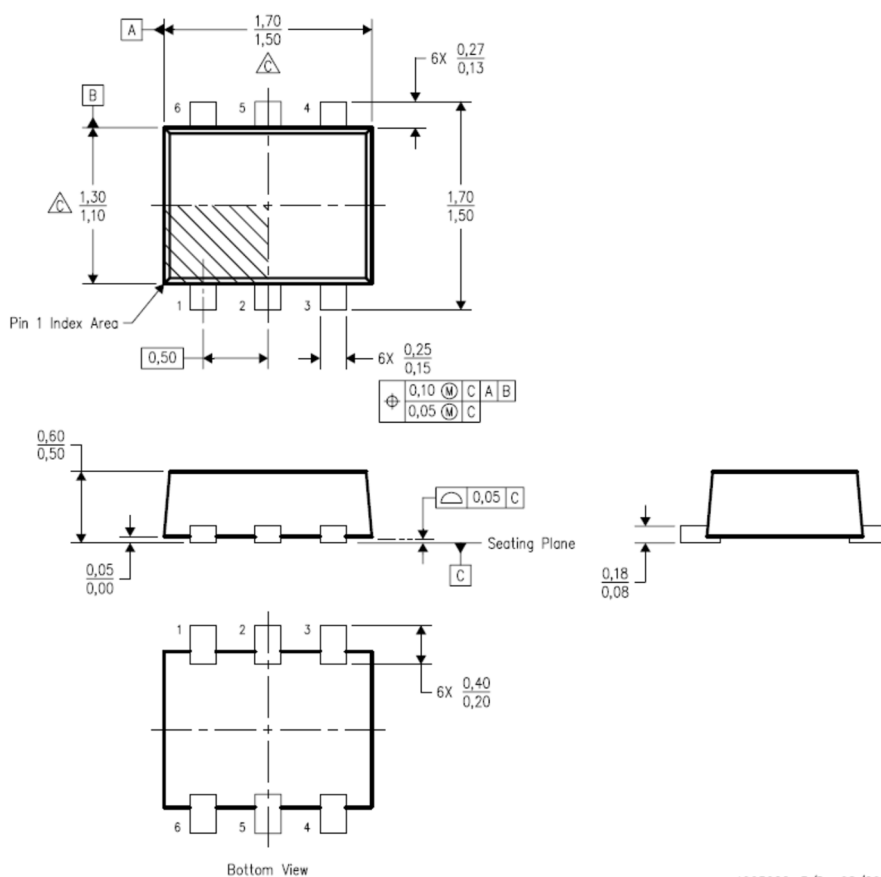


# Comparison of Main source and 2<sup>nd</sup> source

## Test Report

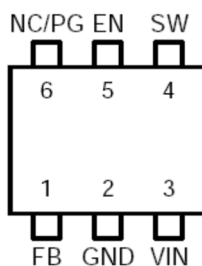
| Hardware version | FW version                              | Main source P/N | 2 <sup>ND</sup> source MFG | 2 <sup>ND</sup> source P/N |
|------------------|-----------------------------------------|-----------------|----------------------------|----------------------------|
| V025             | 4.9.113<br>#1MonFeb 1122:40:43 CST 2019 | TLV62569DRLR    | Silergy                    | SY8892ARC                  |

Main Source(TLV62569DRLR) spec:



4205622-3/D 08/2007

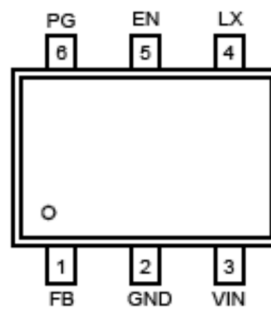
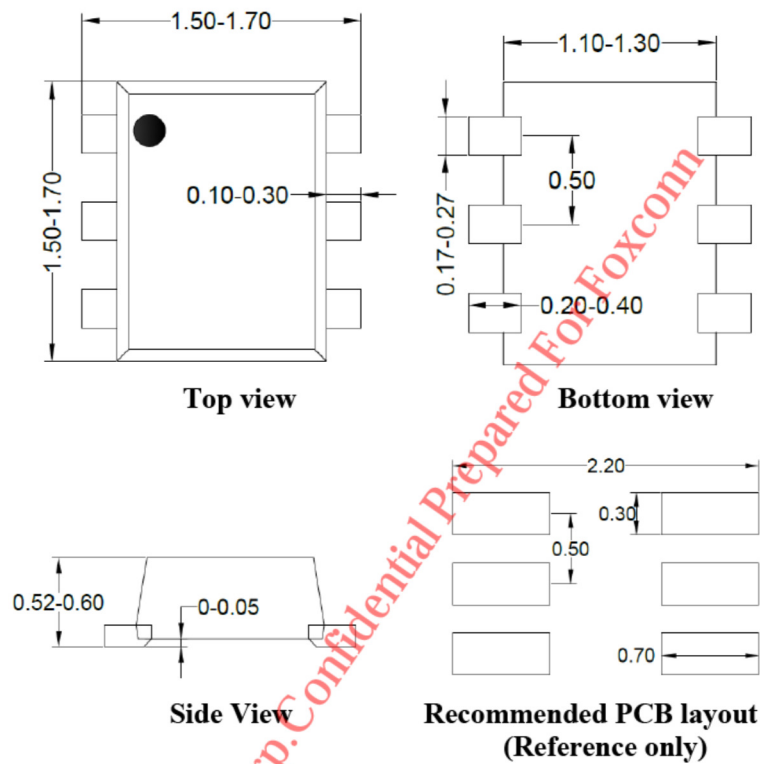
SOT563-6  
DRL Package  
(Top View)



|           |                |   |   |   |
|-----------|----------------|---|---|---|
| $I_{OUT}$ | Output current | 0 | 2 | A |
|-----------|----------------|---|---|---|

## 2<sup>nd</sup> Source(SY8892ARC) spec:

### SOT563 Package Outline Drawing



delivering up to 2A output currents.

TLV62569DRLR 2nd source introduce SY8892ARC

## 1. Test Item

If want to introduce 2<sup>nd</sup> source, still need to test the following items:

- a. Voltage accuracy(Vin)
- b. Voltage accuracy(Vout)
- c. AC ripple
- d. Power Efficiency
- e. Power on sequence
- f. Short test
- g. Power Consumption
- h. EMI Test

## 2. Power Test Setup

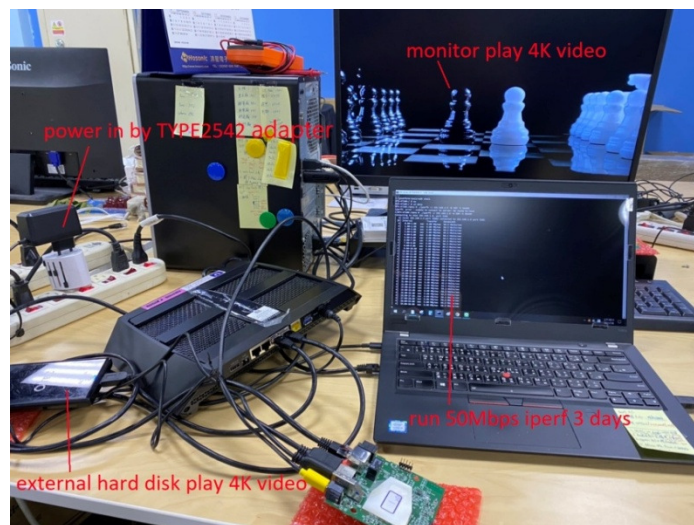
The measure test point is VDDCPU: capacitor C301(Vin)and capacitor C304(VDDCPU)

VDD\_EE:capacitor C302(Vin)and capacitor C305(VDD\_EE)

P1V2:capacitor C318(Vin)and capacitor C325(P1V2)

P3V3: capacitor C319(Vin)and capacitor C327(P3V3)

## 3. Power Test Setup(for test item a,b,c)



### 3.1 Test Condition

- BOX play 4K video by using external hard disk.
- Ethernet is connected to AP WIFI and run iperf base on 50Mbps to server.
- HDMI output port connects to TV through the HDMI cable.
- DC Power cable is also connected.
- The temperature is about 25 degrees. The results are meeting +/-5%.

#### a. Vin:

Measure C301(U301\_Vin), C302(U302\_Vin), C318 (U304\_Vin) and C319(U305\_Vin).

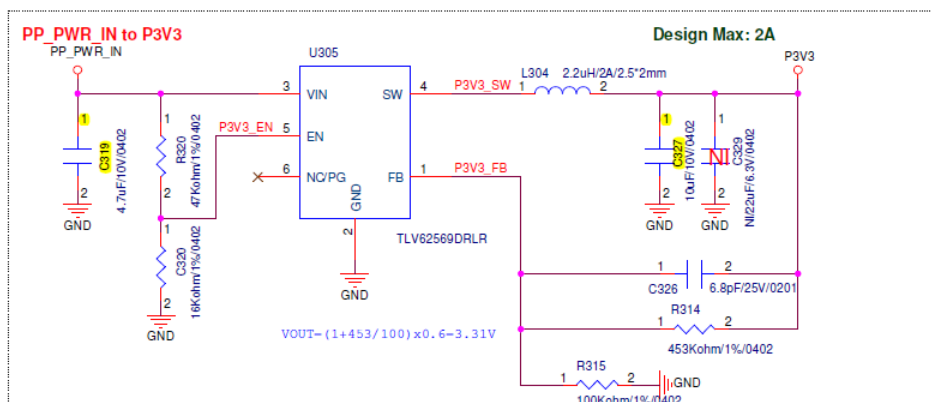
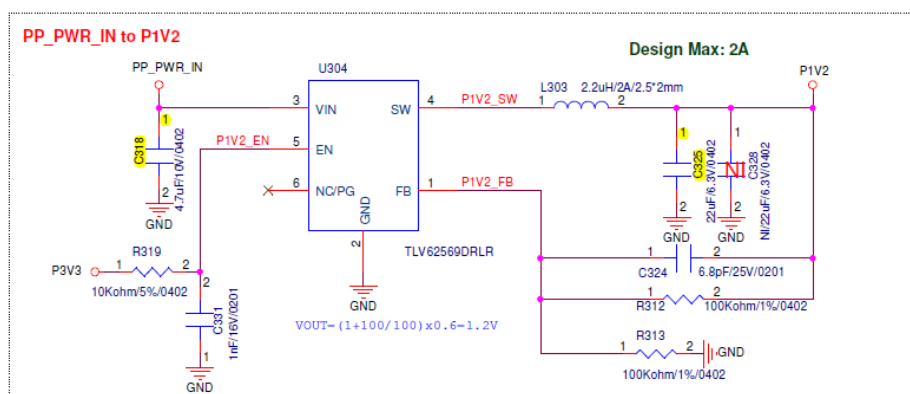
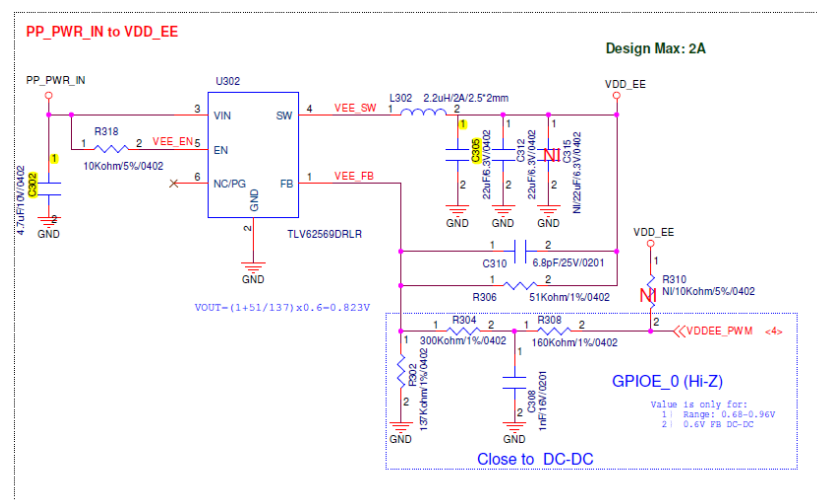
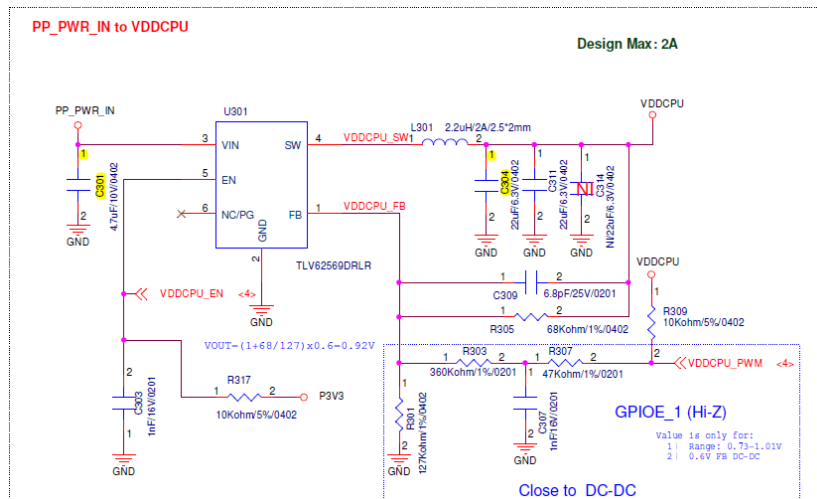
#### b. Vout:

Measure C304 (VDDCPU), C305(VDD\_EE),C325(P1V2)and C327 (P3V3).

#### c. Ripple test:

Setting Oscilloscope parameter to AC, and measure C304, C305, C325 and C327 to check ripple is

# TLV62569DRLR 2nd source introduce SY8892ARC under specification (+5%)



#### 4 Result and Picture

| Power Rail                  | Power IC     | Spec         | Measurement point | Result | Picture | Result Pass/Fail |
|-----------------------------|--------------|--------------|-------------------|--------|---------|------------------|
| TLV62569DRLR_VDDCPU_VinVout | TLV62569DRLR | 4.75V-5.25V  | C301 pin1         | 5.04V  | Fig. 1  | Pass             |
|                             |              | 0.73V-1.01V  | C304 pin1         | 0.88V  |         |                  |
| TLV62569DRLR_VDDCPU_ripple  |              | <40mV        | C304              | 28.8mV | Fig. 2  | Pass             |
| TLV62569DRLR_VDDEE_VinVout  |              | 4.75V-5.25V  | C302 pin1         | 4.96V  | Fig. 3  | Pass             |
|                             |              | 0.68V-0.96V  | C305 pin1         | 0.84V  |         |                  |
| TLV62569DRLR_VDDEE_ripple   |              | <40mV        | C306              | 39.6mV | Fig. 4  | Pass             |
| TLV62569DRLR_P1V2_Vin Vout  |              | 4.75V-5.25V  | C318 pin1         | 5.04V  | Fig. 5  | Pass             |
|                             |              | 1.14V-1.26V  | C325 pin1         | 1.2V   |         |                  |
| TLV62569DRLR_P1V2_ripple    |              | <60mV        | C325              | 40.4mV | Fig. 6  | Pass             |
| TLV62569DRLR_P3V3_Vin Vout  |              | 4.75V-5.25V  | C319 pin1         | 5.04V  | Fig. 7  | Pass             |
|                             |              | 3.135-3.465V | C327 pin1         | 3.32V  |         |                  |
| TLV62569DRLR_P3V3_ripple    |              | <165mV       | C327              | 39.2mV | Fig. 8  | Pass             |

| Power Rail               | Power IC / MOSFET P/N | Spec         | Measurement point | Result  | Picture | Result Pass/Fail |
|--------------------------|-----------------------|--------------|-------------------|---------|---------|------------------|
| SY8892ARC_VDDCPU_VinVout | SY8892ARC             | 4.75V-5.25V  | C301 pin1         | 5.043V  | Fig. 9  | Pass             |
|                          |                       | 0.73V-1.01V  | C304 pin1         | 0.868V  |         |                  |
| SY8892ARC_VDDCPU_ripple  | SY8892ARC             | <40mV        | C304              | 33.6mV  | Fig. 10 | Pass             |
| SY8892ARC_VDDEE_VinVout  | SY8892ARC             | 4.75V-5.25V  | C302 pin1         | 4.975V  | Fig. 11 | Pass             |
|                          |                       | 0.68V-0.96V  | C305 pin1         | 0.845V  |         |                  |
| SY8892ARC_VDDEE_ripple   | SY8892ARC             | <40mV        | C306              | 36.8mV  | Fig. 12 | Pass             |
| SY8892ARC_P1V2_Vin Vout  | SY8892ARC             | 4.75V-5.25V  | C318 pin1         | 5.035V  | Fig. 13 | Pass             |
|                          |                       | 1.14V-1.26V  | C325 pin1         | 1.204V  |         |                  |
| SY8892ARC_P1V2_ripple    | SY8892ARC             | <60mV        | C325              | 43.29mV | Fig. 14 | Pass             |
| SY8892ARC_P3V3_Vin Vout  | SY8892ARC             | 4.75V-5.25V  | C319 pin1         | 5.031V  | Fig. 15 | Pass             |
|                          |                       | 3.135-3.465V | C327 pin1         | 3.302V  |         |                  |
| SY8892ARC_P3V3_ripple    | SY8892ARC             | <165mV       | C327              | 33.13mV | Fig. 16 | Pass             |

## TLV62569DRLR 2nd source introduce SY8892ARC

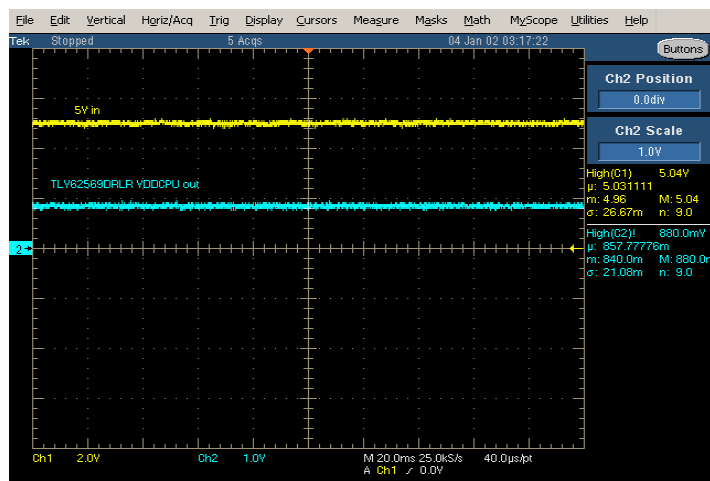


Fig 1: TLV62569DRLR\_VDDCPU\_VinVout

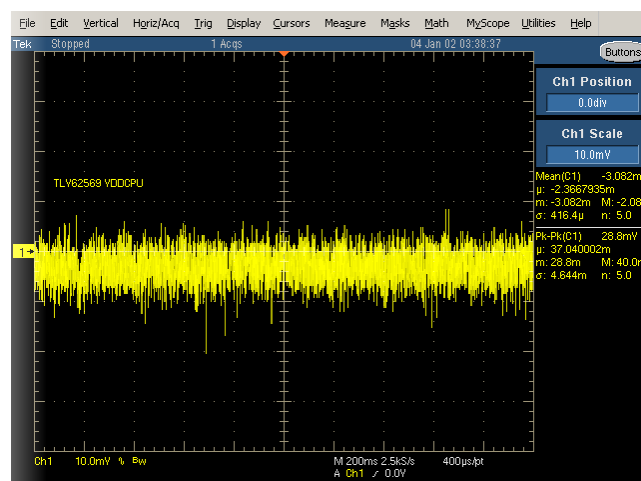


Fig 2: TLV62569DRLR\_VDDCPU\_ripple

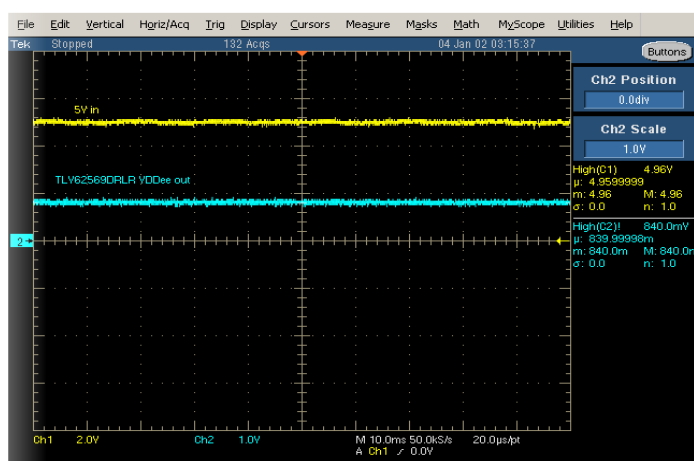


Fig3: TLV62569DRLR\_VDDEE\_VinVout

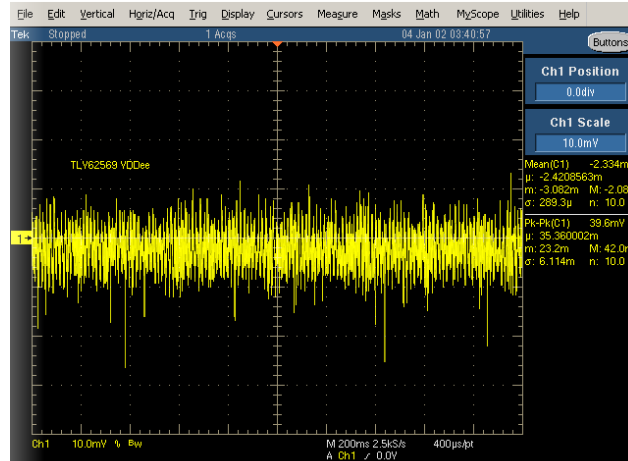


Fig4 : TLV62569DRLR\_VDDEE\_ripple

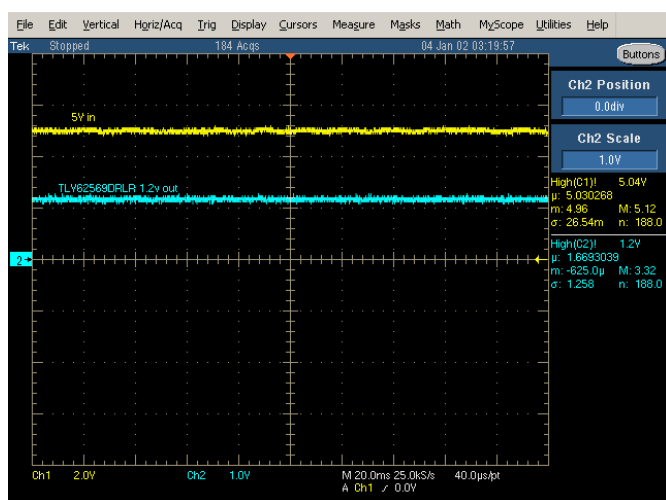


Fig5: TLV62569DRLR\_P1V2\_Vin Vout

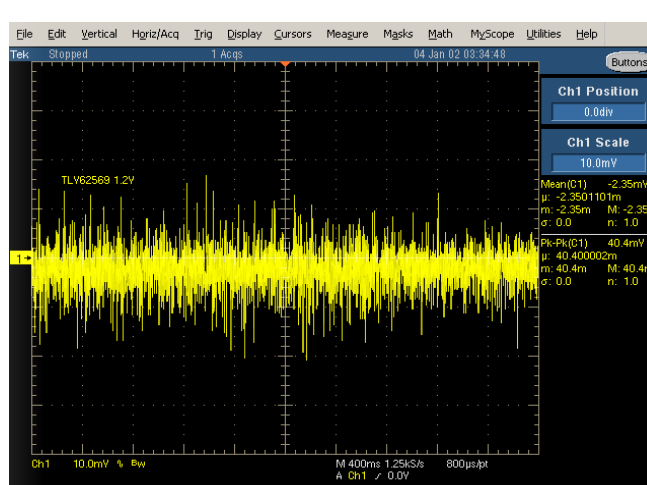


Fig6: TLV62569DRLR\_P1V2\_ripple

## TLV62569DRLR 2nd source introduce SY8892ARC

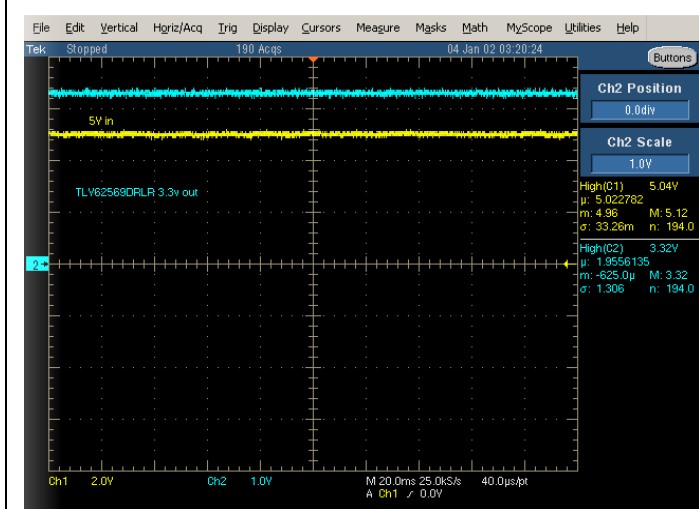


Fig7: TLV62569DRLR\_P3V3\_Vin Vout

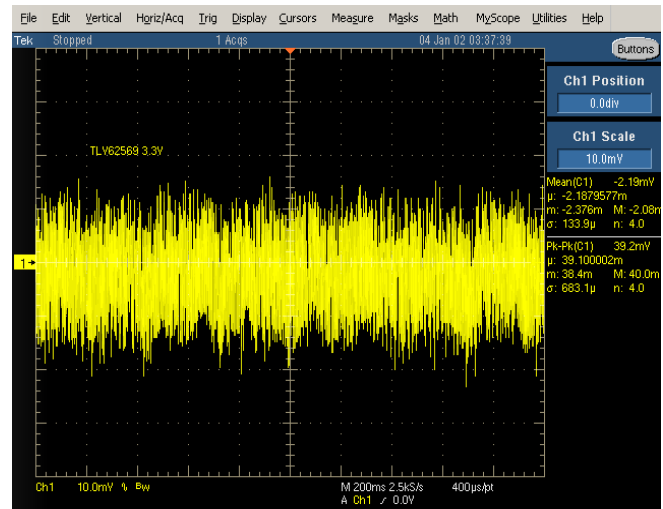


Fig8: TLV62569DRLR\_P3V3\_ripple



Fig. 9: SY8892ARC\_VDDCPU\_VinVout

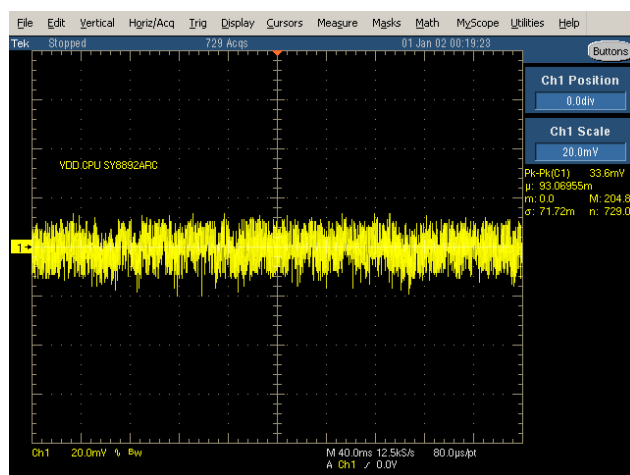


Fig.10:SY8892ARC\_VDDCPU\_ripple

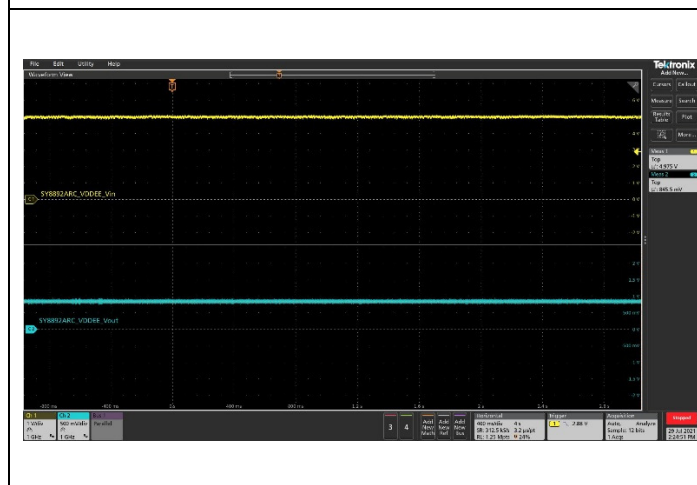


Fig. 11: SY8892ARC\_VDDEE\_VinVout

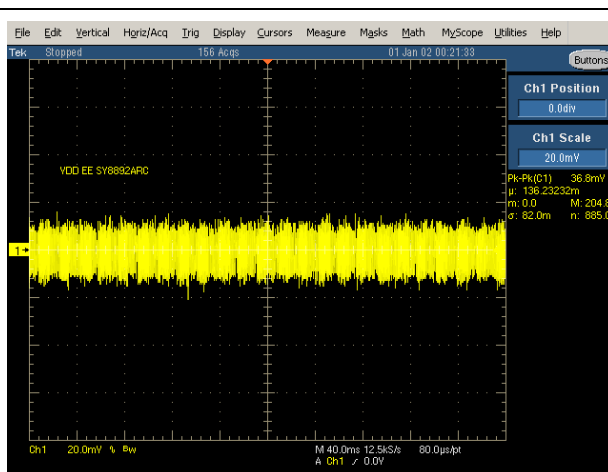


Fig. 12: SY8892ARC\_VDDEE\_ripple

TLV62569DRLR 2nd source introduce SY8892ARC

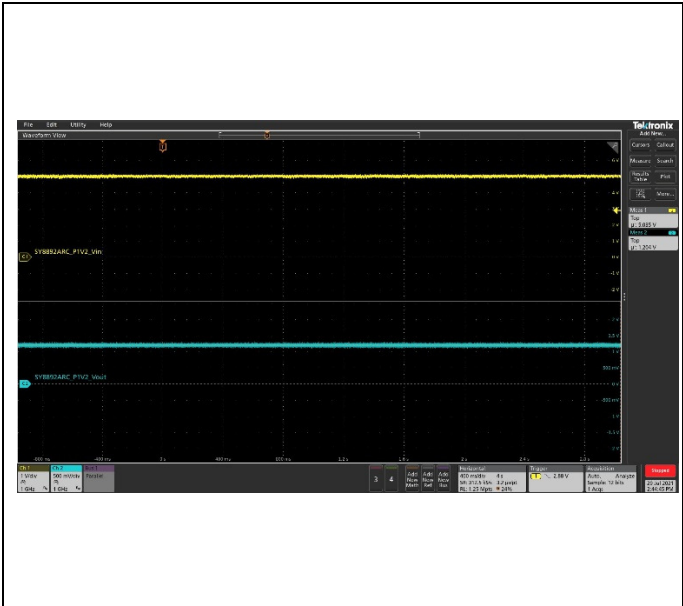


Fig. 13: SY8892ARC\_P1V2\_Vin Vout

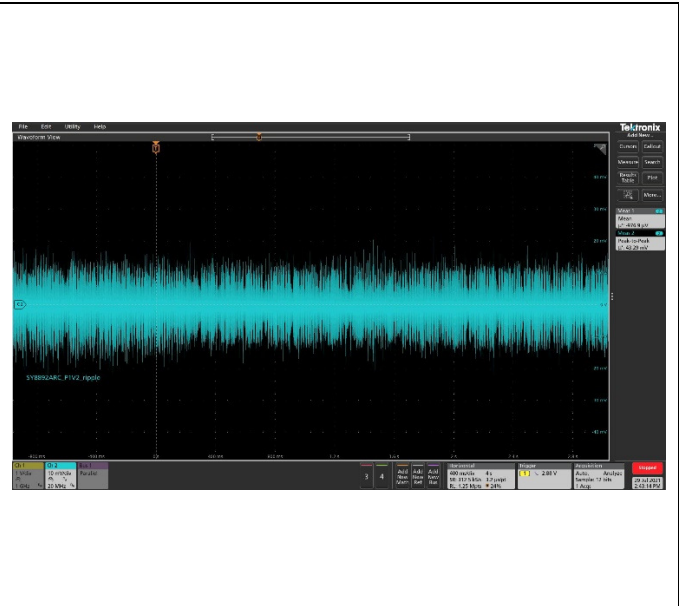


Fig. 14:SY8892ARC\_P1V2\_ripple

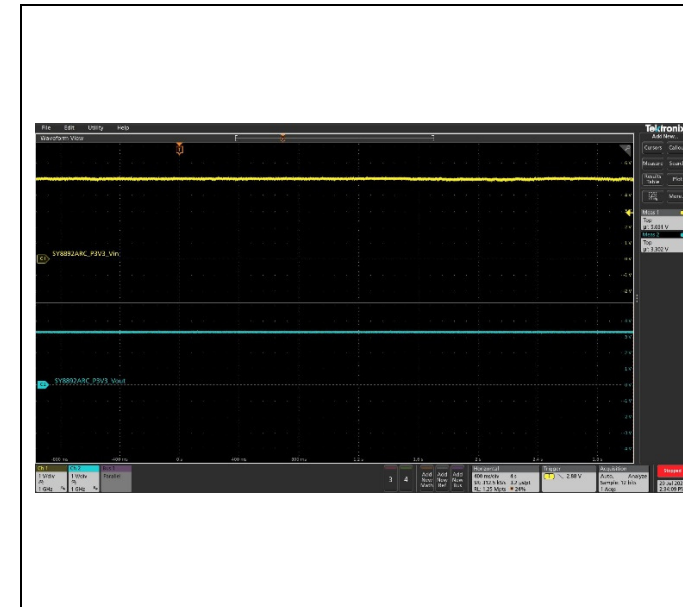


Fig.15: SY8892ARC\_P3V3\_Vin Vout

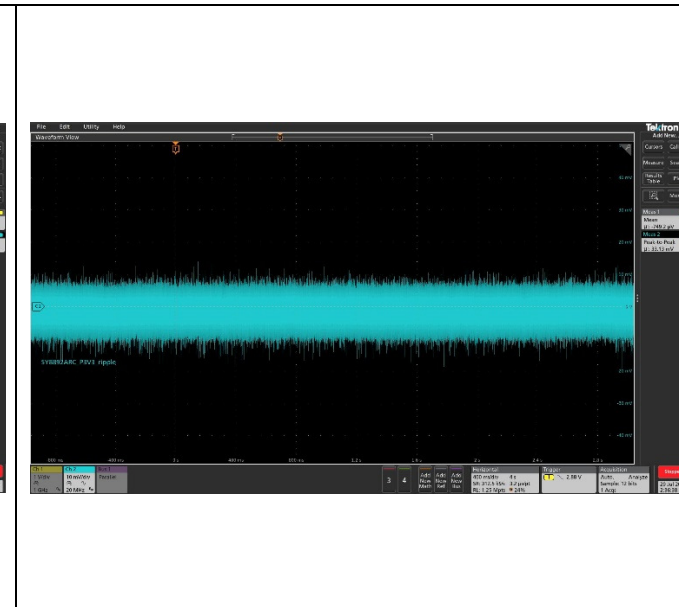


Fig. 16: SY8892ARC\_P3V3\_ripple

**5. SY8892ARC Efficiency Test :****Vin 5V to 1.2V**

| Vin   | Iin    | Vout   | Iout   | Efficiency(%) |
|-------|--------|--------|--------|---------------|
| 5.18V | 0.027A | 1.209V | 0.1A   | 86.40         |
| 5.16V | 0.065A | 1.198V | 0.249A | 88.90         |
| 5.14V | 0.134A | 1.198V | 0.5A   | 86.90         |
| 5.11V | 0.208A | 1.195V | 0.756A | 84.90         |
| 5.07V | 0.284A | 1.194V | 0.994A | 82.40         |
| 5.04V | 0.373A | 1.194V | 1.247A | 79.20         |
| 5.1V  | 0.462A | 1.188V | 1.5A   | 75.60         |
| 5.08V | 0.563A | 1.187V | 1.754A | 72.80         |
| 5.04V | 0.669A | 1.184V | 2A     | 70.20         |

**Vin 5V to 3.3V**

| Vin   | Iin    | Vout   | Iout   | Efficiency(%) |
|-------|--------|--------|--------|---------------|
| 5.25V | 0.069A | 3.36V  | 0.1A   | 92.70         |
| 5.23V | 0.168A | 3.34V  | 0.249A | 94.60         |
| 5.19V | 0.342A | 3.34V  | 0.502A | 94.40         |
| 5.17V | 0.523A | 3.337V | 0.755A | 95.60         |
| 5.13V | 0.704A | 3.333V | 0.994A | 91.60         |
| 5.09V | 0.905A | 3.332V | 1.247A | 90.20         |
| 5.06V | 1.119A | 3.33V  | 1.5A   | 88.20         |
| 5V    | 1.349A | 3.326V | 1.754A | 86.50         |
| 4.94V | 1.577A | 3.32V  | 1.993A | 84.90         |

**Vin 5V to 0.92V**

| Vin   | Iin    | Vout   | Iout   | Efficiency(%) |
|-------|--------|--------|--------|---------------|
| 5.15V | 0.021A | 0.927V | 0.1A   | 85.70         |
| 5.14V | 0.051A | 0.921V | 0.249A | 87.40         |
| 5.13V | 0.106A | 0.92V  | 0.502A | 84.90         |
| 5.12V | 0.166A | 0.918V | 0.756A | 81.60         |
| 5.11V | 0.227A | 0.917V | 0.994A | 78.60         |
| 5.1V  | 0.298A | 0.916V | 1.248A | 75.20         |
| 5.08V | 0.378A | 0.915V | 1.5A   | 71.50         |
| 5.07V | 0.467A | 0.913V | 1.755A | 67.70         |
| 5.04V | 0.567A | 0.912V | 1.993A | 63.60         |

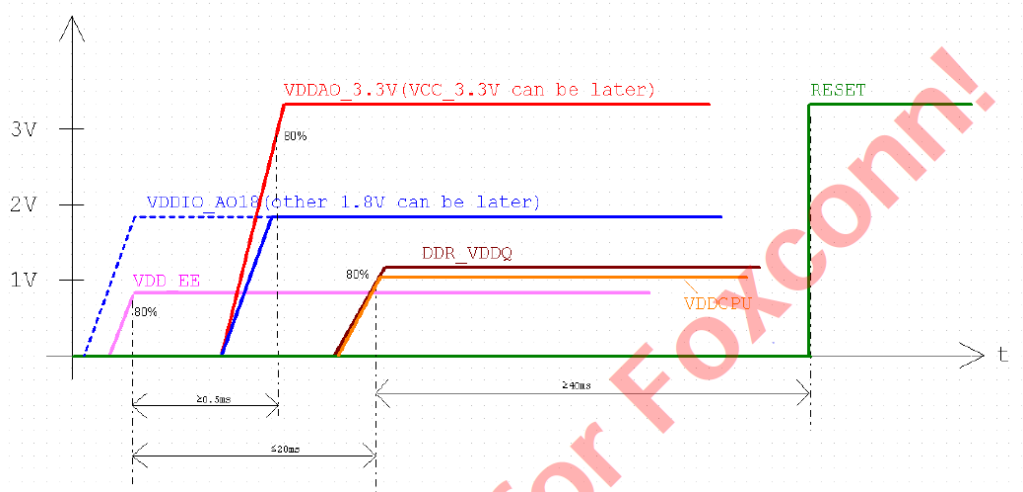
**Vin 5V to 0.823V**

| Vin    | Iin    | Vout   | Iout   | Efficiency(%) |
|--------|--------|--------|--------|---------------|
| 0.514V | 0.019A | 0.832V | 0.1A   | 85.20         |
| 5.15V  | 0.047A | 0.826V | 0.249A | 84.90         |
| 5.12V  | 0.097A | 0.825V | 0.503A | 83.50         |
| 5.1V   | 0.164A | 0.827V | 0.756A | 74.70         |
| 5.08V  | 0.229A | 0.826V | 0.995A | 71.10         |
| 5.06V  | 0.280A | 0.822V | 1.248A | 72.40         |
| 5.03V  | 0.352A | 0.82V  | 1.5A   | 69.50         |
| 5V     | 0.435A | 0.819A | 1.755A | 66.10         |
| 4.96V  | 0.523A | 0.817V | 1.993A | 62.70         |

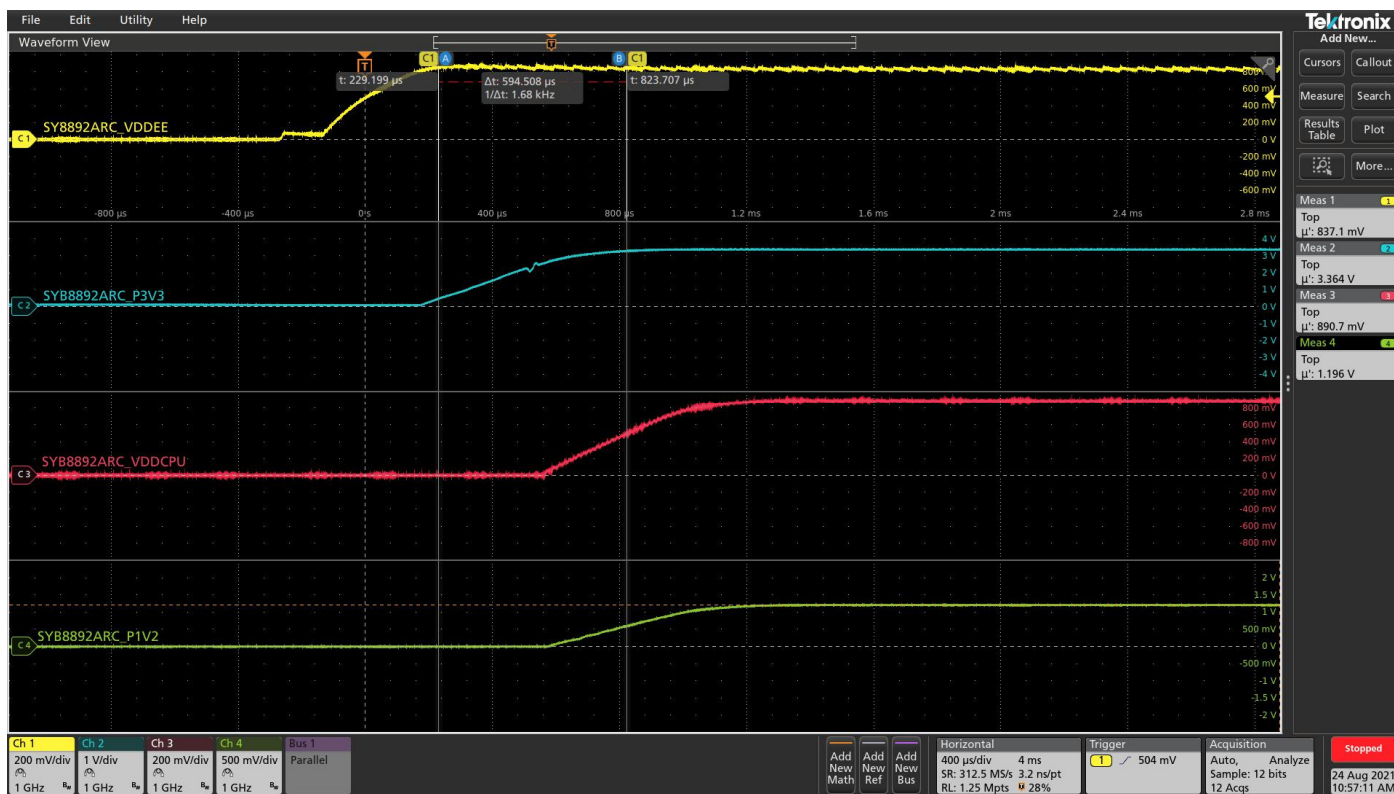
TLV62569DRLR 2nd source introduce SY8892ARC

## 6. Power on sequence

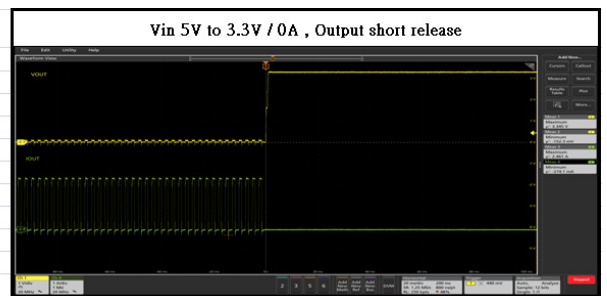
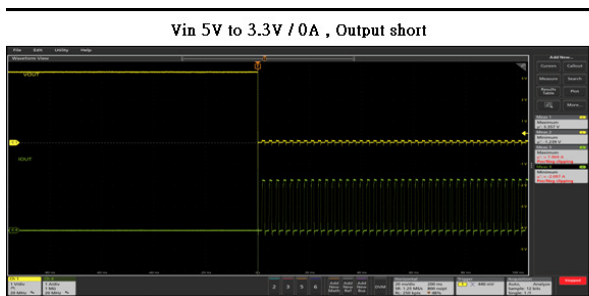
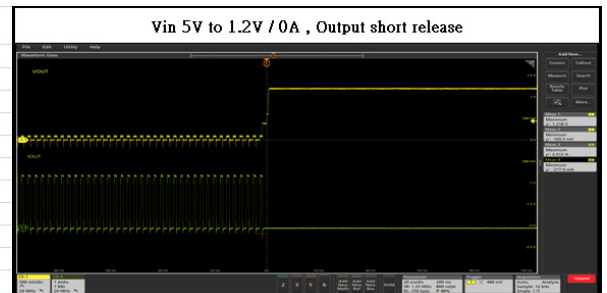
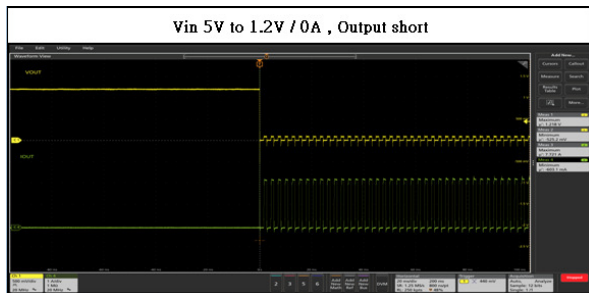
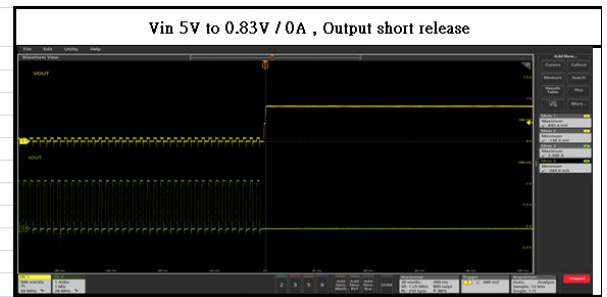
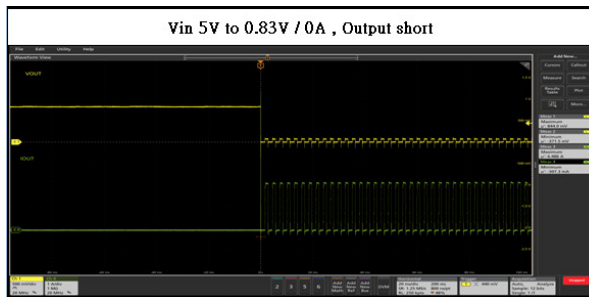
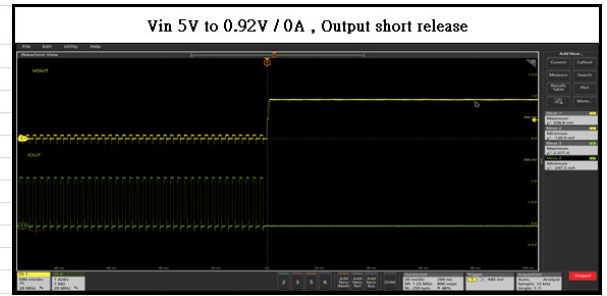
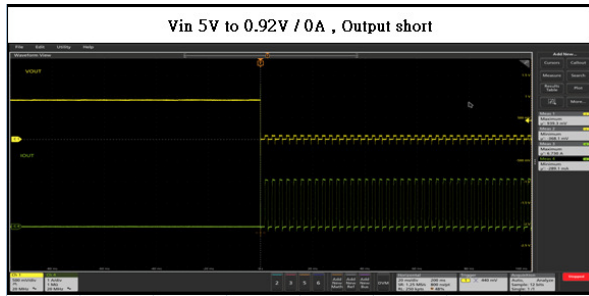
Amlogic S905X2 datasheet:



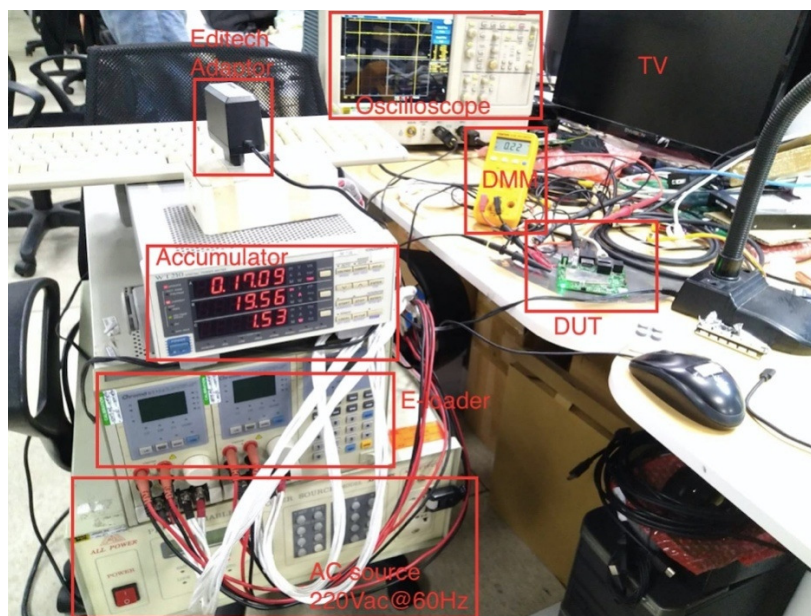
### 6-1. Power on sequence test result:



## 7. Short test



## 8. Power Consumption



### 8-1. [Adaptor: Editech TYPE2541 5V/2A]: Operation mode (4KP60 on USB hard disk + iperf 50Mbps)

Test Results of power consumption:

F/W version: 4.9.113 #1MonFeb 1122:40:43 CST 2019

H/W version: V025

| Item No.  | AC port                    | DC port                | Remark |
|-----------|----------------------------|------------------------|--------|
| SY8892ARC | 220Vac/38.5mA @60Hz, 3.11W | 5.04Vdc/461mA, 2.3234W |        |

### 8-2. [Adaptor: Editech TYPE2541 5V/2A]: Active standby mode(log in SKB UI and power of by RCU)

Test Results of power consumption:

F/W version: 4.9.113 #1MonFeb 1122:40:43 CST 2019

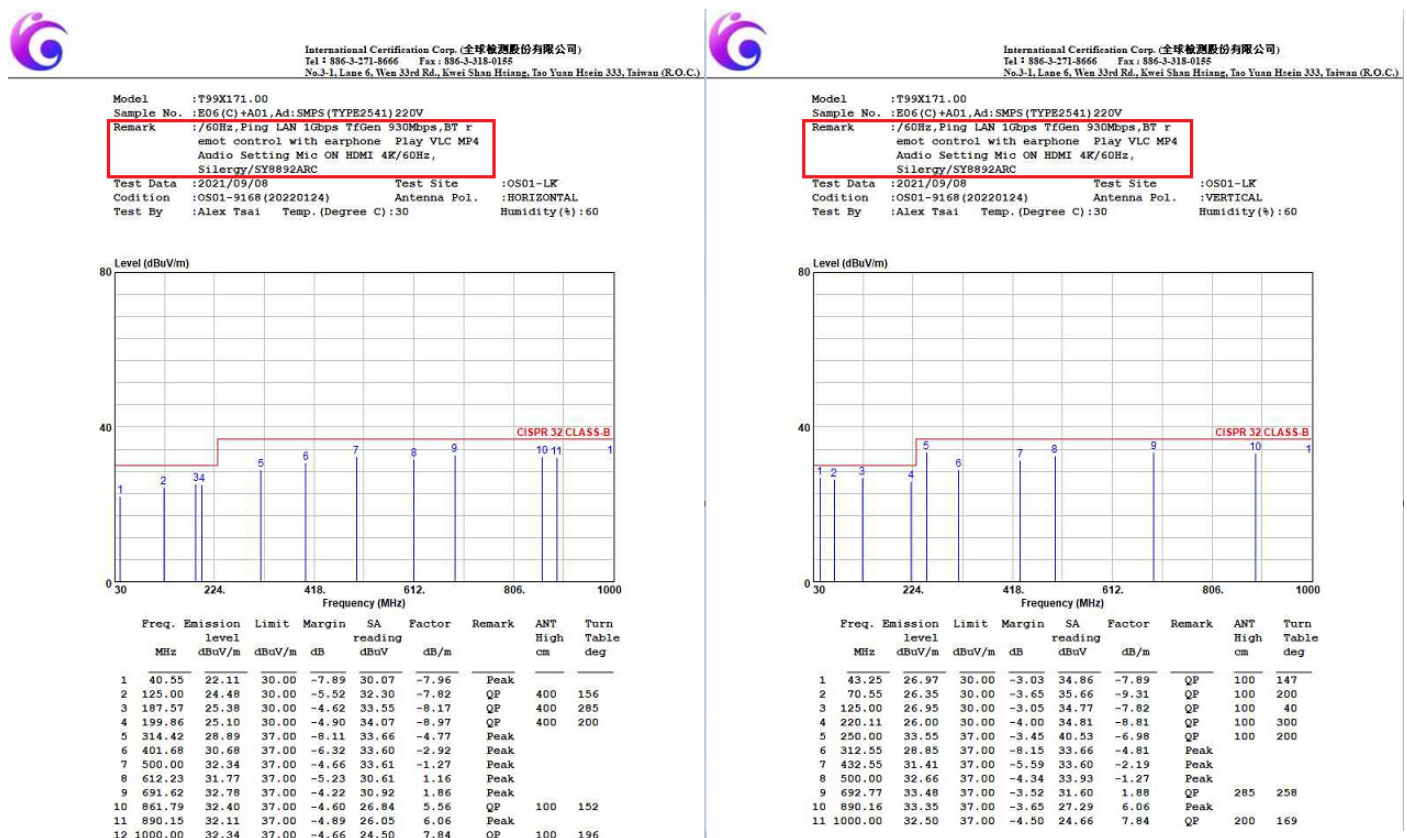
H/W version: V025

| Item No.  | AC port                     | DC port                  | Remark |
|-----------|-----------------------------|--------------------------|--------|
| SY8892ARC | 220Vac/25.3mA @60Hz, 1.914W | 5.08Vdc/278.1mA, 1.4127W |        |

## 9. EMI test

### 9.1 Test Condition

- BOX play 4K video by using external hard disk.
- Ethernet is connected to AP WIFI and run iperf base on 1Gbps to server.
- HDMI output port connects to TV through the HDMI cable.
- MIC input port connects to MIC cable
- DC Power cable is also connected.
- Open site condition



The test result is under specification

TLV62569DRLR 2nd source introduce SY8892ARC

**10. Conclusion**

|                                 |                    |                              |
|---------------------------------|--------------------|------------------------------|
|                                 | TLV62569DRLR(main) | SY8892ARC (2 <sup>nd</sup> ) |
| Total test Results              | <b>PASS</b>        |                              |
| Can be introduce to 2nd source? | <b>Yes</b>         |                              |