

Hardware Unit Test Report

Power consumption Test of Android TV version

Hardware version	FW version	Sample No.	eMMC Flash P/N
V125	BFX-UA300-userdebug 10 QT 19.524.21	S/N: TBD	DDR: 1. K4A8G165WC-BCTD 2. K4A4G165WF-BCTD eMMC: KLM8G1GETF-B041

1. Test Setup

Equipment:

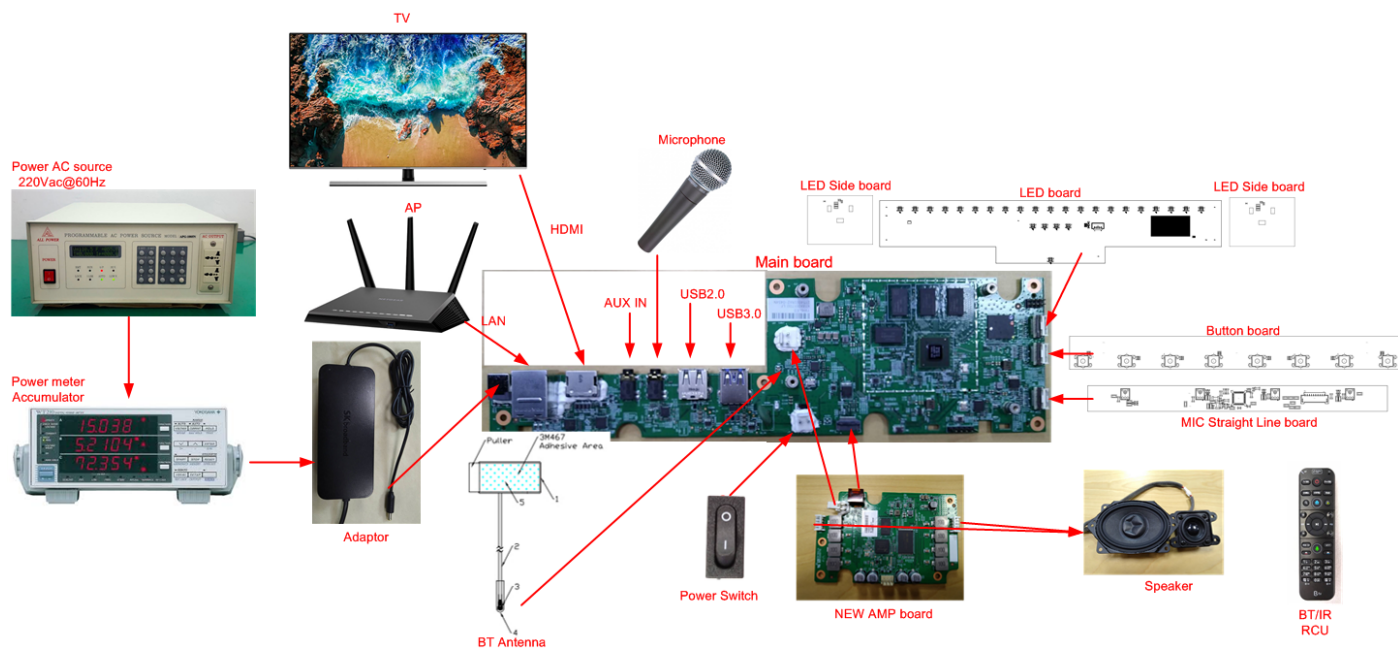
1. BFX-UA300 DVT board V125.
2. AC POWER: APG-1005N: 220Vac @60Hz
3. AC Adapter: LA-A271KS 24V/4A 24V/5A
4. 4K TV: ENVISION P2271WHL
5. Power meter with accumulator: Yokogawa WT210
6. Current probe: TCPA300
7. NETGEAR R7000 1Gbps

Test Environment:

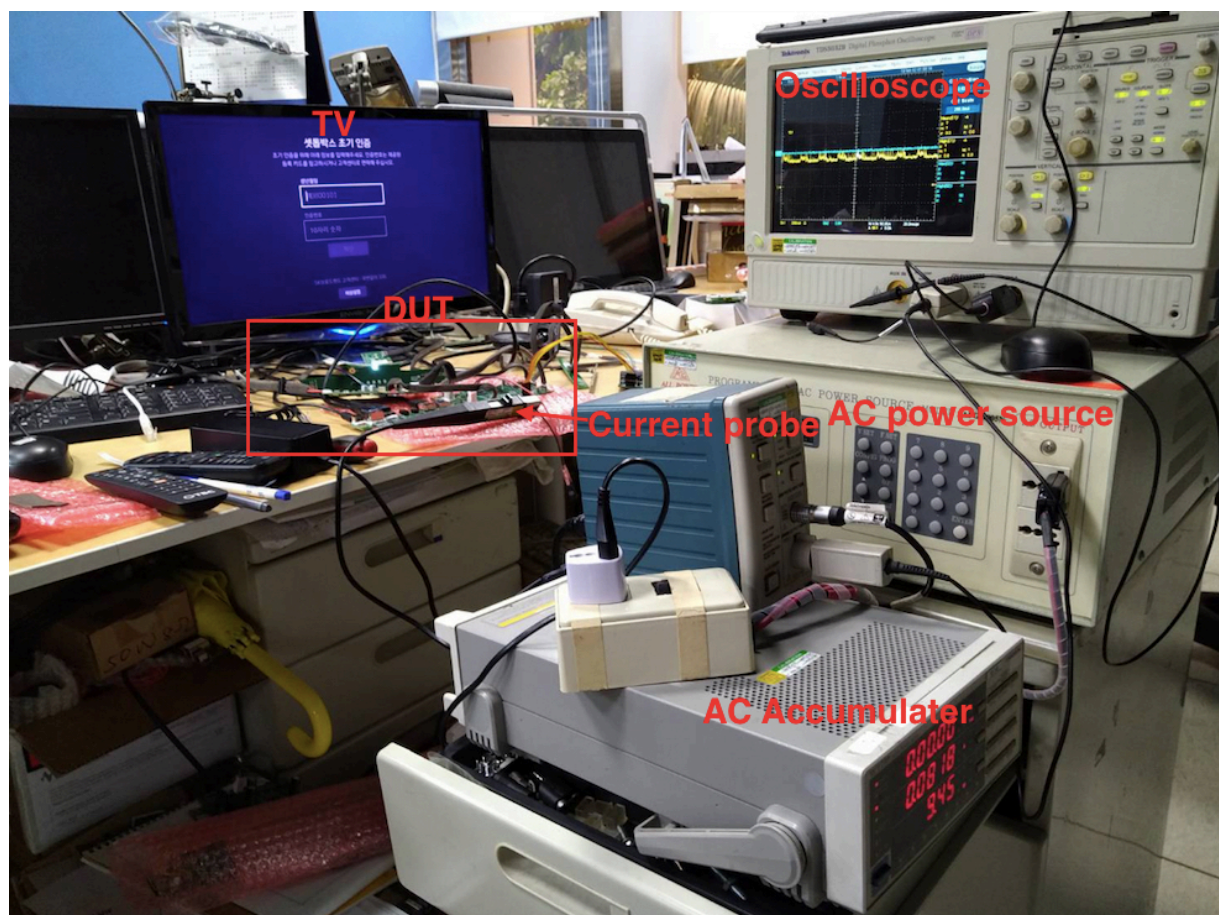
1. Test place: FXN CNSBG Building 1F office
2. Test DUT name: BFX-UA300 DVT V125 board
3. Test environment condition: temperature: 25 deg-C, humidity: 65
4. Test date: 2021/05/27
5. Test result: See section 3 for test results.
6. Test setup picture (block diagram and real test environment picture)

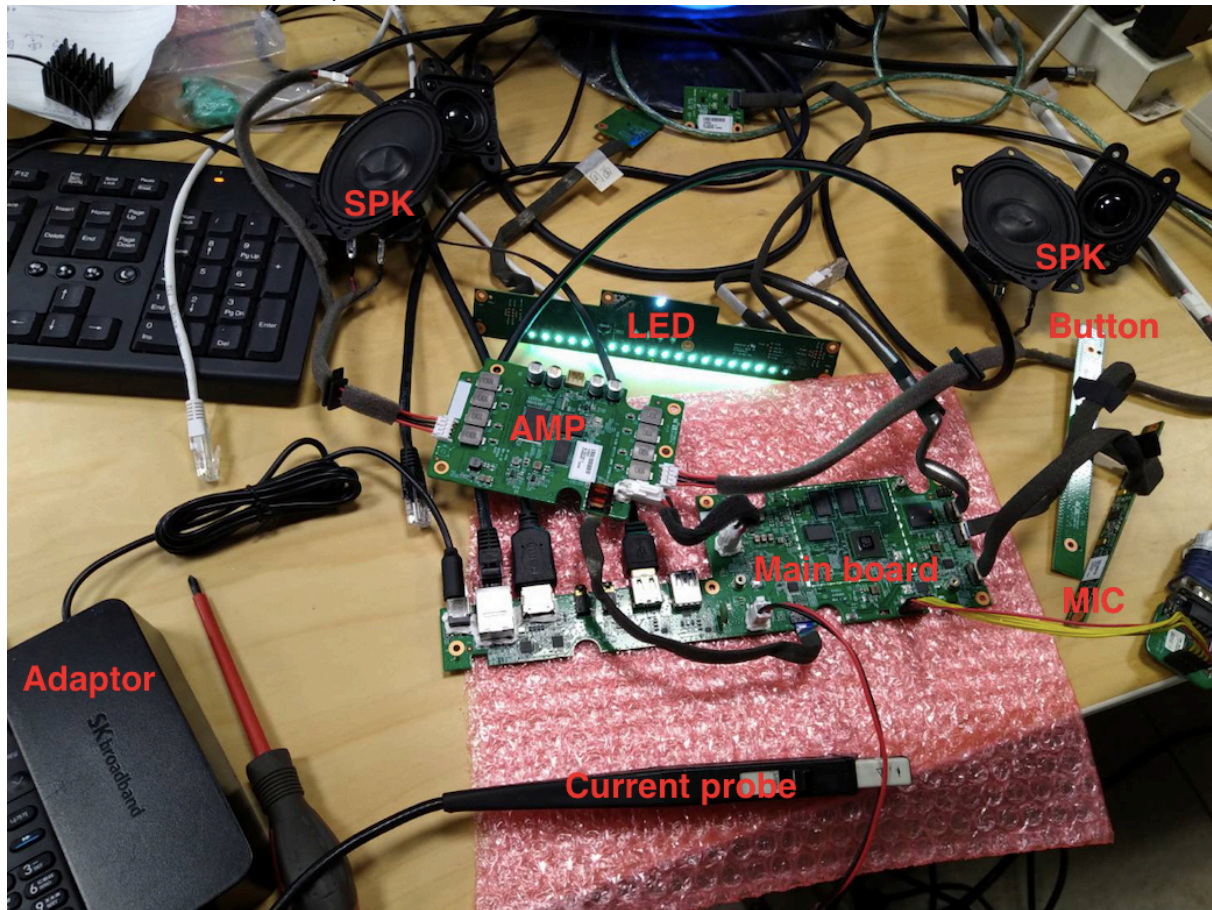
BFX-UA300 V125 Hardware unit test report

Block Diagram:



Test setup picture:





2. Test Items and Condition

1. Active standby mode

1. DUT power on
2. Press RCU power on/off key to off the TV.

Due to the RCU key cannot control main board into active standby mode, so the command:
su

test_disp hdmipwr off

Turn on/off AMP IC command:

1.Standby Mode On(power stage of AMP IC has a current of 0mA):

su

i2cset -f -y 0 0x2a 0x5d 0x0 b

i2cset -f -y 0 0x2b 0x5d 0x0 b

i2cset -f -y 0 0x2c 0x5d 0x0 b

i2cset -f -y 0 0x2d 0x5d 0x0 b

2.Standby Mode Off:

su

i2cset -f -y 0 0x2a 0x5d 0x1 b

i2cset -f -y 0 0x2b 0x5d 0x1 b

i2cset -f -y 0 0x2c 0x5d 0x1 b

i2cset -f -y 0 0x2d 0x5d 0x1 b

Turn off Status LED command:

```
echo 0 > /sys/class/leds/lp5036\:led9_mod/brightness
```

3. Accumulating for 1 hour and record the power consumption result.

2. Passive standby mode

1. DUT power on
2. Using command to make DUT to enter active standby mode.
3. Command:

Bluetooth off command:

```
su
```

```
service call bluetooth_manager 8
```

Bluetooth on command:

```
su
```

```
service call bluetooth_manager 6
```

LED off command:

```
su
```

```
echo 0 > /sys/class/leds/lp5036\:led9_mod/brightness
```

Passive standby mode command:

```
su
```

```
setprop persist.berlin.suspend.mode active_standby
```

```
echo mem > /sys/power/state
```

4. Accumulating for 1 hour and record the power consumption result.

3. Test Result

DVT build power consumption:

3.1 Active standby mode [Adaptor: LA-A271KS 24V/4A]

Test Results of power consumption: F/W version: 19.524.21 (LAN: 1000M bps)			
Item No.	AC port BFX-UA300 DVT Board V115	DC port BFX-UA300 DVT Board V115	Remark
Active standby mode*	220Vac/0.0689A@60Hz, 6.3004W	24.0Vdc/0.2055A, 4.932W	

Note:

*: Active standby mode includes power down function by command to simulate RCU power on/off key. The test is after 10 minutes when DUT enters active standby mode.

3.2 Passive standby mode [Adaptor: LA-A271KS 24V/4A]

Test Results of power consumption: F/W version: 19.524.21 (LAN: 1000M bps)			
Item No.	AC port BFX-UA300 DVT Board V115	DC port BFX-UA300 DVT Board V115	Remark
Passive standby mode*	220Vac/0.0576A@60Hz, 3.3873W	24.0Vdc/0.1032A, 2.4786W	BT off LED off 5V_EN on
Passive standby mode*	220Vac/0.0494A@60Hz, 1.9641W	24.0Vdc/0.05627A, 1.3505W	BT off LED off 5V_EN off

Note:

*: Passive standby mode includes power down function of AMP board, MIC straight board and BT function. The test is after 10 minutes when DUT enters active standby mode.

5V_EN on/off:

CTRL_A113X pin does not been control on this image(19.524.21), we reworked

CTRL_A113X/5V_EN/GND pins on AMP board for manual switching to control U2(MP2338) power in Enable/Disable.

Such as **CTRL_A113X connects to 5V_EN: 5V_EN on**

5V_EN connects to GND: 5V_EN off

Note1: The time test is from pressing button until to see the Home launcher of Google TV.

Boot-up time: TBD (press power button)

Wake-up time: TBD(press RCU power button)

Note2: Rework pins from connector(J813) to 5V_EN.

R2_2 and C12 were not mounted on AMP board, so CTRL_A113X pin connected to pin1 of R2_2.



APPENDIX(Will apply Mass production)

- A113X OFF
- AMP IC OFF
- Using "CTRL_A113X(J813 pin6)
- CTRL_A113X connected to 5V_EN
(VS550 can control Audio Amp block's power)
- Enable Audio Amp Block
 - > 5V_EN : High
 - > I2C Control(initialize)
- Disable Audio Amp Block
 - > I2C Control(Off)
 - > 5V_EN : Low

ALT

