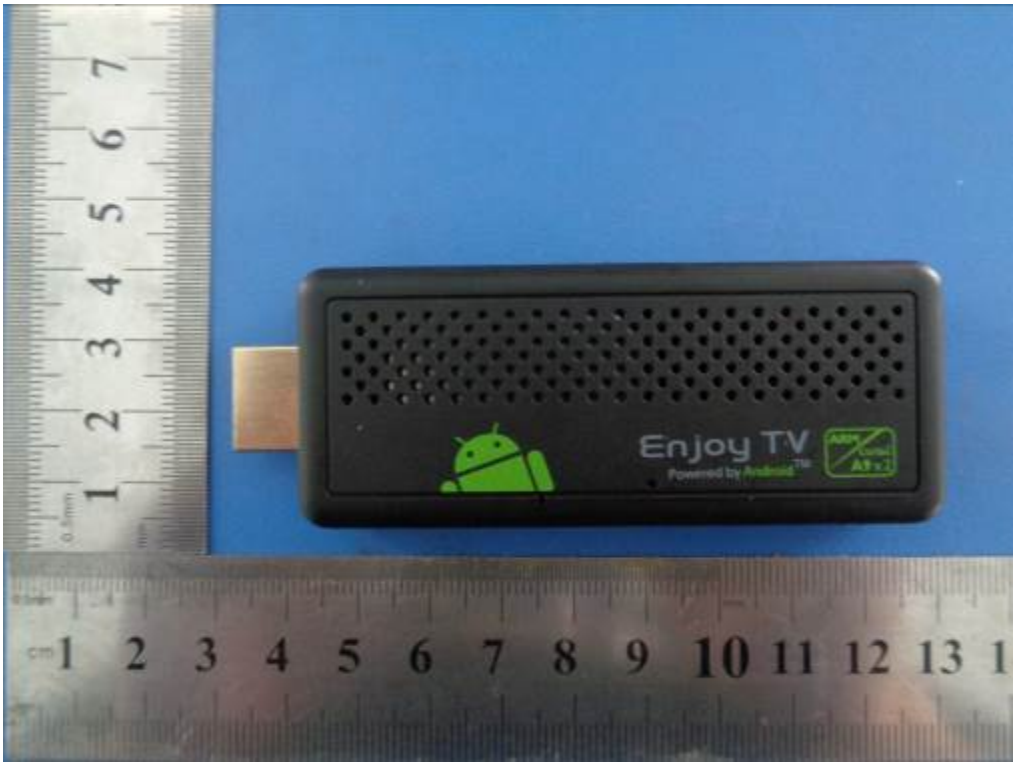
# Shenzhen Geniatech INC., LTD

## Enjoy TV

**Main Model: ATV120SD**
**Serial Model: See P5**

**June 09, 2014**
**Report No.: 14020408-FCC-H1**
**(This report supersedes NONE)**




**Modifications made to the product : None**

| This Test Report is Issued Under the Authority of: | | |
|---|---|---|
| Amos Xia | Alex Liu | |
| **Amos Xia**<br>**Compliance Engineer** | **Alex Liu**<br>**Technical Manager** | |

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**Test result presented in this test report is applicable to the representative sample only.**

RF Exposure Evalution Report

To: FCC 2.1091: 2013

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# Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.


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## Accreditations for Conformity Assessment

| Country/Region | Scope |
|---|---|
| USA | EMC , RF/Wireless , Telecom |
| Canada | EMC, RF/Wireless , Telecom |
| Taiwan | EMC, RF, Telecom , Safety |
| Hong Kong | RF/Wireless ,Telecom |
| Australia | EMC, RF, Telecom , Safety |
| Korea | EMI, EMS, RF , Telecom, Safety |
| Japan | EMI, RF/Wireless, Telecom |
| Singapore | EMC , RF , Telecom |
| Europe | EMC, RF, Telecom , Safety |

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# CONTENTS

# 1. EXECUTIVE SUMMARY & EUT INFORMATION

**The purpose of this test programme was to demonstrate compliance of the Shenzhen Geniatech INC., LTD, Enjoy TV and model: ATV120SDagainst the current Stipulated Standards. The Enjoy TV has demonstrated compliance with the FCC 2.1091: 2013.**

## EUT Information

| | | |
|---|---|---|
| **EUT Description** | : | **Enjoy TV** |
| **Main Model** | : | **ATV120SD** |
| **Serial Model** | | **ATV120B, ATV130, ATV181, ATV160, ATV100, PTV2000** |
| **Antenna Gain** | : | **WIFI Antenna: 2dBi** |
| **Input Power** | : | **Adapter:**<br>**Model: FJ-SW0501500U**<br>**Input: AC 100-240V 50/60Hz 0.35A**<br>**Output: DC 5V 1500mA** |
| **Maximum Conducted Peak Power to Antenna** | : | **802.11b:15.71dBm**<br>**802.11g:20.28dBm**<br>**802.11n:18.43 dBm** |
| **Classification Per Stipulated Test Standard** | : | **FCC 2.1091: 2013** |

Note: in this report, we choice the ATV120SD to test, and all these models are identical in interior structure, electrical circuits and component, except model name and enclosure color for marketing requirement.

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# 2. TECHNICAL DETAILS

| | |
|---|---|
| **Purpose** | **Compliance testing of Enjoy TV with stipulated standard** |
| **Applicant / Client** | **Shenzhen Geniatech INC., LTD<br>18th F, GDC Building, No. 9 Gaoxin Middle 3rd Rd.<br>Nanshan District, Shenzhen, China** |
| **Manufacturer** | **Shenzhen Geniatech INC., LTD<br>18th F, GDC Building, No. 9 Gaoxin Middle 3rd Rd.<br>Nanshan District, Shenzhen, China** |
| **Laboratory performing the tests** | **SIEMIC (Nanjing-China) Laboratories<br>NO.2-1,Longcang Dadao, Yuhua Economic<br>Development Zone, Nanjing, China<br>Tel: +86(25)86730128/86730129<br>Fax: +86(25)86730127<br>Email: China@siemic.com.cn** |
| **Test report reference number** | **14020408-FCC-H1** |
| **Date EUT received** | **May 12, 2014** |
| **Standard applied** | **FCC 2.1091: 2013** |
| **Dates of test** | **May 24 to June 09, 2014** |
| **No of Units** | **#1** |
| **Equipment Category** | **Spread Spectrum System/Device** |
| **Trade Name** | **N/A** |
| **RF Operating Frequency (ies)** | **WIFI: 802.11b/g/n: 2412-2462 MHz** |
| **Number of Channels** | **802.11b/g /n: 11CH** |
| **Modulation** | **CCK/OFDM** |
| **Port** | **SD Card Port, HDMI Port, USB Port, Power Port, Infrared Ray Port** |
| **FCC ID** | **ZJU0013181** |

# 3. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

## FCC §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

| Limits for General Population/Uncontrolled Exposure | | | | |
|---|---|---|---|---|
| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm2) | Averaging Time (minutes) |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f2) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | f/1500 | 30 |
| 1500-100,000 | / | / | 1.0 | 30 |

f = frequency in MHz
* = Plane-wave equivalent power density

Test Data

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density (in appropriate units, e.g. mW/cm2)
P = power input to the antenna (in appropriate units, e.g., mW).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

**Note: base on different type antenna and their gain, the bellow result is the worst case.**

**802.11b:**

Maximum peak output power at antenna input terminal: 15.71(dBm)
Maximum peak output power at antenna input terminal: 37.24 (mW)

Prediction distance: >20 (cm)
Predication frequency: 2412 (MHz)
Antenna Gain (typical): 2 (dBi)
Antenna Gain (typical): 1.585 (numeric)

The worst case is power density at predication frequency at 20 cm: 0.012 (mW/cm2)
MPE limit for general population exposure at prediction frequency: 1.0 (mW/cm2)

0.012(mW/cm2) < 1.0(mW/cm2)

**802.11g:**

Maximum peak output power at antenna input terminal: 20.28(dBm)
Maximum peak output power at antenna input terminal: 106.66 (mW)

Prediction distance: >20 (cm)
Predication frequency: 2412 (MHz)
Antenna Gain (typical):2 (dBi)
Antenna Gain (typical): 1.585 (numeric)

The worst case is power density at predication frequency at 20 cm: 0.034 (mW/cm2)
MPE limit for general population exposure at prediction frequency:1.0 (mW/cm2)

0.034(mW/cm2) < 1.0(mW/cm2)

**802.11n**:

Maximum peak output power at antenna input terminal: 18.43(dBm)
Maximum peak output power at antenna input terminal: 69.66 (mW)

Prediction distance: >20 (cm)
Predication frequency: 2412 (MHz)
Antenna Gain (typical):2 (dBi)
Antenna Gain (typical): 1.585 (numeric)

The worst case is power density at predication frequency at 20 cm: 0.022 (mW/cm2)
MPE limit for general population exposure at prediction frequency:1.0 (mW/cm2)

0.022(mW/cm2) < 1.0(mW/cm2)

**Result: Pass**