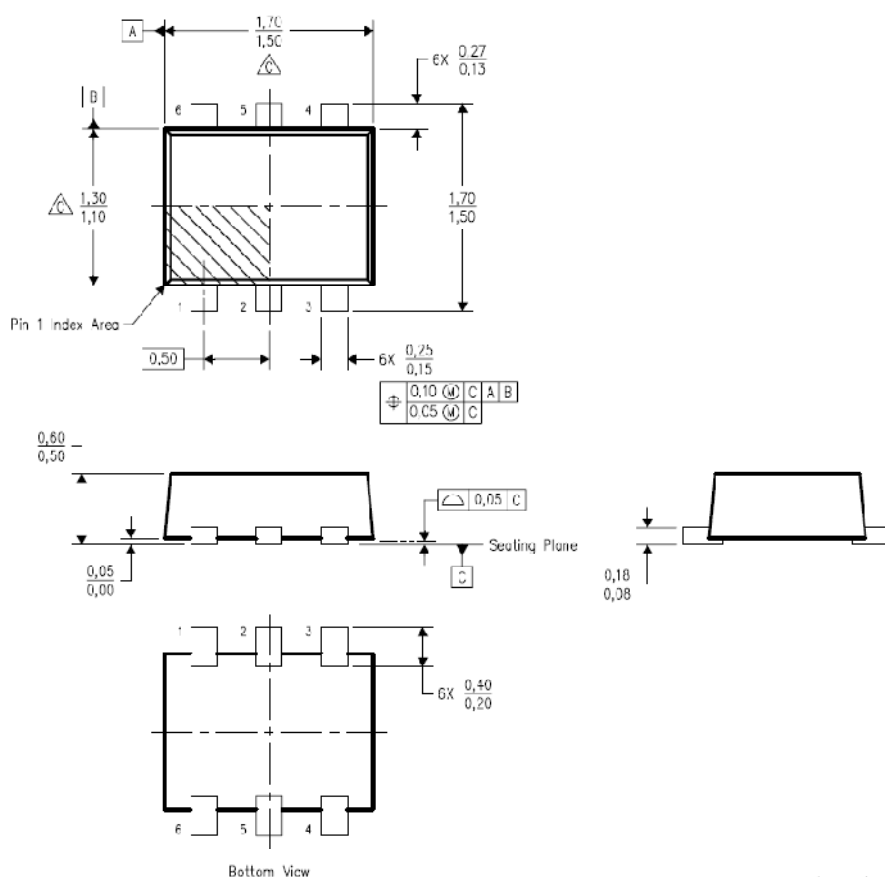


Comparison of Main source and 2nd source

Test Report

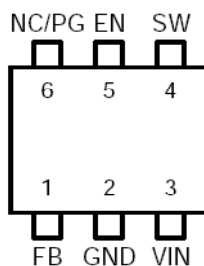
Hardware version	FW version	Main source P/N	2 ND source MFG	2 ND source P/N
V025	4.9.113 #1MonFeb 1122:40:43 CST 2019	TLV62569DRLR	Silergy	SY8892ARC

Main Source(TLV62569DRLR) spec:



4205622-3/0 08/2007

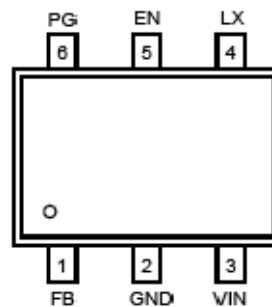
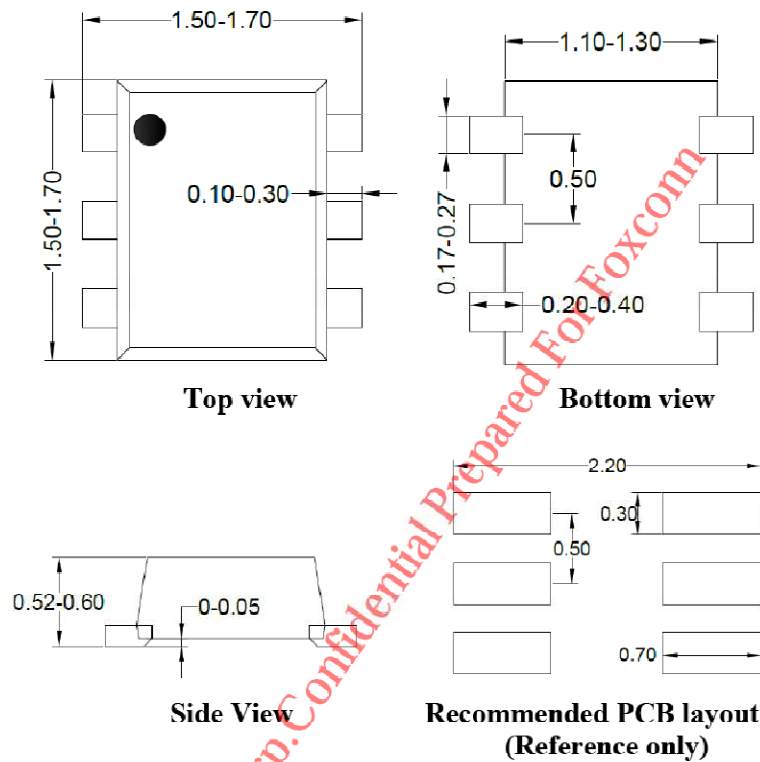
SOT563-6
DRL Package
(Top View)



I_{OUT}	Output current	0	2	A
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2nd 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 2nd 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

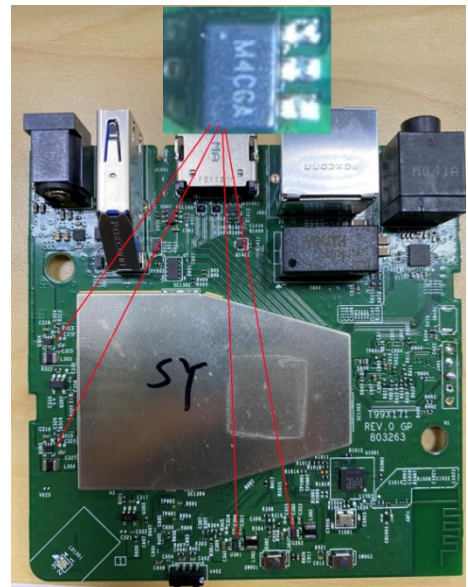
The measure test point is VDDCPU: capacitor C301(Vin)and capacitor C304(VDDCPU)

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).

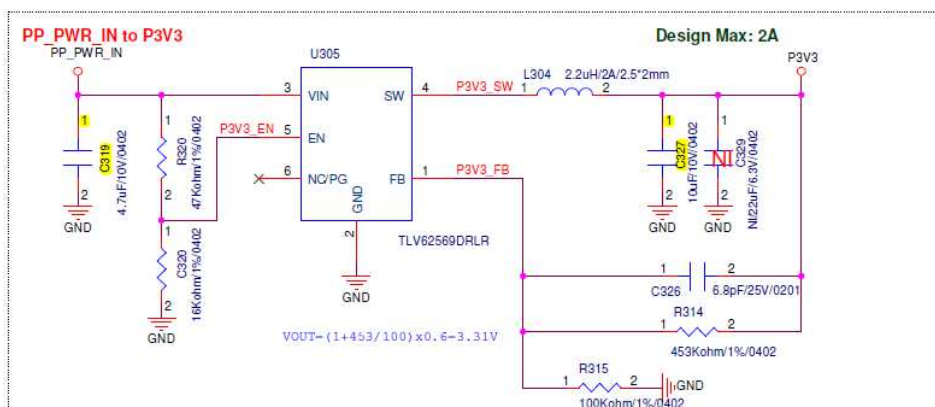
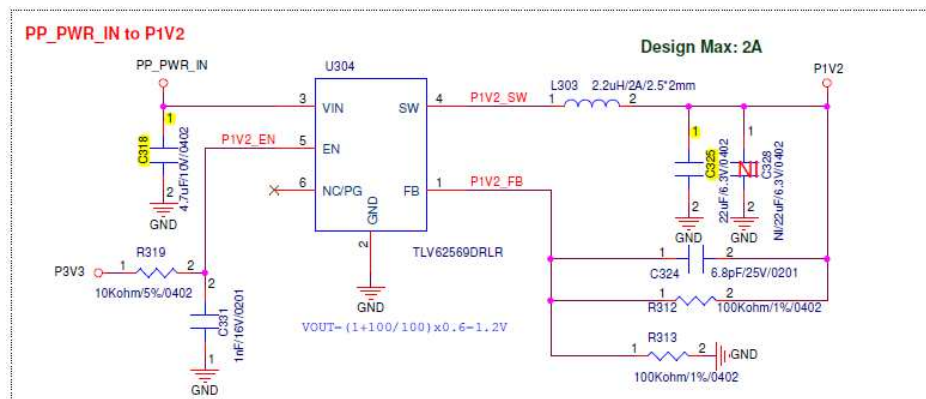
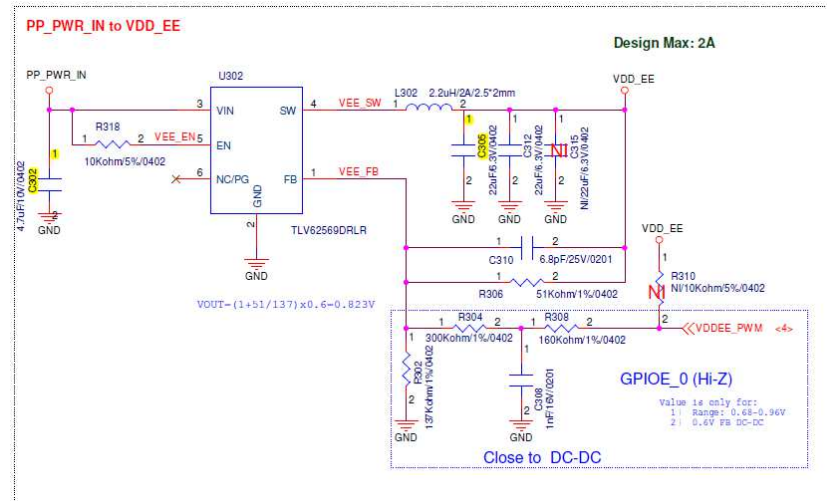
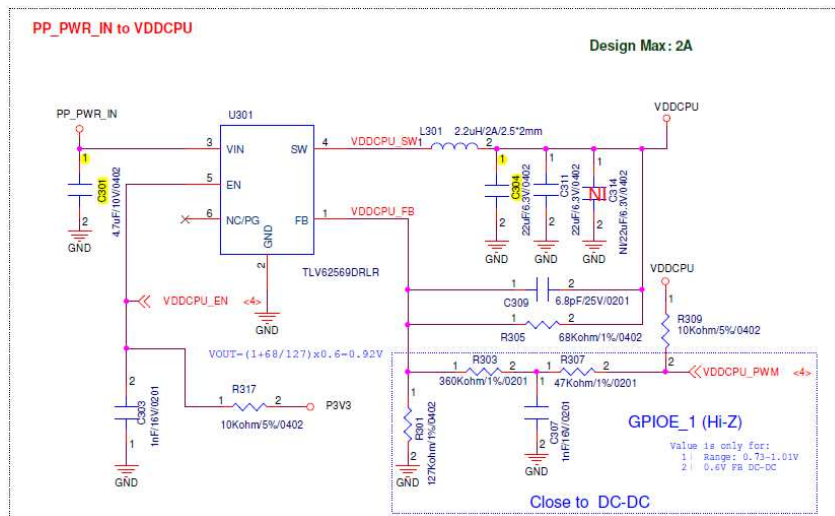
b. Vout:

Measure C304 (VDDCPU), C305(VDD_EE),C325(P1V2)and C327 (P3V3).

c. Ripple test:

TLV62569DRLR 2nd source introduce SY8892ARC

Setting Oscilloscope parameter to AC, and measure C304, C305, C325 and C327 to check ripple is under specification ($\pm 5\%$)



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

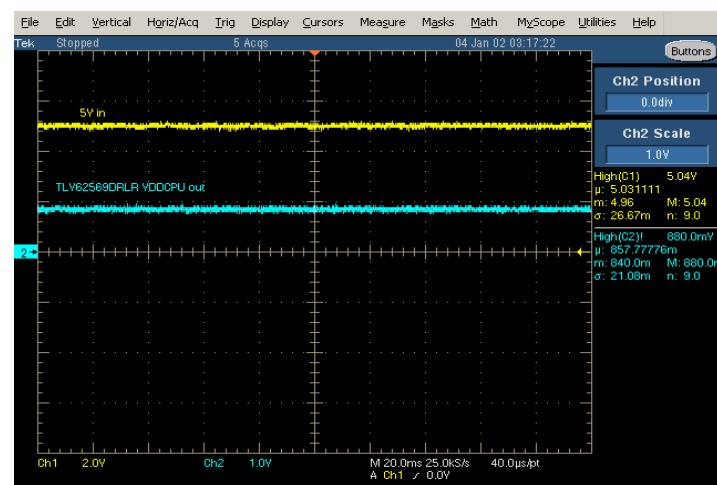


Fig 1: TLV62569DRLR_VDDCPU_VinVout

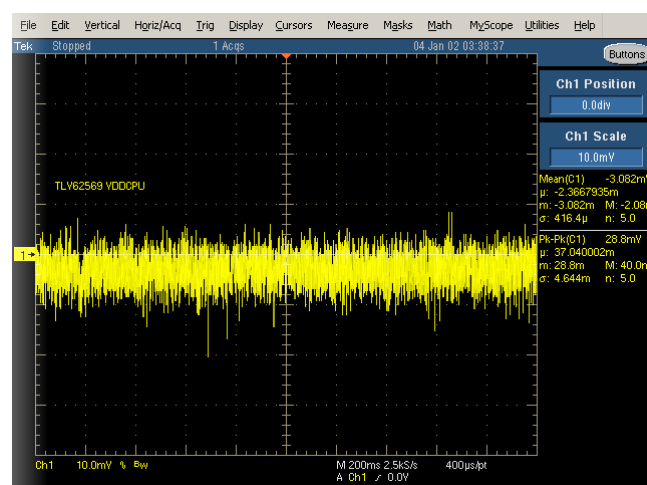


Fig 2: TLV62569DRLR_VDDCPU_ripple

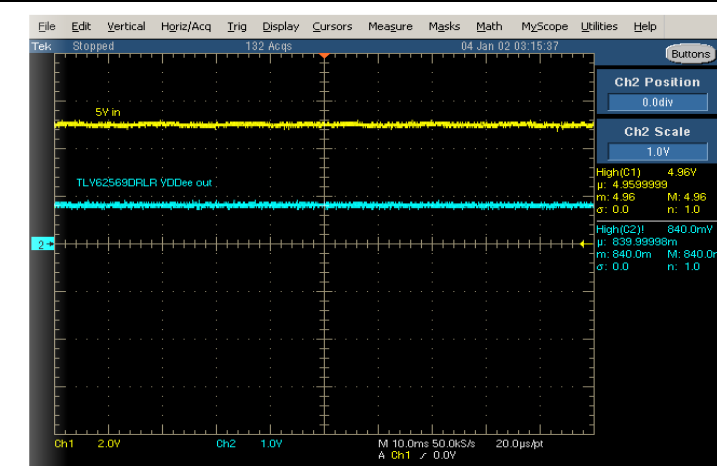


Fig3: TLV62569DRLR_VDDEE_VinVout

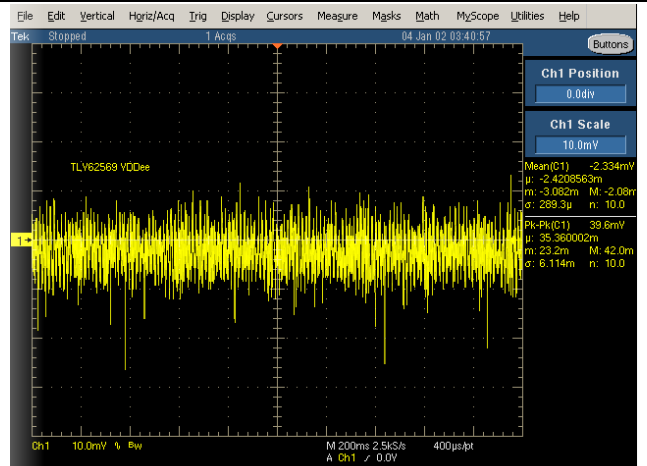


Fig4 : TLV62569DRLR_VDDEE_ripple

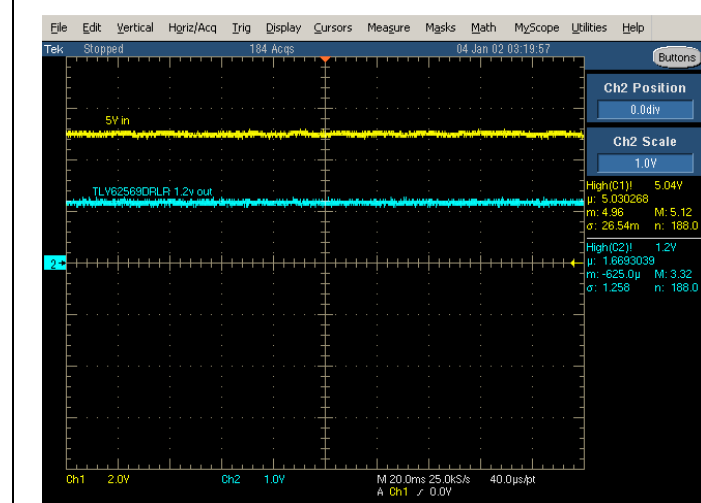


Fig5: TLV62569DRLR_P1V2_Vin Vout

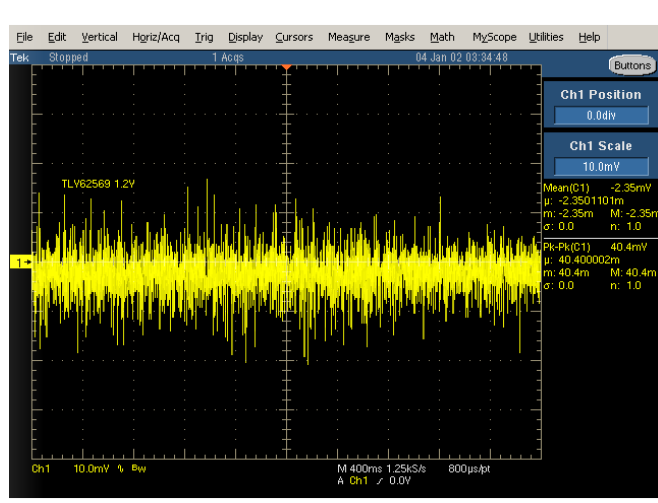


Fig6: TLV62569DRLR_P1V2_ripple

TLV62569DRLR 2nd source introduce SY8892ARC

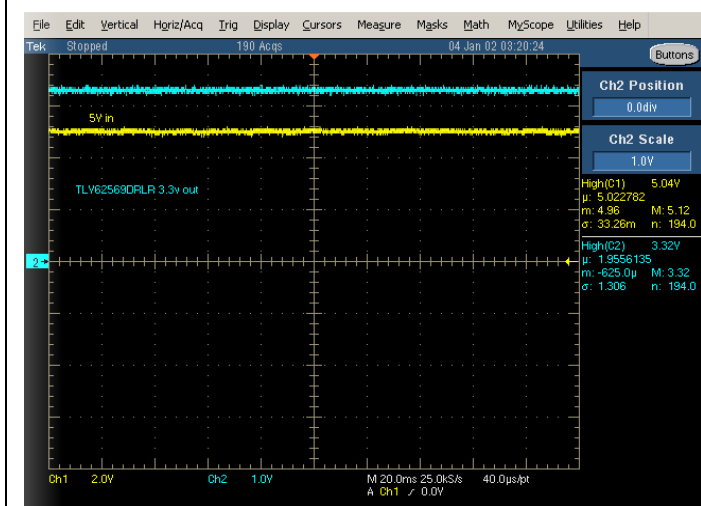


Fig7: TLV62569DRLR_P3V3_Vin Vout

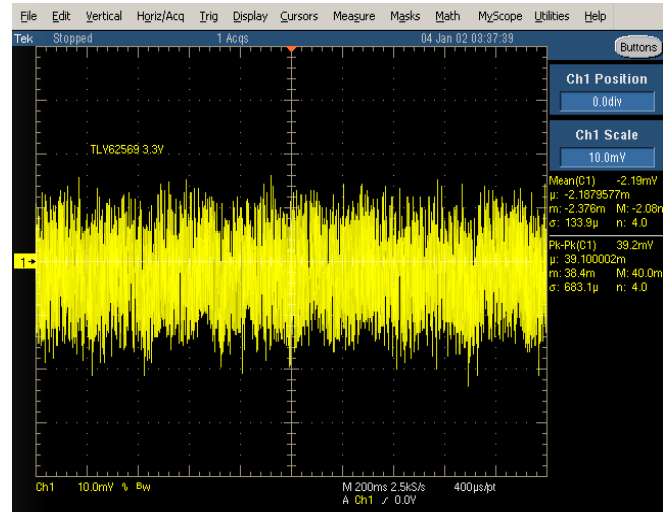


Fig8: TLV62569DRLR_P3V3_ripple



Fig. 9: SY8892ARC_VDDCPU_VinVout

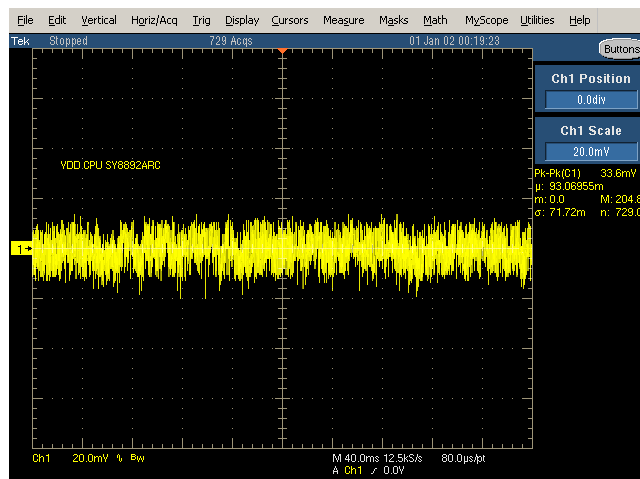


Fig.10:SY8892ARC_VDDCPU_ripple

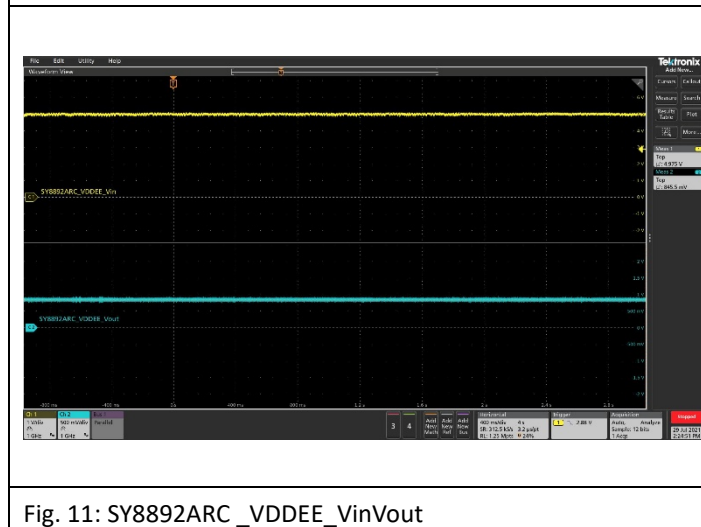


Fig. 11: SY8892ARC_VDDEE_VinVout

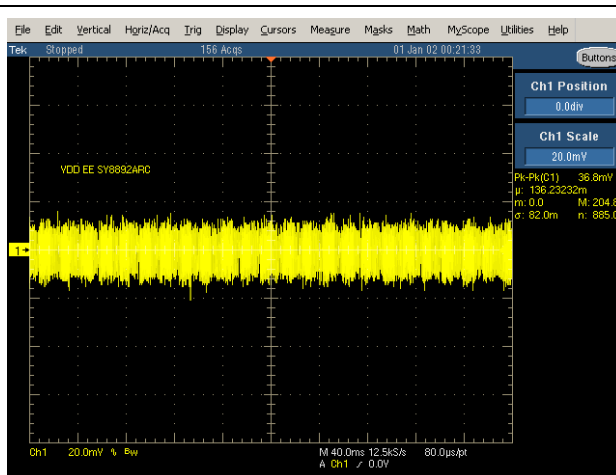


Fig. 12: SY8892ARC_VDDEE_ripple

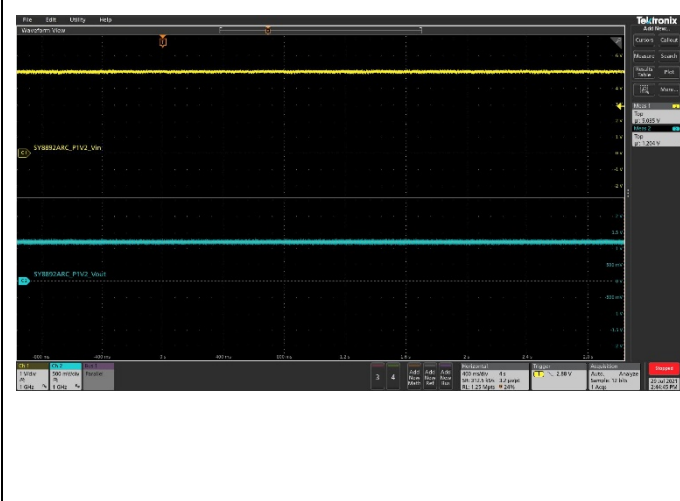


Fig. 13: SY8892ARC_P1V2_Vin Vout

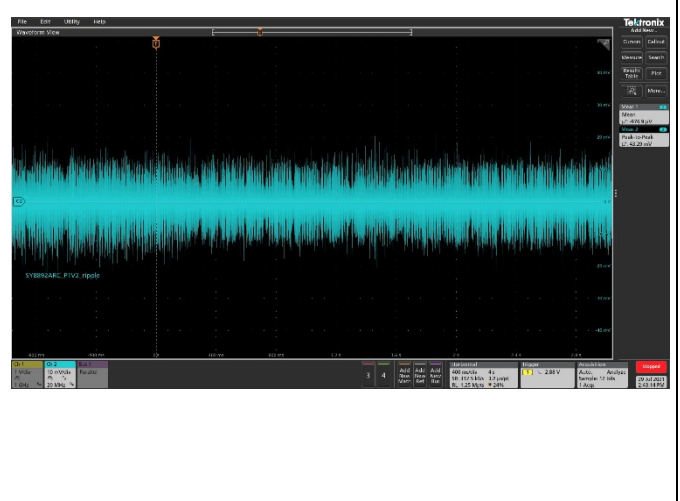


Fig. 14:SY8892ARC_P1V2_ripple

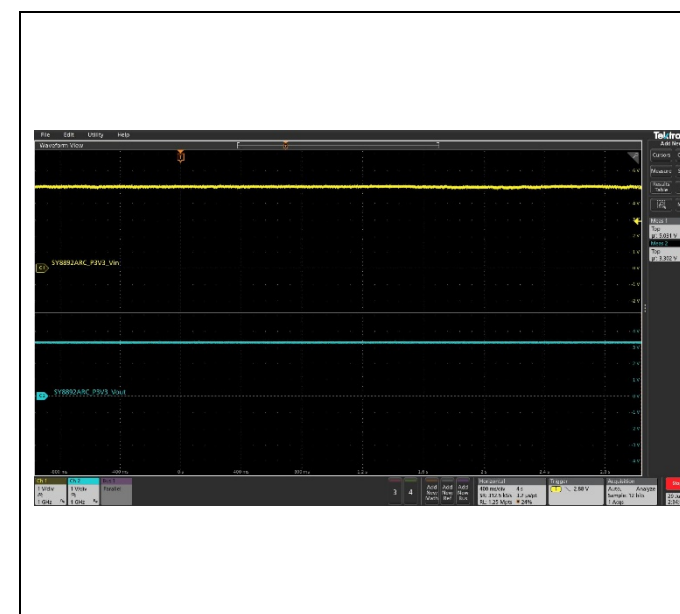


Fig.15: SY8892ARC_P3V3_Vin Vout

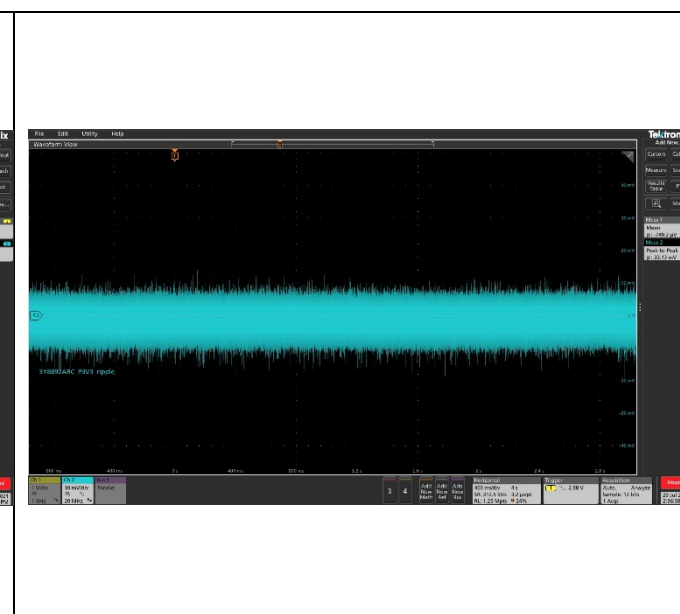


Fig. 16: SY8892ARC_P3V3_ripple

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 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 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

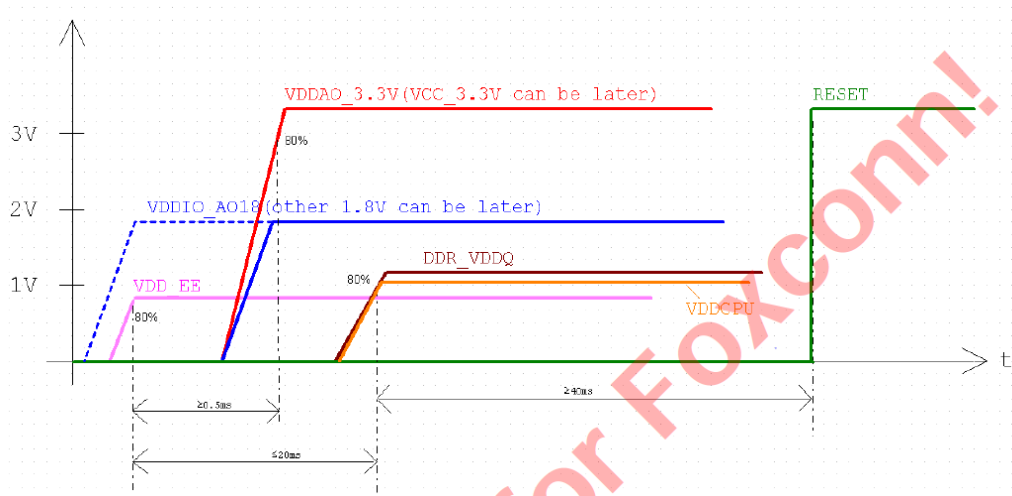
Vin 5V to 0.823V

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

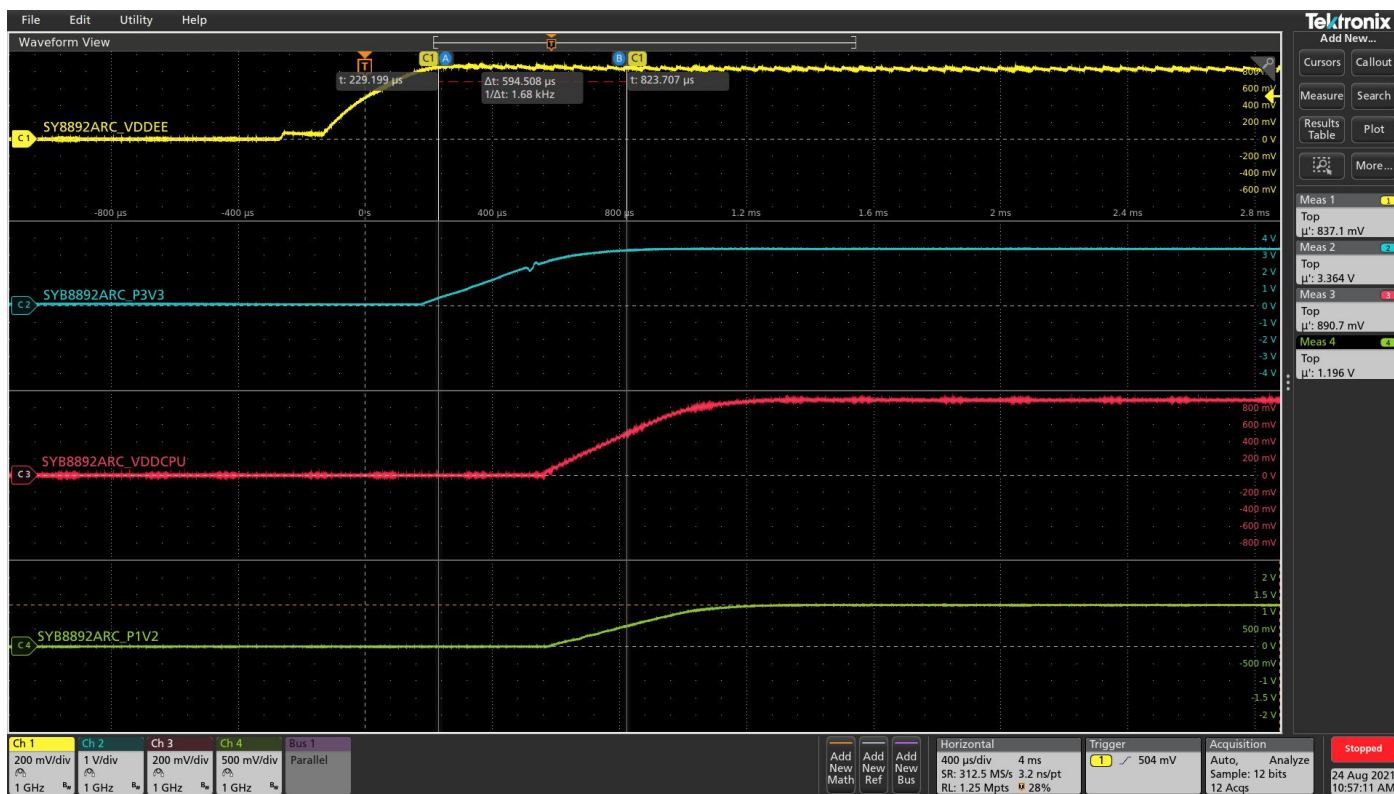
TLV62569DRLR 2nd source introduce SY8892ARC

6. Power on sequence

Amlogic S905X2 datasheet:

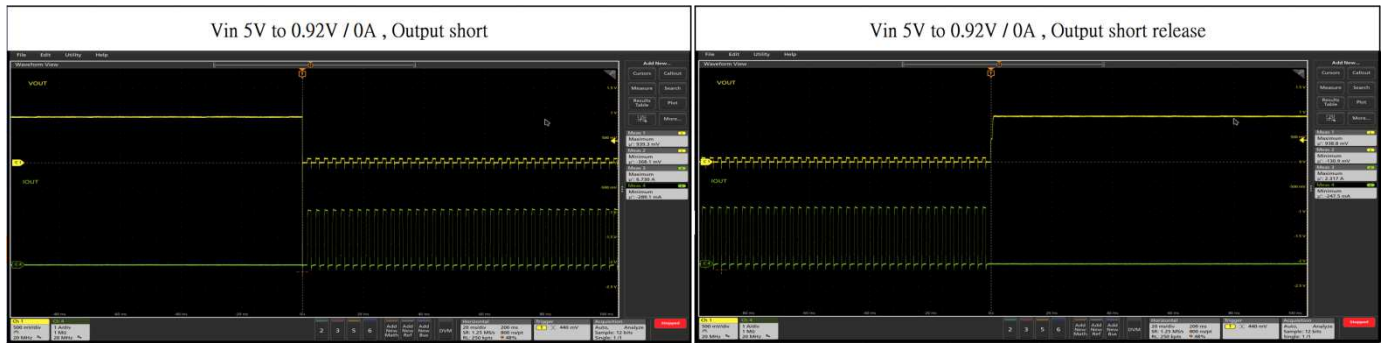


6-1. Power on sequence test result:

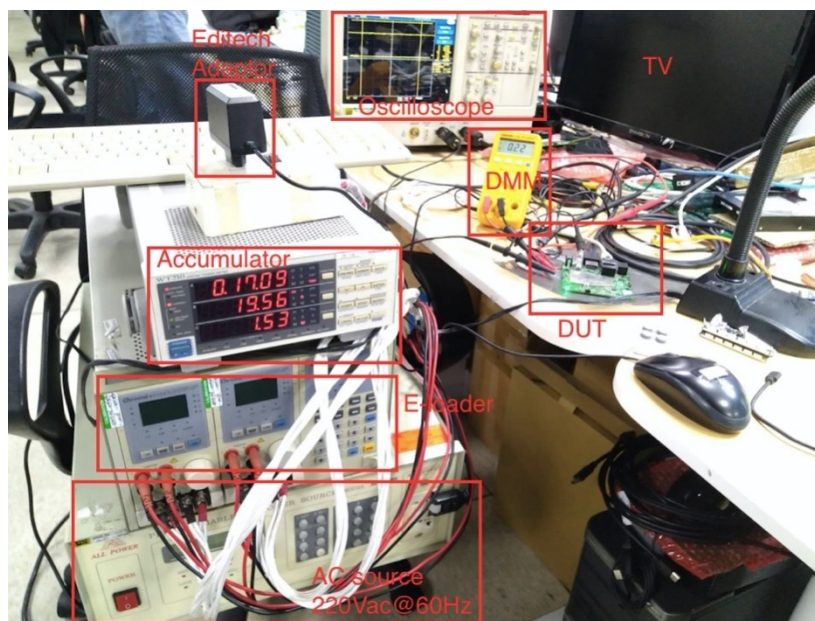


TLV62569DRLR 2nd source introduce SY8892ARC

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

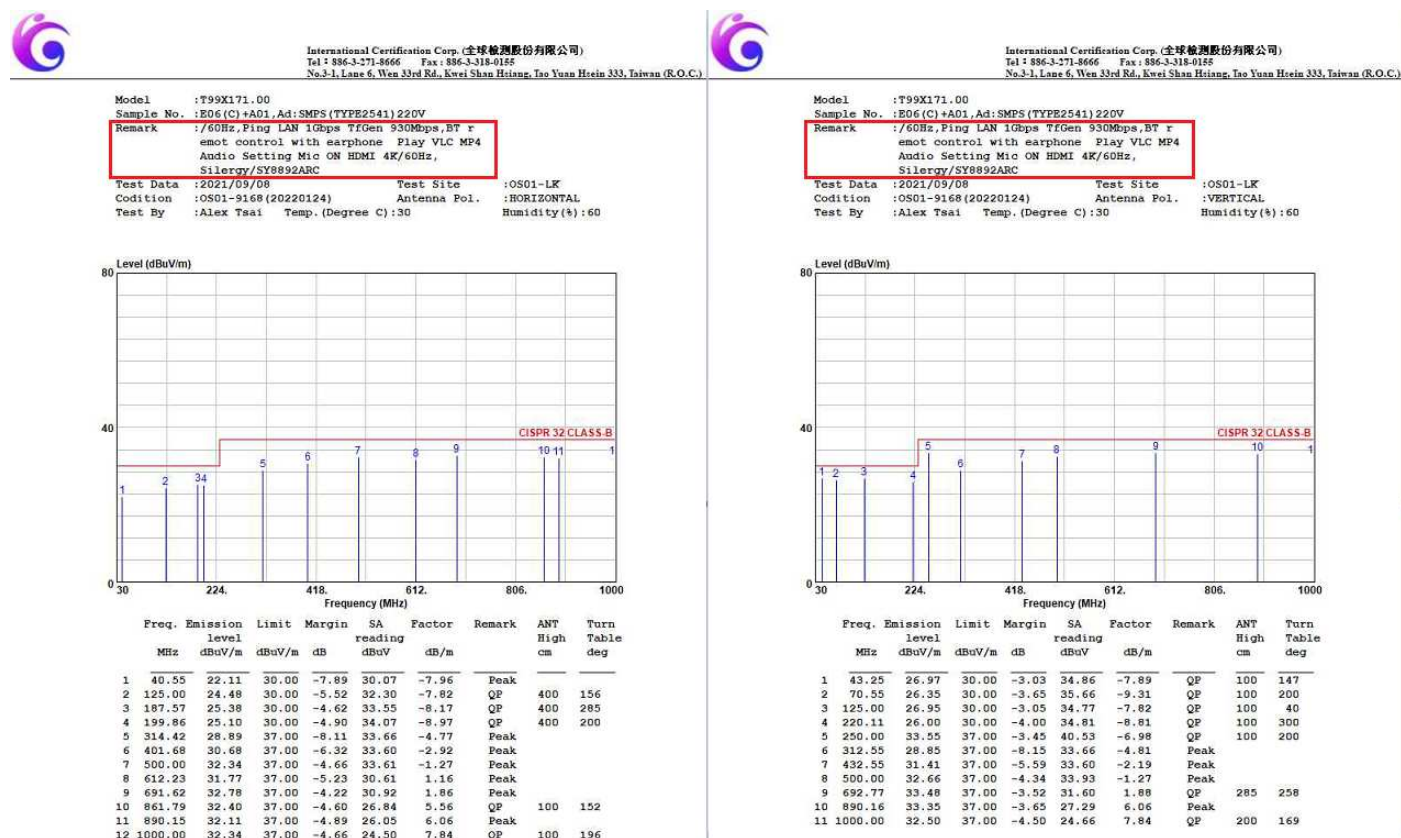
H/W version: V025

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 nd)
Total test Results	PASS	
Can be introduce to 2nd source?	Yes	