

SERVICE MANUAL

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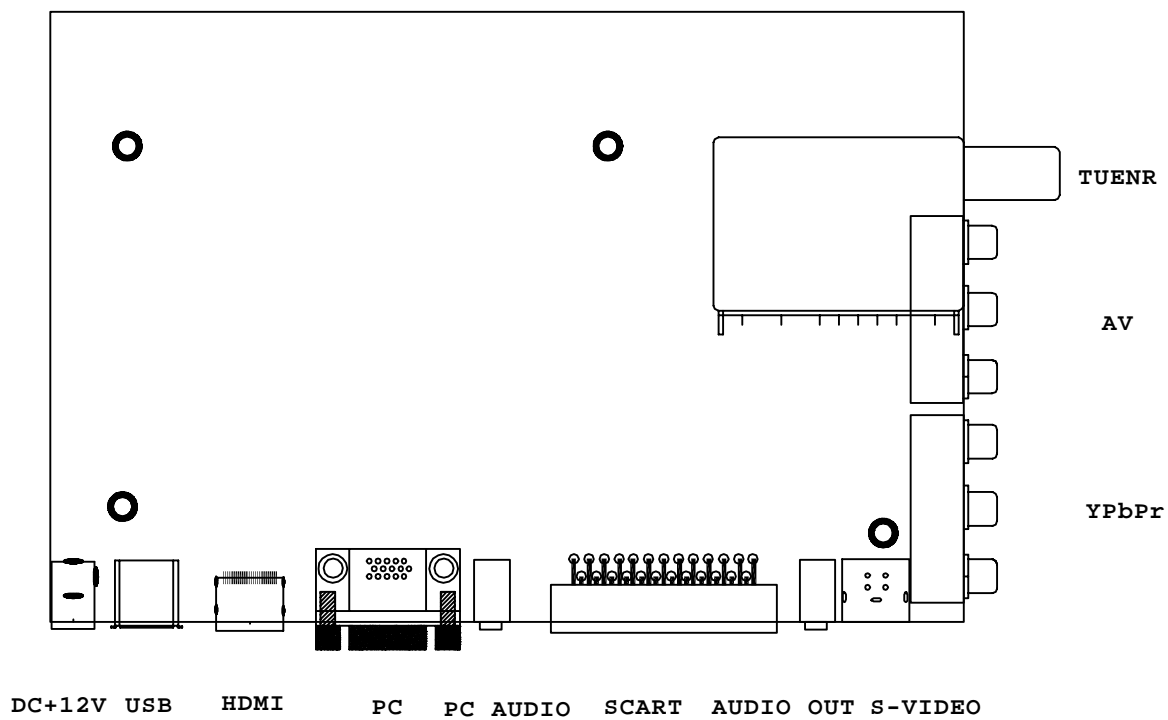
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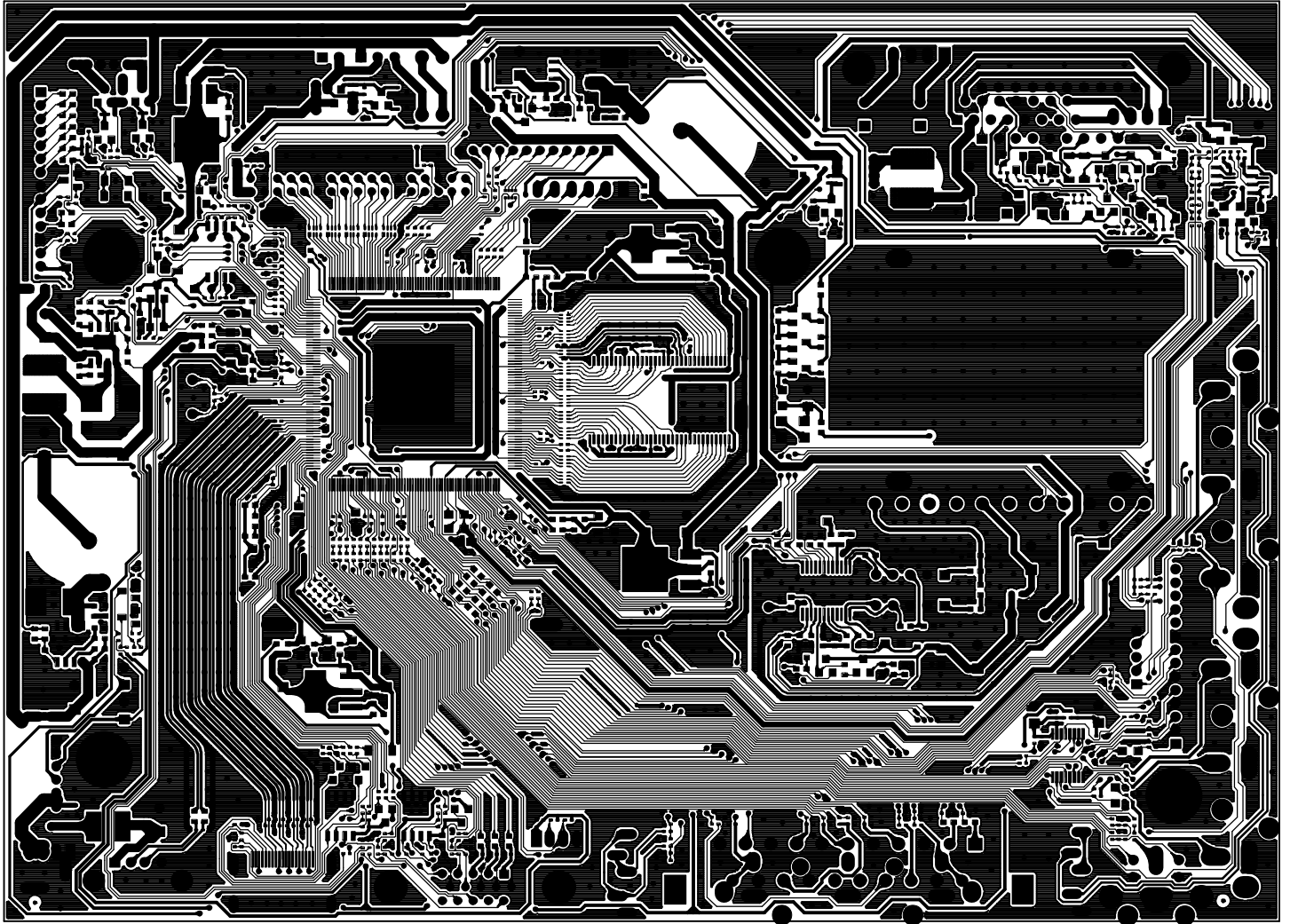
Part1:

Schematic Diagram

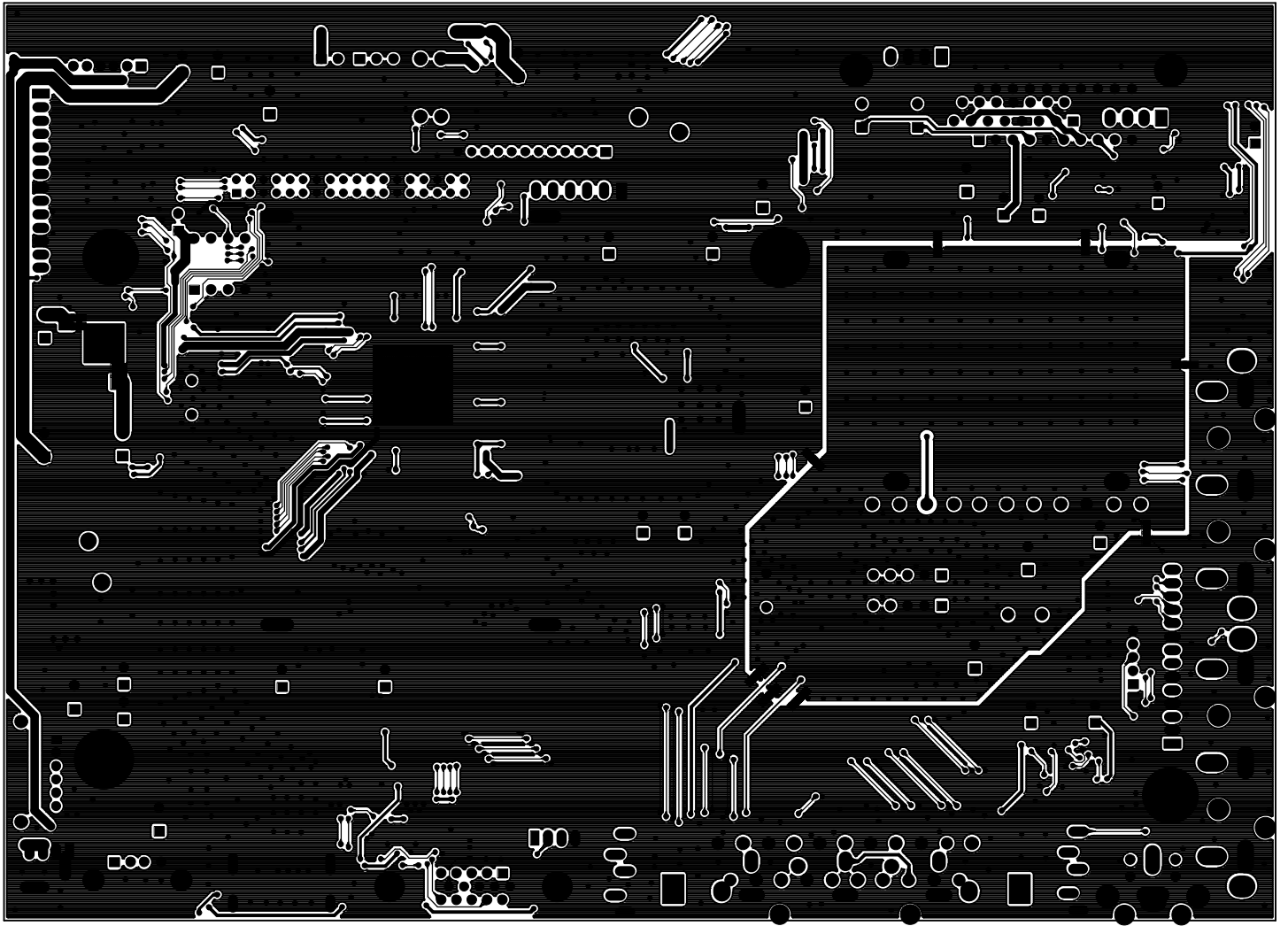


PART 2: Exploded view

Printed Circuit TV Main Board (Top View)

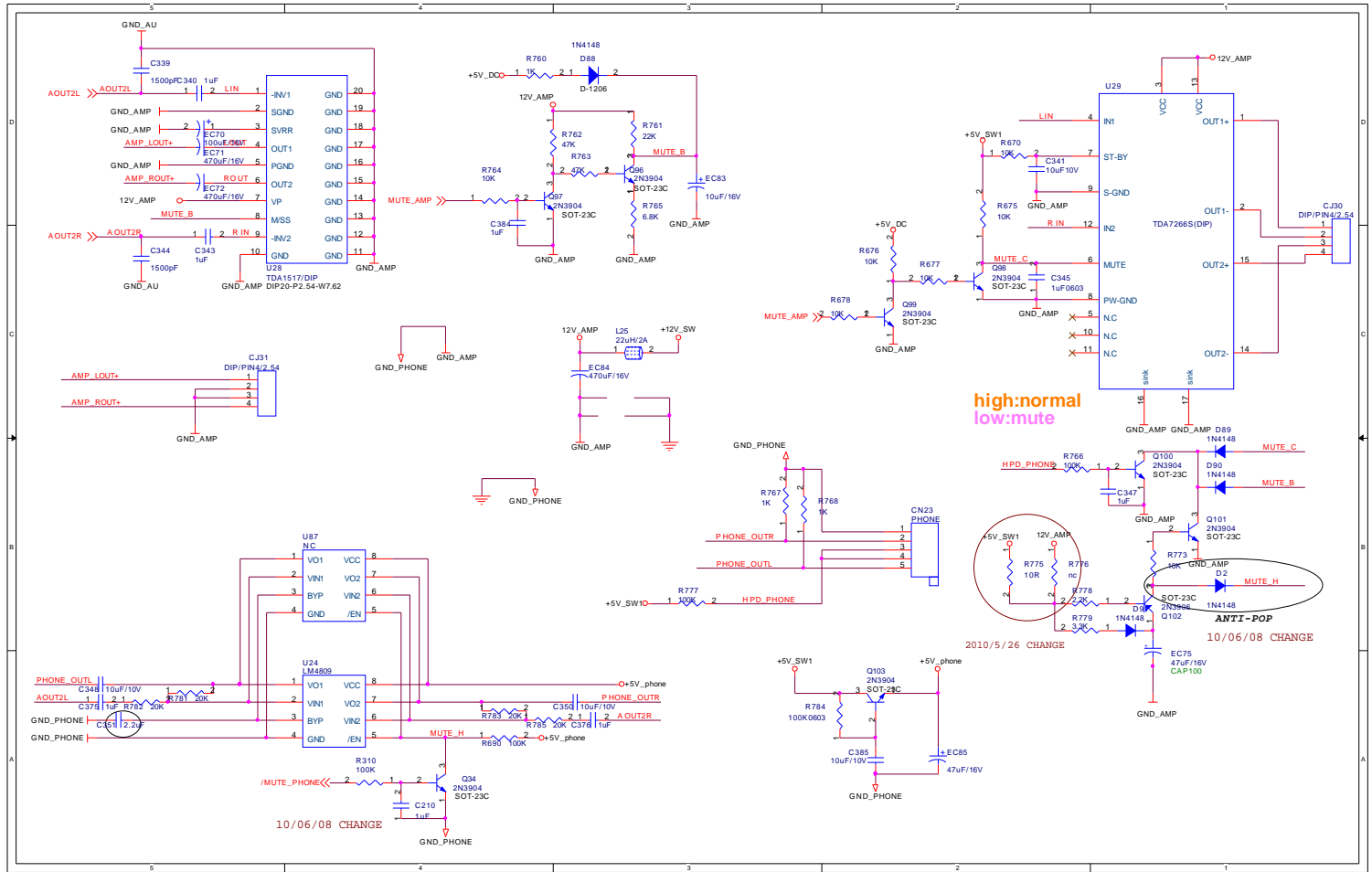


TV Main Board (Bottom view)

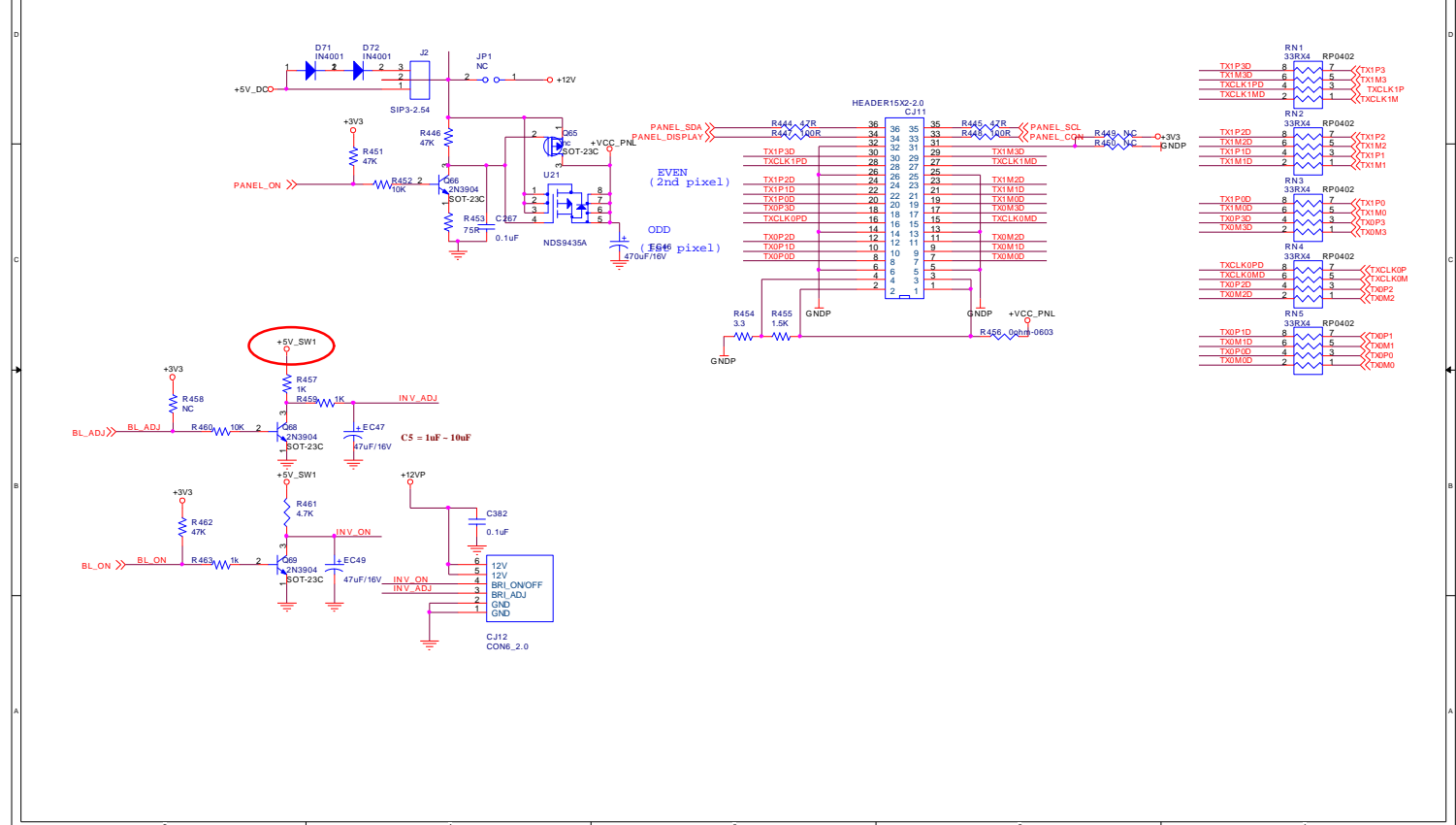


PART 3:

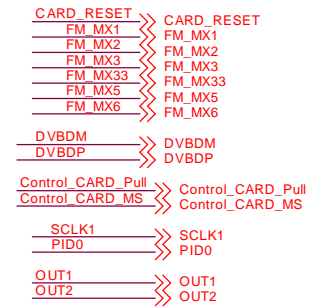
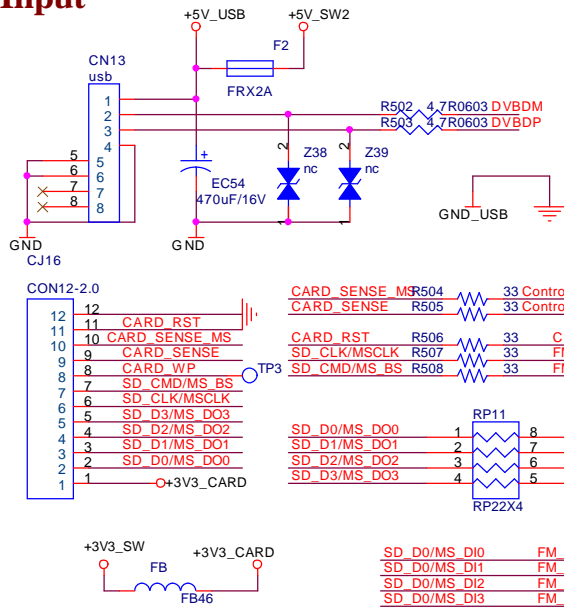
Detailed Circuit



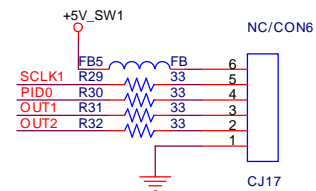
Panel Power Control



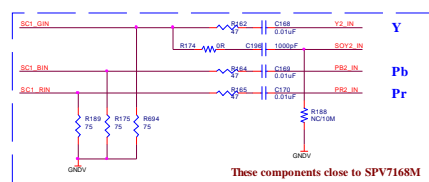
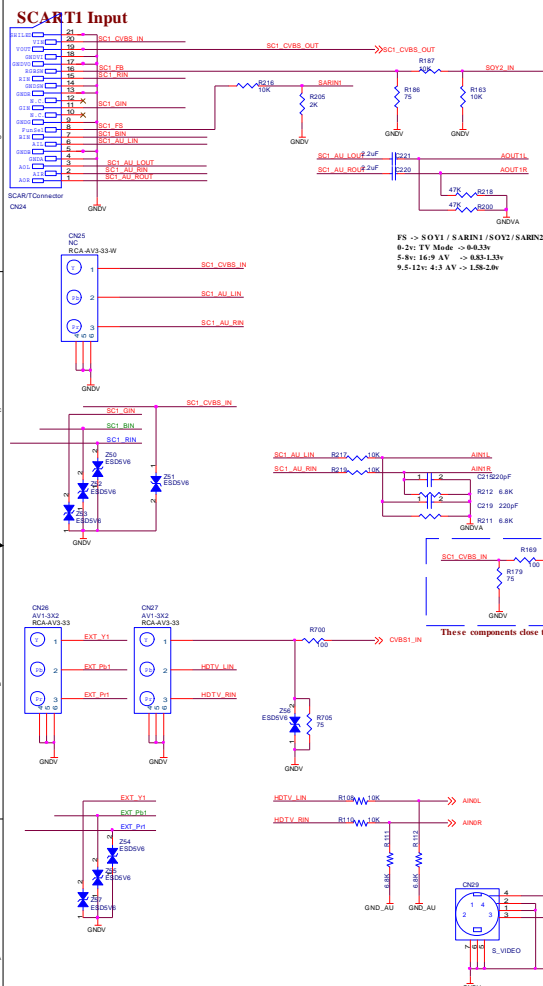
USB Input



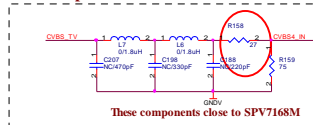
Game handle interface



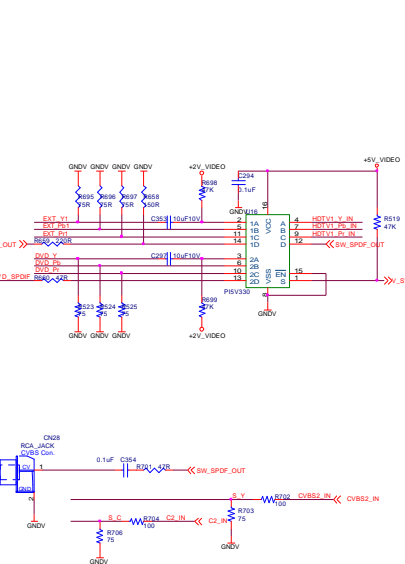
SCART1 Input



Tuner Input



Video Switch(YPbPr/DVD_YPbPr)



Video out off page



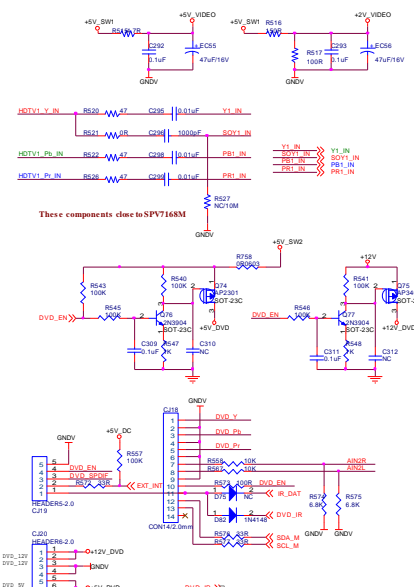
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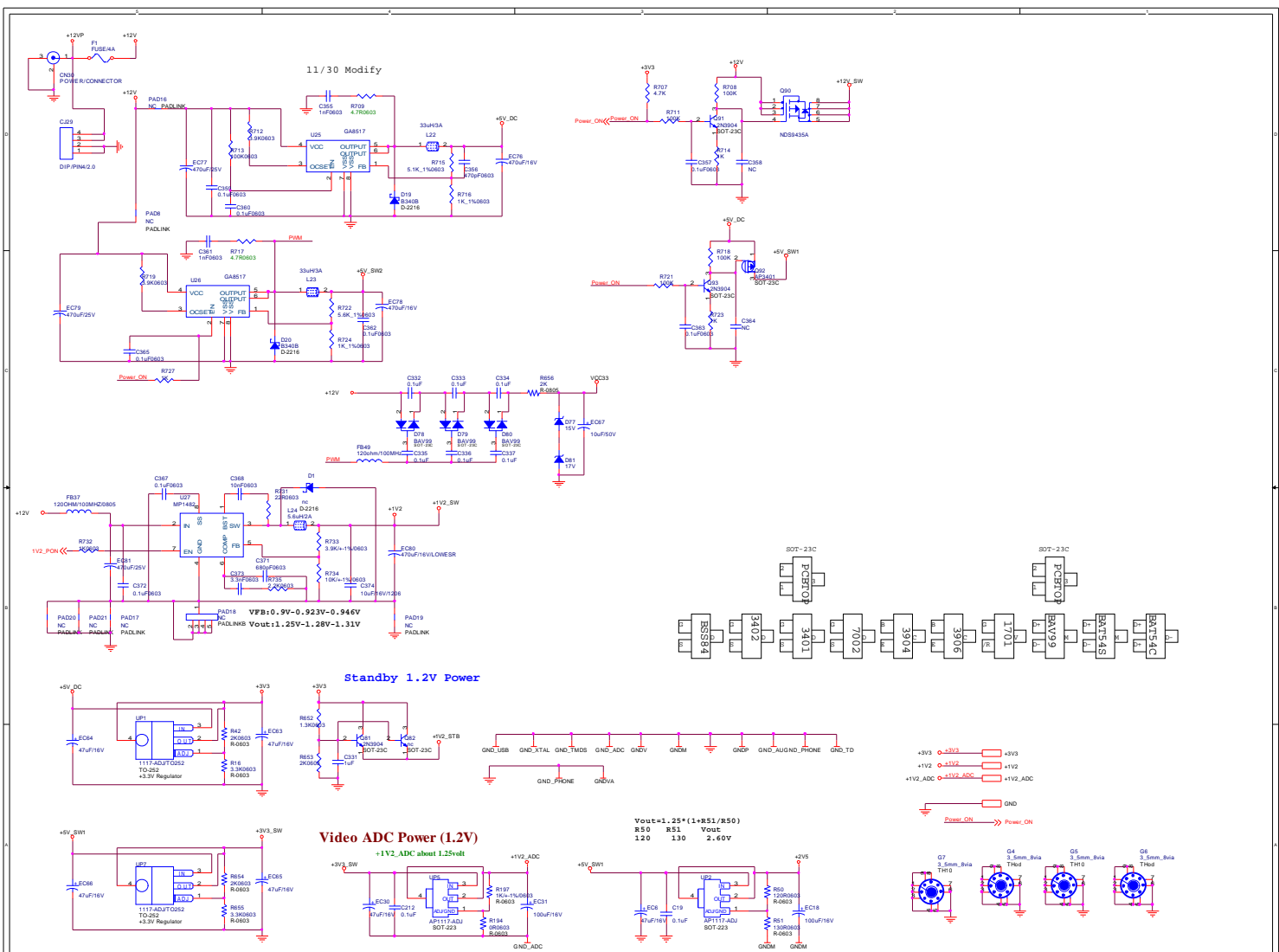
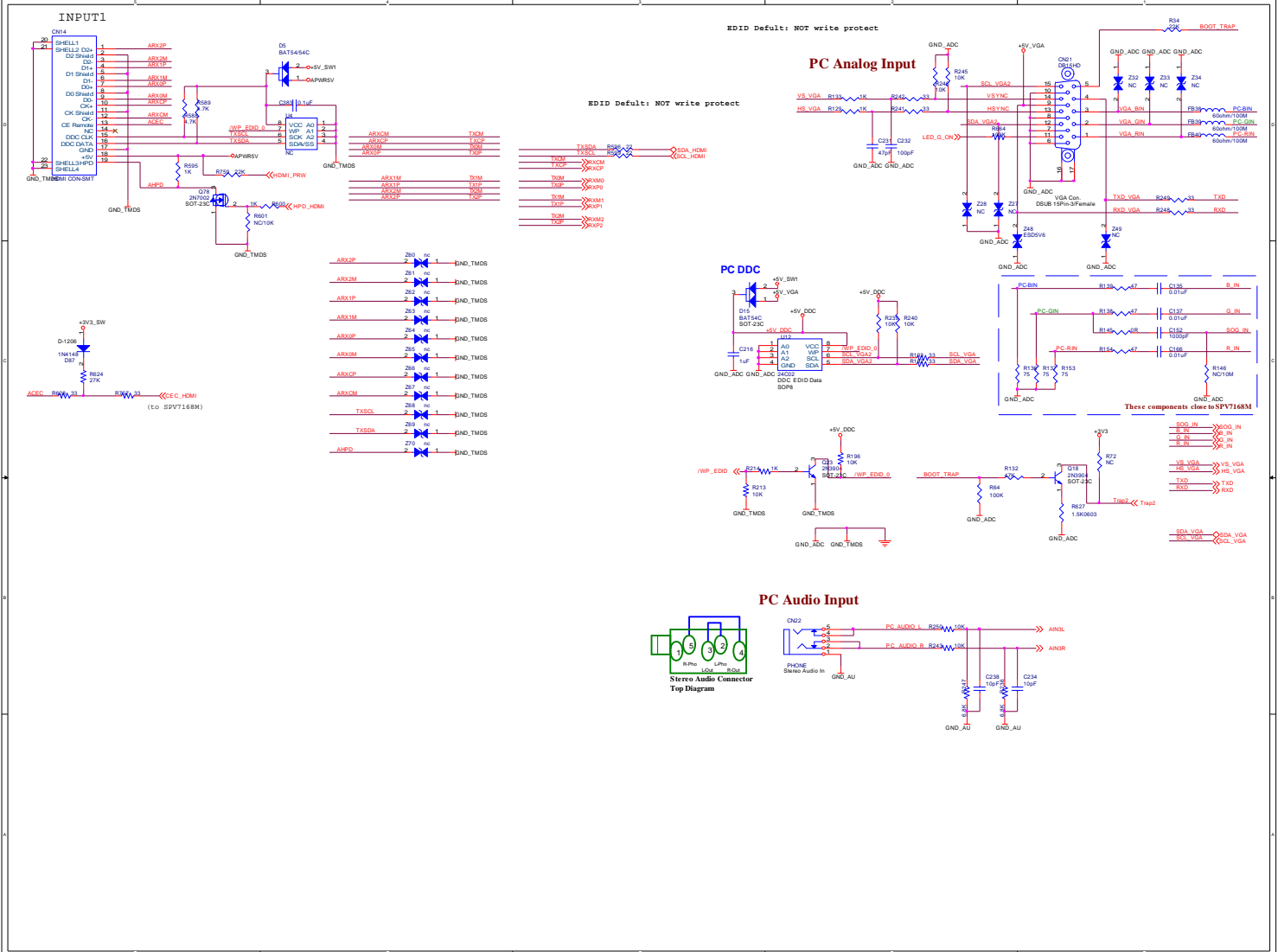


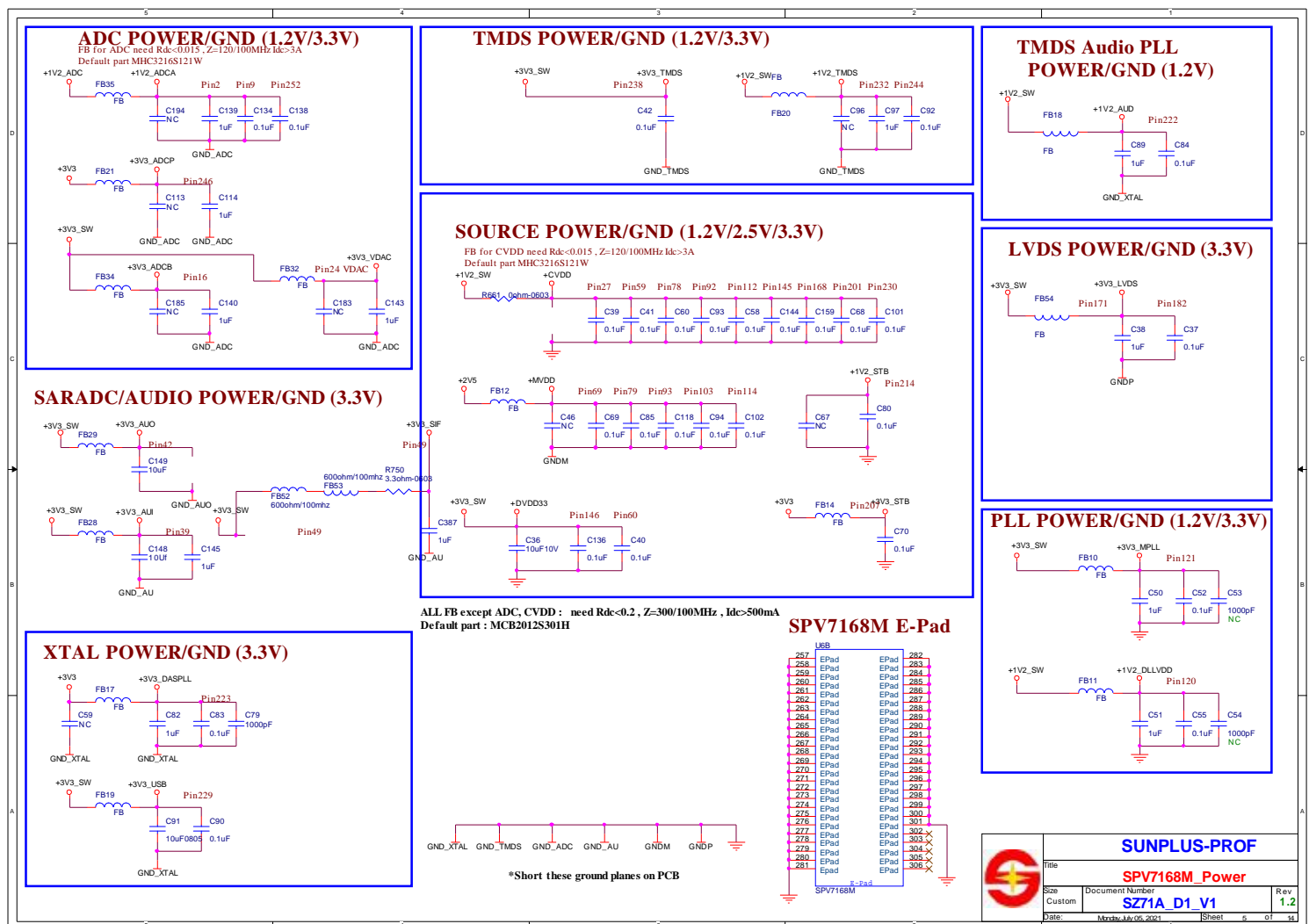
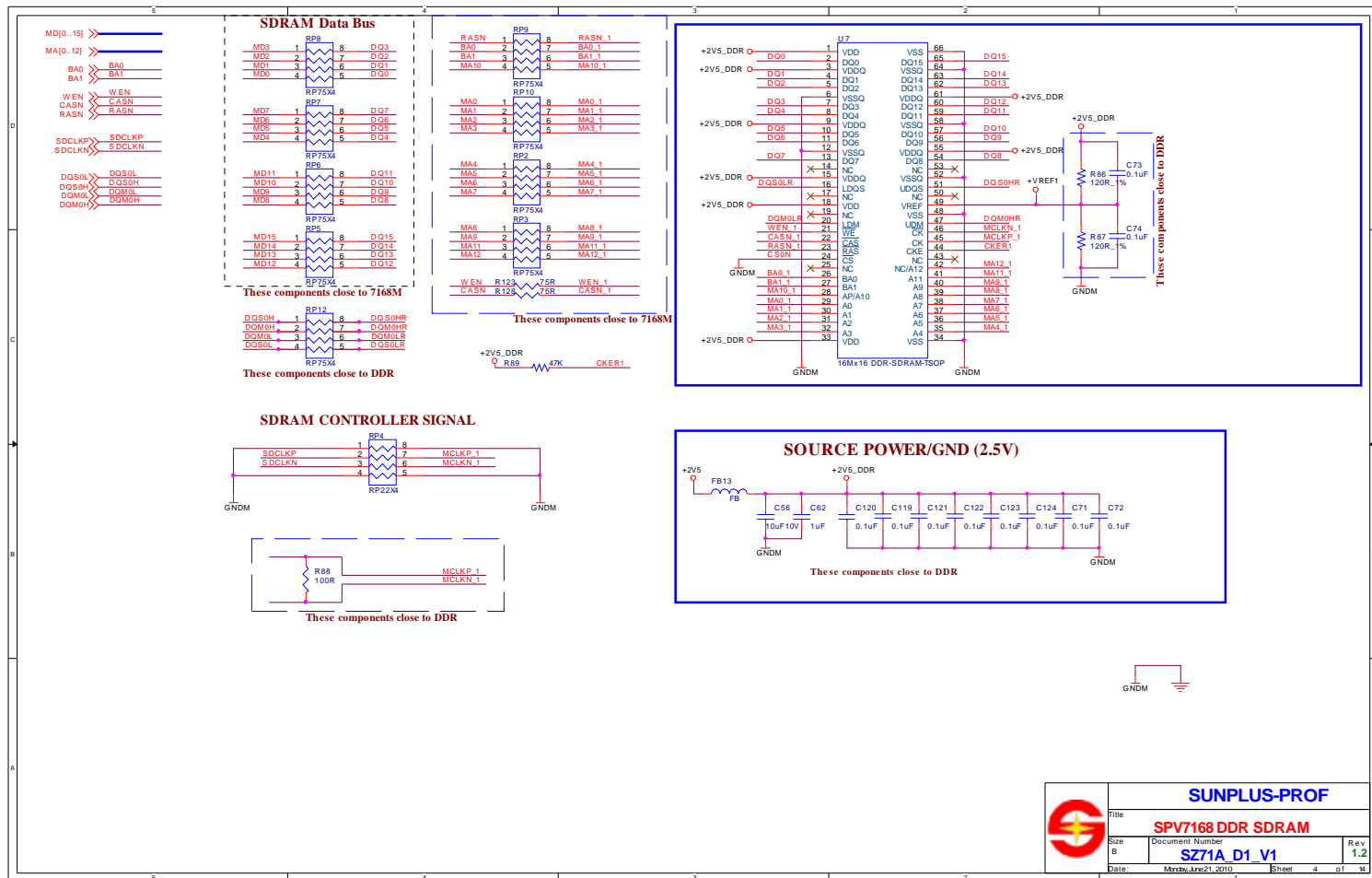
Control Pin off page

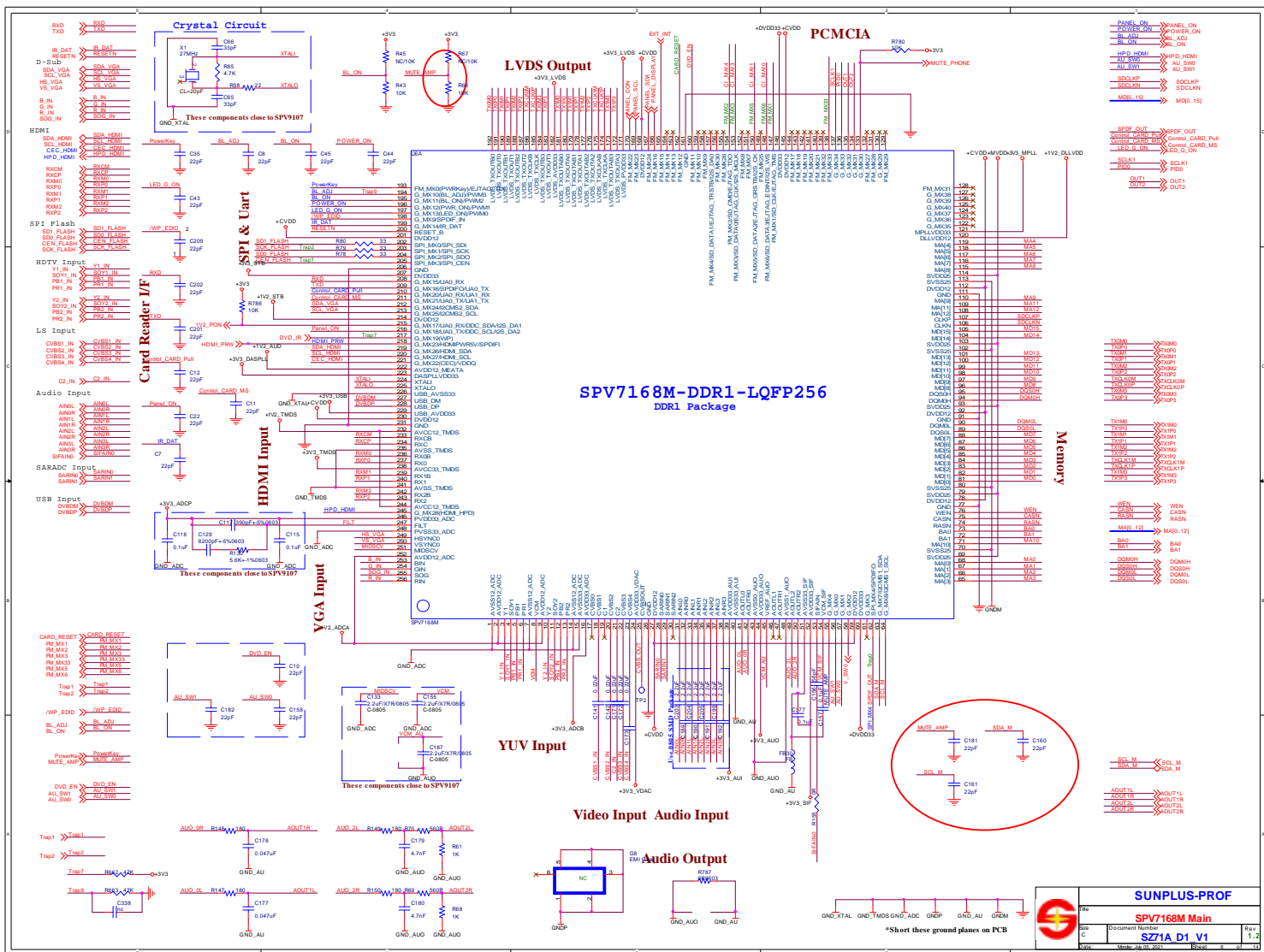


MICphone interface used without DVD working









PART 4: Main Board Components List

Material name	Speci fication	QTY	Posi ti on No.
PCB Board	HK-T. SP7168V02B-127X190	1	
Silicone	EX-G0-1715-1	0.002	
Bubble Bag	CE10-27CMX16CM	1	
Carton	AB04-60CMX44.5CMX24.5CM	0.025	包装箱
Heatsink	H-SW28X28X6	1	贴在位号为U6的芯片上
Short cap	EX-B2.54-JUMP	1	
IC Chip-TV	SPV7168M	1	U6
IC Chip-LDO	BL1117-ADJ-S0T223	2	UP2, UP5
IC Chip-LDO	BL1117-ADJ-T0252	2	UP1, UP7
IC Chip-Power supply	MP1482	1	U27
IC Chip-SW	PT2328-X	1	U16
IC Chip-Power supply	LA8517	2	U25, U26
IC Chip-EEPROM	K24C02(SOP8)	2	U4, U12
Chip MOS tube	T-SOP8-P3098LS	2	U21, Q90
IC Chip-FLASH	EN25T16-75HIP(SOP8)	1	U14
IC Chip-DDR	H5DU2562GTR-E3C(DDR-16X16)	1	U7
IC Chip-IF amplifier	SPV9886	1	U15
IC Chip-Amp	APA4880	1	U24
Plug-in IC-Amplifier	YD1517	1	U28
Tuner	TUNER-XF-TDQ-3EG3	1	J3
SAW filter	W-K3561N	1	J5
SMD resistor	R-0402-0R \pm 5%-1/16W	6	L6, L7, R145, R155, R497, R521
SMD resistor	R-0402-3.3R \pm 5%-1/16W	1	R454
SMD resistor	R-0402-4.7R \pm 5%-1/16W	1	R515
SMD resistor	R-0402-10R \pm 5%-1/16W	2	R158, R470
SMD resistor	R-0402-22R \pm 5%-1/16W	3	R98, R596, R599
SMD resistor	R-0402-33R \pm 5%-1/16W	23	R29, R30, R31, R32, R78, R79, R80, R192, R193, R241, R242, R248, R249, R504, R505, R506, R507, R508, R572, R576, R577, R628, R757
SMD resistor	R-0402-47R \pm 5%-1/16W	13	R138, R139, R154, R162, R164, R165, R444, R445, R520, R522, R526, R660, R701
SMD resistor	R-0402-75R \pm 5%-1/16W	21	R123, R128, R136, R137, R153, R159, R175, R179, R186, R189, R453, R523, R524, R525, R694, R695, R696, R697, R703, R705, R706
SMD resistor	R-0402-100R \pm 5%-1/16W	11	R88, R169, R447, R448, R468, R475, R517, R573, R700, R702, R704
SMD resistor	R-0402-120R \pm 1%-1/16W	2	R87, R86
SMD resistor	R-0402-150R \pm 5%-1/16W	2	R516, R658

SMD resistor	R-0402-180R \pm 5%-1/16W	4	R147, R148, R149, R150
SMD resistor	R-0402-220R \pm 5%-1/16W	1	R659
SMD resistor	R-0402-560R \pm 5%-1/16W	3	R69, R70, R466
SMD resistor	R-0402-1K \pm 5%-1/16W	19	R61, R68, R129, R133, R214, R12, R459, R463, R464, R547, R548, R595, R600, R714, R723, R727, R760, R767, R768
SMD resistor	R-0402-1.5K \pm 5%-1/16W	1	R455
SMD resistor	R-0402-2K \pm 5%-1/16W	1	R205
SMD resistor	R-0402-4.7K \pm 5%-1/16W	5	R85, R461, R588, R589, R707
SMD resistor	R-0402-6.8K \pm 5%-1/16W	9	R111, R112, R211, R212, R236, R247, R574, R575, R765
SMD resistor	R-0402-10K \pm 5%-1/16W	33	R45, R66, R71, R73, R74, R108, R110, R143, R144, R163, R187, R196, R213, R216, R217, R219, R239, R240, R243, R245, R246, R250, R299, R452, R460, R465, R467, R471, R477, R558, R567, R764, R786
SMD resistor	R-0402-20K \pm 5%-1/16W	2	R782, R785
SMD resistor	R-0402-22K \pm 5%-1/16W	3	R34, R759, R761
SMD resistor	R-0402-27K \pm 5%-1/16W	1	R624
SMD resistor	R-0402-47K \pm 5%-1/16W	18	R89, R132, R200, R218, R446, R451, R462, R469, R474, R519, R662, R663, R698, R699, R762, R763, R781, R783
SMD resistor	R-0402-100K \pm 5%-1/16W	18	R64, R310, R540, R541, R543, R545, R546, R557, R664, R665, R666, R690, R708, R711, R718, R721, R766, R777
Resistor Arrays	R-0402-22RX4 \pm 5%-1/16W	7	RN1, RN2, RN3, RN4, RN5, RP4, RP11
Resistor Arrays	R-0402-75RX4 \pm 5%-1/16W	9	RP2, RP3, RP5, RP6, RP7, RP8, RP9, RP10, RP12
SMD resistor	R-0603-0R \pm 5%-1/10W	7	R194, R490, R661, R758, FB38, FB39, FB40
SMD resistor	R-0603-1R \pm 5%-1/10W	1	R788
SMD resistor	R-0603-3.3R \pm 5%-1/10W	1	R750
SMD resistor	R-0603-4.7R \pm 5%-1/10W	4	R502, R503, R709, R717
SMD resistor	R-0603-10R \pm 5%-1/10W	2	R486, R488
SMD resistor	R-0603-22R \pm 5%-1/10W	1	R731
SMD resistor	R-0603-100R \pm 5%-1/10W	2	R485, R487
SMD resistor	R-0603-120R \pm 5%-1/10W	1	R50
SMD resistor	R-0603-130R \pm 5%-1/10W	1	R51

SMD resistor	R-0603-15K $\pm 5\%$ -1/10W	1	R784
SMD resistor	R-0603-200R $\pm 5\%$ -1/10W	2	R42, R654
SMD resistor	R-0603-330R $\pm 5\%$ -1/10W	3	R16, R492, R655
SMD resistor	R-0603-820R $\pm 5\%$ -1/10W	1	R476
SMD resistor	R-0603-1K $\pm 1\%$ -1/10W	3	R197, R716, R724
SMD resistor	R-0603-1K $\pm 5\%$ -1/10W	3	R15, R496, R790
SMD resistor	R-0603-1.3K $\pm 5\%$ -1/10W	1	R652
SMD resistor	R-0603-1.5K $\pm 5\%$ -1/10W	2	R478, R627
SMD resistor	R-0603-2K $\pm 5\%$ -1/10W	2	R479, R653
SMD resistor	R-0603-2.2K $\pm 5\%$ -1/10W	2	R499, R735
SMD resistor	R-0603-3K $\pm 5\%$ -1/10W	1	R480
SMD resistor	R-0603-3.9K $\pm 1\%$ -1/10W	3	R712, R719, R733
SMD resistor	R-0603-4.7K $\pm 5\%$ -1/10W	2	R473, R789
SMD resistor	R-0603-5.6K $\pm 5\%$ -1/10W	3	R130, R715, R722
SMD resistor	R-0603-6.2K $\pm 5\%$ -1/10W	1	R481
SMD resistor	R-0603-10K $\pm 1\%$ -1/10W	1	R734
SMD resistor	R-0603-12K $\pm 5\%$ -1/10W	1	R493
SMD resistor	R-0603-30K $\pm 5\%$ -1/10W	1	R482
SMD resistor	R-0603-100K $\pm 5\%$ -1/10W	2	R495, R713
SMD resistor	R-0805-0R $\pm 5\%$ -1/8W	1	R456
SMD resistor	R-0805-2K $\pm 5\%$ -1/8W	1	R656
Ceramic capacitors	C-0402-10P $\pm 5\%$ -50V	2	C234, C238
Ceramic capacitors	C-0402-22P $\pm 5\%$ -50V	18	C7, C8, C10, C11, C12, C22, C35, C43, C44, C45, C158, C160, C161, C181, C182, C201, C202, C209
Ceramic capacitors	C-0402-33P $\pm 5\%$ -50V	2	C66, C65
Ceramic capacitors	C-0402-47P $\pm 5\%$ -50V	1	C231
Ceramic capacitors	C-0402-56P $\pm 5\%$ -50V	1	C156
Ceramic capacitors	C-0402-100P $\pm 5\%$ -50V	1	C232
Ceramic capacitors	C-0402-220P $\pm 10\%$ -50V	2	C215, C219
Ceramic capacitors	C-0402-10N $\pm 10\%$ -50V	2	C180, C179
Ceramic capacitors	C-0402-1000P $\pm 10\%$ -50V	5	C53, C54, C79, C152, C296
Ceramic capacitors	C-0402-1500P $\pm 10\%$ -50V	2	C344, C339
Ceramic capacitors	C-0402-10N $\pm 10\%$ -50V	9	C135, C137, C166, C168, C169, C170, C295, C298, C299
Ceramic capacitors	C-0402-47N-Z%-50V	2	C178, C177

Ceramic capacitors	C-0402-100N-Z%-50V	61	C1, C19, C33, C34, C37, C39, C40, C41, C42, C52, C55, C58, C60, C68, C69, C70, C71, C72, C73, C74, C80, C83, C84, C85, C90, C92, C93, C94, C101, C102, C115, C116, C118, C119, C120, C121, C122, C123, C124, C134, C136, C138, C144, C157, C159, C212, C267, C269, C270, C292, C293, C294, C309, C311, C354, C377, C381
Ceramic capacitors	C-0402-220N-Z%-16V	5	C141, C142, C171, C172, C173
Ceramic capacitors	C-0402-1UF-Z%-16V	17	C38, C50, C51, C89, C114, C139, C140, C143, C145, C210, C331, C340, C343, C347, C375, C376, C384
Ceramic capacitors	C-0603-22P \pm 5%-50V	1	C283
Ceramic capacitors	C-0603-390P \pm 10%-50V	1	C117
Ceramic capacitors	C-0603-470P \pm 10%-50V	1	C356
Ceramic capacitors	C-0603-680P \pm 10%-50V	1	C371
Ceramic capacitors	C-0603-1000P \pm 10%-50V	2	C361, C355
Ceramic capacitors	C-0603-1500P \pm 10%-50V	1	C279
Ceramic capacitors	C-0603-3300P \pm 10%-50V	1	C373
Ceramic capacitors	C-0603-8200P \pm 10%-50V	1	C129
Ceramic capacitors	C-0603-10N \pm 10%-50V	5	C278, C280, C285, C287, C368
Ceramic capacitors	C-0603-100N-Z%-50V	14	C332, C333, C334, C335, C336, C337, C357, C359, C360, C362, C363, C365, C367, C372
Ceramic capacitors	C-0603-220N-Z%-16V	1	C284
Ceramic capacitors	C-0603-470N-Z%-16V	2	C282, C288
Ceramic capacitors	C-0603-1UF-Z%-16V	5	C62, C82, C97, C216, C271
Ceramic capacitors	C-0603-2.2UF-Z%-16V	11	C189, C190, C191, C192, C199, C203, C204, C205, C220, C221, C351
Ceramic capacitors	C-0805-10UF-Z%-10V	12	C36, C56, C91, C149, C268, C276, C277, C289, C297, C348, C350, C353
Ceramic capacitors	C-1206-10UF-Z%-16V	1	C374
Ceramic capacitors	C-0805-2.2UF-Z%-10V-X	3	C133, C155, C187
ESD diodes	E-0402-5.6V-4.7P	9	Z48, Z50, Z51, Z52, Z53, Z54, Z55, Z56, Z57
Chip Beads	B-0805-120R \pm 10%-500MA	1	FB37

Chip Beads	B-0603-120R \pm 10%-300MA	23	FB3, FB5, FB10, FB11, FB12, FB13, FB14, FB17, FB19, FB20, FB21, FB28, FB29, FB30, FB32, FB34, FB35, FB45, FB46, FB49, FB50, FB51, FB54
Chip Beads	B-0603-600R \pm 10%-300MA	2	FB52, FB53
Switching Diode	D-1206-1N4148	6	D73, D74, D82, D87, D88, D90
Schottky Diodes	D-2010-SS34	2	D20, D19
Plug-in rectifier diode	D-DIP-IN4004	2	D71, D72
voltage regulator diode	D-1206-ZMM15V	1	D77
voltage regulator diode	D-1206-ZMM18V	1	D81
Two-way diode	D-SOT23-BAV99L	3	D78, D79, D80
Two-way diode	D-SOT23-BAT54C	2	D5, D15
Chip MOS tube	T-SOT23-A02301	1	Q74
Chip MOS tube	T-SOT23-A03401	2	Q75, Q92
Chip MOS tube	T-SOT23-2N7002	1	Q78
Transistor	T-SOT23-2N3904	19	Q18, Q23, Q34, Q66, Q68, Q69, Q70, Q71, Q72, Q73, Q76, Q77, Q81, Q91, Q93, Q96, Q97, Q100, Q103
Winding inductance	L-8X7-5.6UH \pm 20%-2A-S	1	L24
Winding inductance	L-8X7-22UH \pm 20%-2A-S	1	L25
Plug-winding inductance	L-4X6-10UH \pm 20%-1A-LHT	1	L21
Plug-winding inductance	L-5026B-33UH \pm 20%-4A-WTBG	2	L22, L23
Plug-in crystal	X-27.000MHz-DIP49S	1	X1
Plug-in crystal	X-4.000MHz-DIP49S	1	Y1
Electrolytic Capacitor	CD5X7-10UF \pm 20%-50V	2	EC67, EC83
Electrolytic Capacitor	CD5X7-47UF \pm 20%-16V	13	EC6, EC30, EC47, EC49, EC55, EC56, EC63, EC64, EC65, EC66, EC53, EC7, EC8
Electrolytic Capacitor	CD5X11-100UF \pm 20%-16V	3	EC18, EC31, EC70
Electrolytic Capacitor	CD8X12-470UF \pm 20%-16V-LOW	1	EC80
Electrolytic Capacitor	CD8X12-470UF \pm 20%-25V	12	EC46, EC52, EC54, EC71, EC72, EC76, EC77, EC78, EC79, EC81, EC82, EC84
Recoverable fuse	F-1812-P200TF	1	F2
Plug fuse	F-DIP-250V-5A-B	1	F1
Plug socket	J-B2.54-4P-L	1	CJ31
Plug socket	J-B2.0-4P-L	1	CJ13
Plug socket	J-B2.0-5P-L	1	CJ19
Plug socket	J-B2.0-6P-L	2	CJ12, CJ20
Plug socket	J-B2.0-12P-L	1	CJ16
Plug socket	J-B2.0-14P-L	2	CJ14, CJ18
Plug pins	J-A2.54-3P-L	1	J2

Plug pins	J-A2.0-18PX2-L	1	CJ11
HDMI terminal	N-HDMI-W	1	CN14
Plug AV terminal	N-AV3-14YWR-W	1	CN27
Plug AV terminal	N-AV3-14GBR-W	1	CN26
Plug-SCART terminal	N-SCART-W	1	CN24
Plug-S-video terminal	N-SVIDEO-W	1	CN29
Plug audio terminal	N-PHONE-5P-W	2	CN23, CN22
Plug DC transposon	N-DC-2.0MM-W	1	CN30
Plug VGA terminal	N-VGA-M30X8-W	1	CN21
Plug-in USB terminal	N-USB-W	1	CN13

PART5:

Debug Instruction

First,check the welding or soldering

DDR Signal of resistance

HDMI socket

Second,can't start or working

1、 The current is about 0.1A.

Check the power-supply,+12V,+3.3V.

Ceck the resistance between of the SPV7168M and DDR(U7).

Check the CRYSTAL OK or NOT.

2、 The power-supply short circuit occurs.

Check the all power-supply,as +12V,+5V,+3.3V,+2.5V.

Third,can't update

Check the RP2,RP3,RP4,RP5,RP6,RP7,RP8,RP9,RP10,RP12 and R123,R128 OK or NOT.

Fourth,HMDI source problems

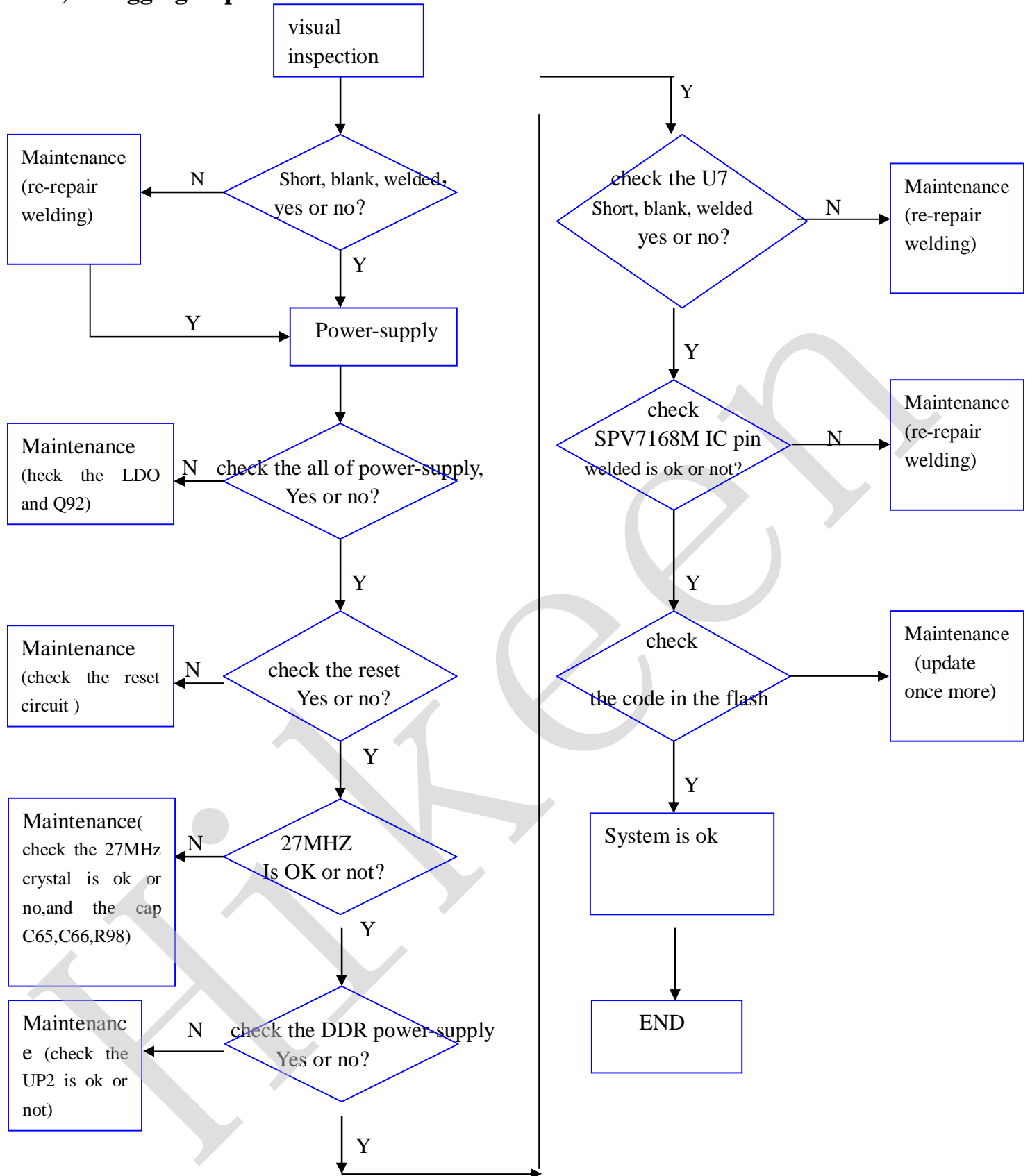
1、 HDMI has no picture signal,check the HDMI socket welding OK or NOT.

2、 HDMI has picture signal,but no audio,check the EDID.And can entry the factory menu reset t

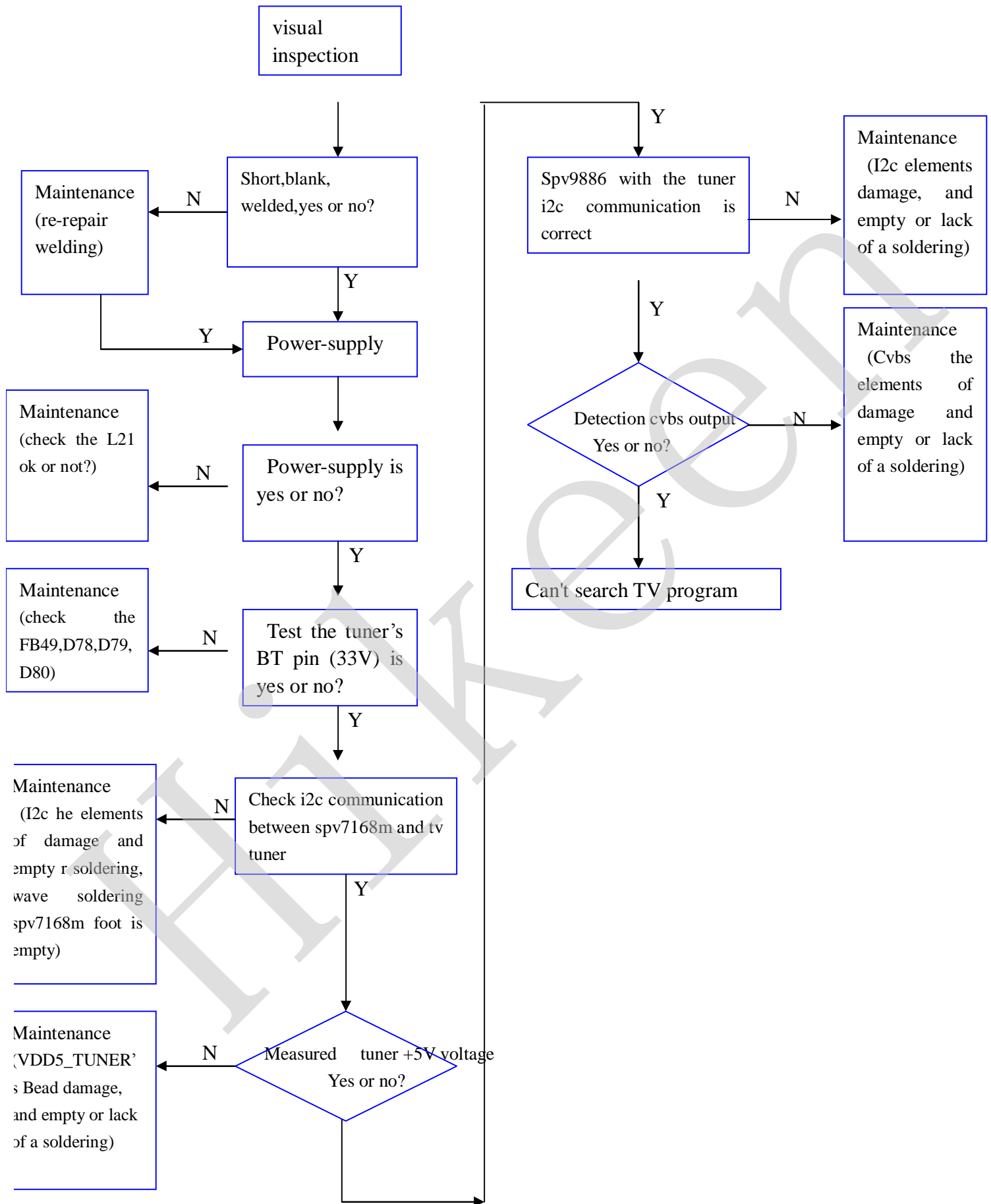
EDID once more.

3、 HDMI sometimes is ok,sometimes is not,check the HDMI socket is good contact or not.

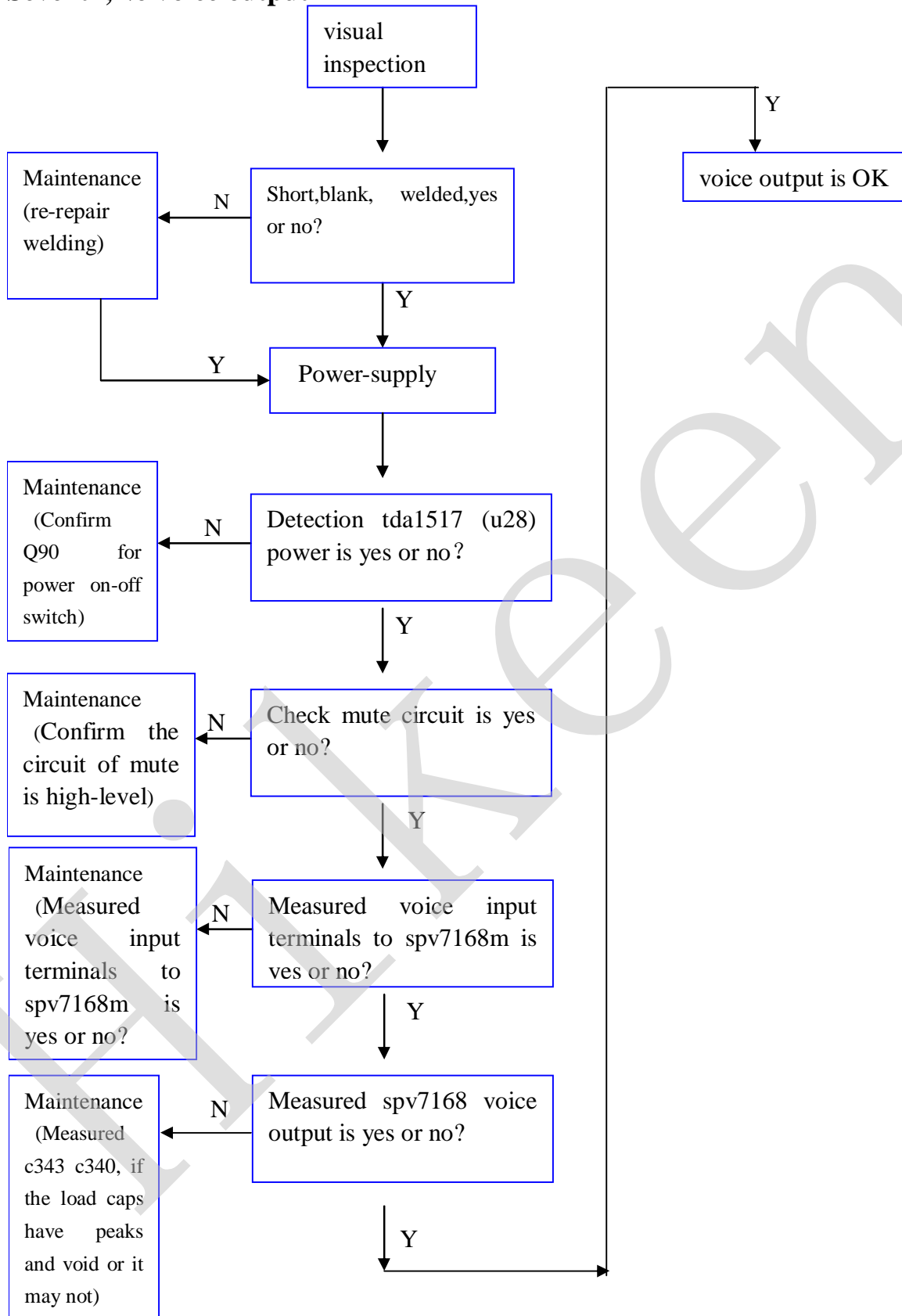
Fifth, Debugging steps:



Sixth, Can't search TV program



Seventh, No voice output



▼ General Description

The LA8517 is a voltage mode, step-down DC-DC converter that is designed to meet 3A output current and utilizes PWM control scheme that switches with 300KHz fixed frequency. This device includes a reference voltage source, error amplifier, oscillation circuit, P-channel MOSFET, and etc.

The input voltage range of LA8517 is from 3.6V to 23V, and provides adjustable output voltage range from 0.8V to V_{IN} for customers in application.

The LA8517 provides an enable function that can be controlled by external logic signal and excellent regulation during line or load transient due to the internal compensation. Other features of thermal protection, current limit and short circuit protection are also included. Due to the low Drain-Source resistance of internal power MOSFET, the LA8517 provides a high efficiency step-down application. It can also operate with a maximum duty cycle of 100% for use in low drop-out conditions.

The package is available in a standard SOP-8L.

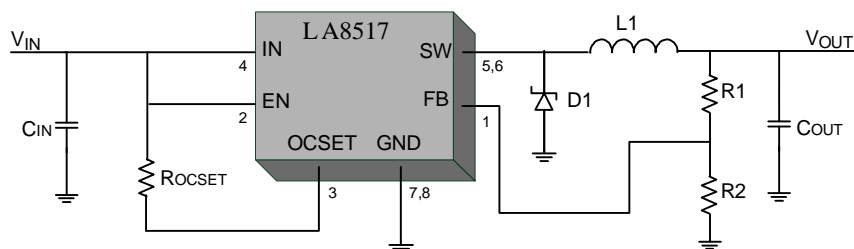
▼ Features

- Adjustable Output Voltage from 0.8V to V_{IN}
- Operating Input Voltage up to 23V
- Great Output Capability: 3A
- Oscillation Frequency: 300KHz
- Built-in P-channel MOSFET
- External ON/OFF Control Function
- Low Shutdown Current: 1uA
- Current Limit and Thermal Protection
- Short Circuit Protection
- Stable With Low ESR Output Ceramic Capacitor
- SOP-8L Package
- All Products meet Rohs Standard

▼ Applications

- Broadband Communication Device
- LCD TV / Monitor
- Storage Device
- Wireless Application

▼ Typical Application



$$* V_{OUT} = V_{FB} \times (1 + R1 / R2)$$

SPECIFICATIONS

1. 端子排列及安装尺寸图

1.1Terminal for External Connection & Outline Drawing

端子序号 Terminal No	端子名称 Terminal name	端子说明 Description	端子电压 Voltage
1	AGC	AGC 电压供给端子 (AGC voltage supply)	4.0V Gain Max
2	-	-	-
3	AS	地址选择线 (Address Selection Line)	-0.3 To 5.5V
4	SCL	时钟线 (Serial Clock Line)	-0.3 To 5.5V
5	SDA	数据线 (Serial Data Line)	-0.3 To 5.5V
6	NC	悬空 (No Connected)	-
7	B	调谐器供电端子 (+B For PLL & Mixer)	+5V
8			
9	BT	+30V 电压 (Supply voltage tuner section +30V)	+33V
10	-		
11	IF	中频输出端子 (IF Output)	

1.2.1 .下列两种安装尺寸图结构件（四个大的接地脚长度长短不一样）都能用，并已到货实物为准。

附安装图一：尺寸单位：mm(All dimension in mm)

