Type of EUT :  Production  Pre-product  Pro-type

Model Number : 7281G

Brand Name : Hisense, iPHOTONIX, Ligent

Note #1 :

Report No.	Model No.	Rev. Summary	Edition No.	Data of Rev.
ACI-F13012	7259G, 7258G	Original Report.	0	Jan 18, 2013
ACI-F13012A1	7259G, 7258G, 7281G	To add a new model.	Rev. A1	Jan 24, 2013

Note #2 : The different list between these models are as follows:

M/N: 7259G	2POTS+4GE+RF+RF Return+WiFi
M/N: 7258G	2POTS+4GE+RF +WiFi
M/N: 7281G	2POTS+4GE+WiFi

The model 7281G was tested and recorded in the report.

Radio Tech : IEEE 802.11b/g/n (2.4GHz)

Freq. Band : 2412MHz ~ 2462MHz (Ch1-Ch11) for 802.11b/g  
2412MHz ~ 2462MHz (Ch1-Ch11) for  
802.11n 20MHz Band  
2422MHz ~ 2452MHz (Ch3-Ch9) for  
802.11n 40MHz Band

Tested Freq. : for 802.11b/g/n HT20  
2412MHz (Ch1), 2437MHz (Ch6), 2462MHz (Ch11)  
for 802.11n HT40  
2422MHz (Ch3), 2437MHz (Ch6), 2452MHz (Ch9)

Modulation : DSSS for 802.11b  
OFDM for 802.11g/n

Antenna Gain : 3.12 dBi (both ANT1 & ANT2)

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## 1.2 Description of Test Facility

Site Description : Sept. 17, 1998 file on  
(Semi-Anechoic Chamber) Mar 16, 2012 Renewed  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34 Bldg 680 Guiping Rd.,  
Caohejing Hi-Tech Park,  
Shanghai 200233, China

FCC registration Number : 91789

Accredited by NVLAP, Lab Code : 200371-0

## 1.3 Measurement Uncertainty

Output Power Expanded Uncertainty :  $U = 0.30 \text{ dB}$

## 2 SUMMARY OF STANDARDS AND RESULTS

### 2.1 Applicable Standard

FCC OET Bulletin 65:1997

### 2.2 Specification Limits

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/150	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

NOTE: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The limit value 1.0mW/cm<sup>2</sup> is available for this EUT.

### 2.3 MPE Calculation Method

$$S = PG/(4 \pi R^2)$$

$$R = [PG/(4 \pi S)]^{0.5}$$

where: S = power density (in appropriate units, e.g. mW/ cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

(the measured power value see Report: F12198A1 Section 4.6)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

## 2.4 Calculated Result

The maximum peak output power is in **Channel 06 of 802.11n HT20** mode.

The MPE calculation as below:

Frequency (MHz)	Total Peak Power (dBm)	Output Power to Antenna (mW)	Antenna Gain (dBi) (Numeric)		Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2437	23.60	229.09	3.12	2.05	0.093431	1.0

Separation distance R= 20cm.

Frequency (MHz)	Total Peak Power (dBm)	Output Power to Antenna (mW)	Antenna Gain (dBi) (Numeric)		Limit (mW/cm <sup>2</sup> )	Distance (cm)
2437	23.60	229.09	3.12	2.05	1.0	6.11

The antenna used for this transmitter must be installed to provide a separation distance of at least 6.11cm from all persons.