



# **Hi3516D V300 Power Consumption Test Report**

**Issue**            **00B01**

**Date**            **2019-01-15**

**Copyright © HiSilicon (Shanghai) Technologies Co., Ltd. 2019. All rights reserved.**

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of HiSilicon (Shanghai) Technologies Co., Ltd.

## **Trademarks and Permissions**



**HISILICON**, and other HiSilicon icons are trademarks of HiSilicon Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

## **Notice**

The purchased products, services and features are stipulated by the contract made between HiSilicon and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

## **HiSilicon (Shanghai) Technologies Co., Ltd.**

Address: New R&D Center, 49 Wuhe Road, Bantian,  
Longgang District,  
Shenzhen 518129 P. R. China

Website: <http://www.hisilicon.com/en/>

Email: [support@hisilicon.com](mailto:support@hisilicon.com)



## About This Document

---

### Related Versions

The following table lists the product versions related to this document.

Product Name	Version
Hi3516D	V300

### Intended Audience

This document is intended for:

- Technical support engineers
- Board hardware development engineers

### Change History

Changes between document issues are cumulative. Therefore, the latest document issue contains all changes made in previous issues.

#### Issue 00B01 (2019-01-15)

This issue is the first draft release.



---

# Contents

---

<b>About This Document.....</b>	<b>i</b>
<b>1 Power Consumption Test Conclusions of Hi3516D V300.....</b>	<b>1</b>
1.1 Test Environment.....	1
1.2 Test Scenarios and Power Consumption Data.....	2
1.2.1 Scenario 1: Intelligent Services + Media Services .....	2



# 1 Power Consumption Test Conclusions of Hi3516D V300

## NOTICE

In this test report, the tested data is only provided for reference based on the tested samples and environment, and may not apply to products with other specifications, functions, and performance. For details, see the data sheet.

## 1.1 Test Environment

Test Object	HI3516DV300DMEB board
Camera	IMX335
Temperature Measuring Device	Point-test thermometer
Heating Device	High- and low-temperature chamber. The test temperatures are the chip junction temperatures 45°C (113°F) and 105°C (221°F).
Heat Dissipation Mode of the Master Chip	The board is placed in the temperature chamber, and the produced heat is dissipated through the surfaces of the printed circuit board (PCB) and chip.



## 1.2 Test Scenarios and Power Consumption Data

### 1.2.1 Scenario 1: Intelligent Services + Media Services

#### Intelligent Services

VGG16 NNIE intelligent services at full speed

#### Media Services

- Mode: VI online and VPSS offline
- VI: 2592 x 1536@30 fps input + 2-to-1 line WDR mode + line compression enabled for the pipe and segment compression enabled for the channel + DE enabled for the ISP. The VI sends image data to the VPSS.
- VPSS: 3-channel non-compressed output (2592 x 1536@30+1024 x 576@30+720 x 480@30) and NR enabled for the VPSS + Two mosaics overlaid + VPSS channel 0 rotated by 90°. The VPSS sends image data to the VENC for encoding and to the VO for preview.
- VEDU: 3-channel H.26x encoding (H265 SmartP 2592 x 1536@30 fps 8 Mbit/s + H.264 NormalP 1024 x 576@30 fps 1 Mbit/s + H.264 NormalP 720 x 480@30 fps 512 kbit/s) + 1-channel JPEG encoding (2592 x 1536@2 fps) + Timestamp and channel ID overlaid on each channel
- 1-channel large stream VOD
- IVS MD: 720 x 480@15 fps
- Audio: 1-channel 16-bit audio sampled at 32 kbit/s, complying with the AAC protocol, with AAGC, ANR, and AEC enabled
- Frequency (MHz): CPU 900, VICAP 396, VIPROC 300, VPSS 300, VGS 475, JPGE 396, IVE 475, VDP 300, DDR 900

**Table 1-1** Power consumption data of scenario 1 at different temperature nodes

Chip Junction Temperature	Core Power Consumption (mW)	VDDIO_DDR (mW)	DVDD18 (mW)	DVDD33 (mW)	Total Power Consumption (mW)
	DVDD				
55°C <sup>Note 1</sup>	923	312	18	144	1397
105°C <sup>Note 2</sup>	1564	352	26	145	2087



#### NOTE

- Note 1: Power consumption in normal illumination is described.
- Note 2: In low illumination, the DDR usage is about 65%, and the CPU usage is about 99%.