

Service manual

TF-118



V1.0

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1. SPECIFICATIONS

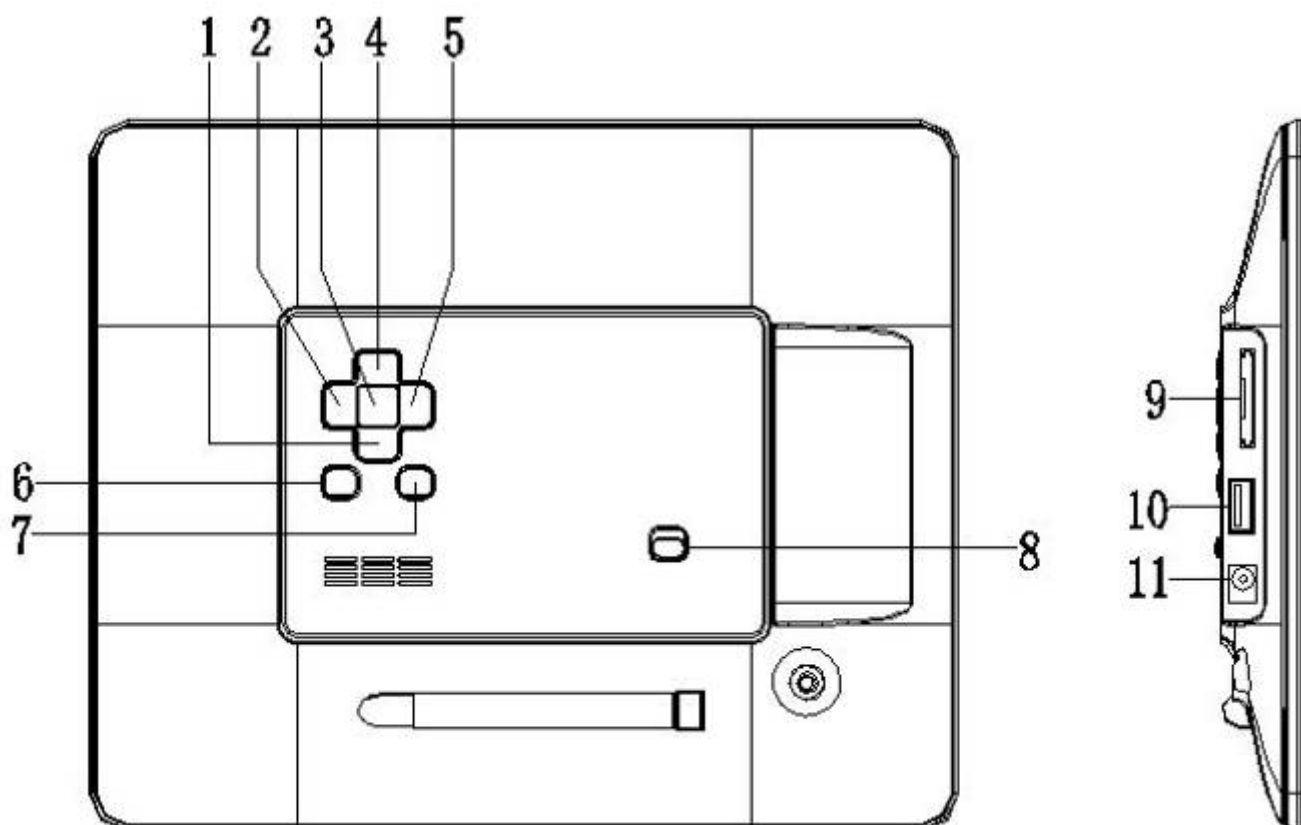
1.1 GENERAL

DC Supply Voltage :	DC 5V 2A (4.5V to 5.5V allowable)
Installation Size :	225.5(L)*185(W)*22.4(H) mm
Max. Current :	1.3A
Standby Current :	750mA

1.2 DIGITAL PHOTO FRAME

Display Resolution :	800*600 dots
Display Backlight :	27 White LEDs

2. LOCATION OF CONTROL



1. **A** (Down)
2. Left
3. Play/Pause/Enter
4. **B** (Up)
5. Right
6. Menu
7. Stop/Exit
8. On/Off
9. Three in one card slot (SD/MMC/MS)
10. USB Host
11. DC 5V 2A

3. ELECTRICAL MAIN PARTS LIST

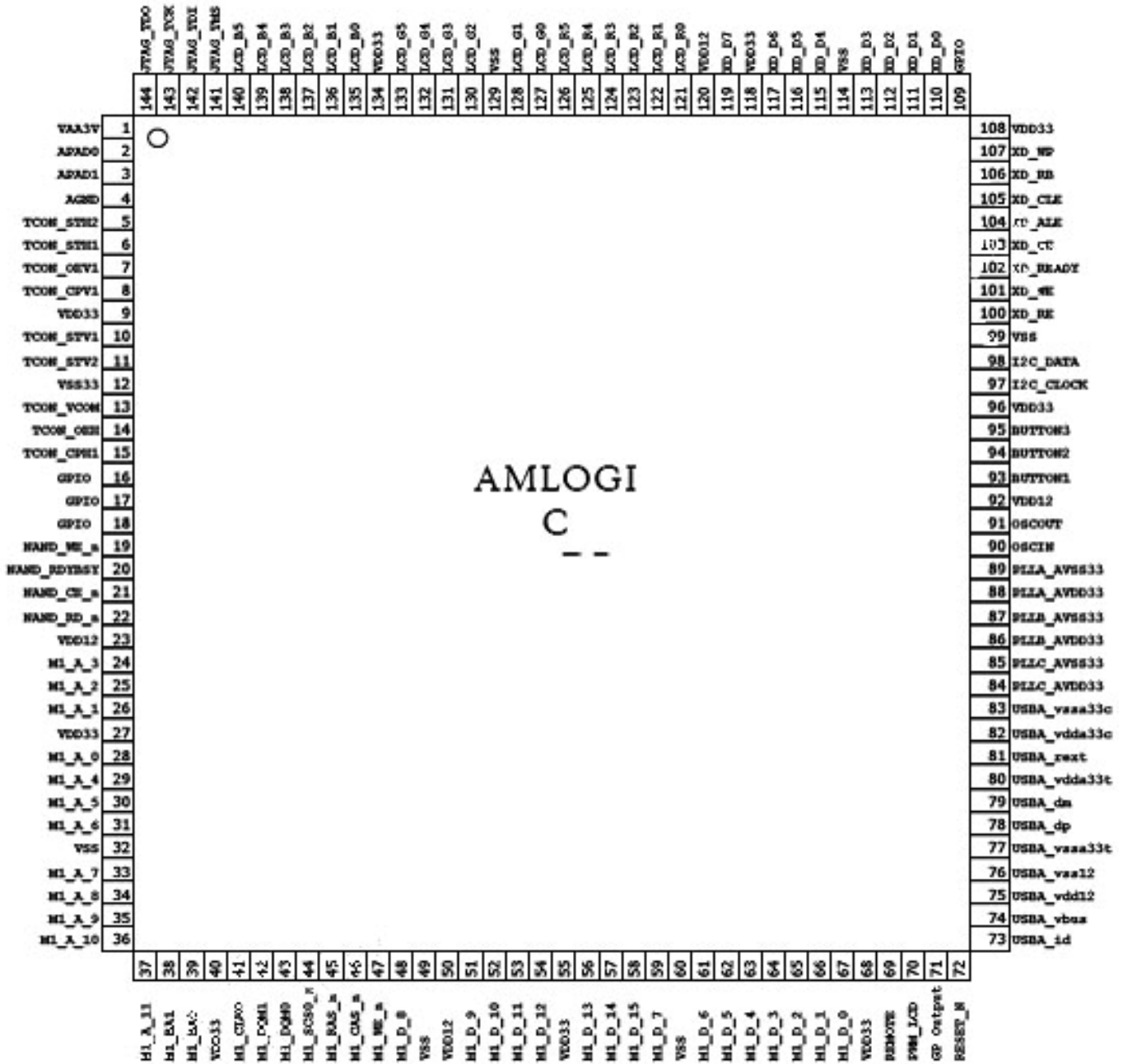
NO.	MATERIAL NO.	SPECIFICATION	QTY	POSITION
1	81-105-64459100	ASS'Y SMT FP-8DN-301-V3RC Rotation Sensor	1	
2	05-142-10416400	CAP-C/C 0.1 μ f(104)-16V-0402-Y5V	59	CB1, BC1, C2, BC2, BC3, C4, BC4, C5, BC5, BC6, C7, BC7, C8, BC8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C28, C30, C37, C38, C39, C40, C41, C42, C43, C46, C47, C48, C50, C52, C57, C58, C59, C60, C94, C95, C96, C97, C98, C99, C102, C103, C104
3	05-185-10610400	CAP-C/C 10 μ f-10V-0805-Y5V	6	CC1, CC2, CC3, CC4, CC5, CC6
4	10-070-00361059	CONN SD Card (SD/MMC/MS) 3IN1CONN	1	CN1
5	10-070-01711059	CONN SD Card (SD/MMC/MS) 3IN1CONN		CN1
6	10-070-00311309	CONN SD Card (SD/MMC/MS) 3IN1CONN		CN1
7	10-070-09030059	CONN SD Card (SD/MMC) SD-C-0903	1	CN2
8	10-161-50050279	CONN FPC&FPC FPC50Pin 0.5mm 2.0mm	1	CON3
9	10-161-50050309	CONN FPC&FPC 50Pin 0.5mm 2.0mm		CON3
10	10-370-01710129	CONN H=3.5mm 2PIN 90° SMD	1	CON5
11	10-370-01710309	CONN WF 3.5mm 2PIN 90° SMD		CON5
12	05-142-10325300	CAP-C/C 0.01 μ f(103)-25V-0402-X7R	2	C29, C1
13	05-142-10563400	CAP-C/C 1 μ f(105)-6V3-0402-Y5V	2	C101, C27
14	05-142-22050200	CAP-C/C 22P-50V-0402-NPO	2	C33, C34,
15	05-142-06050200	CAP-C/C 6P-50V-0402-NPO	2	C55, C56
16	05-142-10250300	CAP-C/C 1000P(102)-50V-0402-X7R	1	C36
17	05-142-03050200	CAP-C/C 3P-50V-0402-NPO	3	C45, RV2, RV3
18	05-142-05050200	CAP-C/C 5P-50V-0402-NPO	3	C93, C49, C51
19	05-142-33225300	CAP-C/C 3300P(332)-25V-0402-X7R	3	C53, C54, C105
20	05-142-15050200	CAP-C/C 15P-50V-0402-NPO	18	C67, C68, C69, C70, C71, C72, C79, C80, C61, C82, C83, C84, C87, C88, C89, C90, C91, C92
21	02-031-24148009	Diode 1N4148 SOD-323 75V 300mA	2	D6, D1
22	02-043-50054169	Diode BAT54S SOT-23 30V 200mA	2	D4, D2
23	03-010-60054019	Transistor BAT54S SOT-23		D4, D2
24	02-041-50014009	Diode SS14 DO-214AC 1A 40V	2	D3, D5
25	05-465-10716400	CAP-E/C-S (100 μ f)-6.3x5.4-16V	9	EC1, EC7, EC9, EC13, EC2, EC3, EC4, EC5, EC12
26	05-464-47616490	CAP-E/C-S (47 μ f)-6.3x5.4-16V \pm 20% -4	1	EC6
27	05-444-10616400	CAP-E/C-S (10 μ f)-4x5.4-16V	3	EC8, EC10, EC11
28	07-206-05121519	Ferrite Chip Beads 120 Ω -0805-2A-Z(\pm 25%) 10	3	FB1, FB2, FB3
29	07-206-05800529	Ferrite Chip Beads 80 Ω -0805-1A-Z(\pm 25%) 10	4	FB5, L3, L1, L5
30	07-206-03601290	Ferrite Chip Beads 600 Ω -0603-1/10W-K(\pm 25%)	11	FB6, FB7, FB8, FB9, FB10, FB11, FB15, FB17, FB14, FB16, FB19
31	07-206-03900519	Ferrite Chip Beads 30 Ω -0603-Z(\pm 25%) 100MHz	2	FB13, FB12
32	07-206-03121509	Ferrite Chip Beads 120 Ω -0603-1/10W-Z(\pm 25%)	1	FB16
33	06-140-85221559	COMMON MODE INDUCTORS CMW2012-221T2 RDC 0.3	1	FL1
34	06-140-85221469	COMMON MODE INDUCTORS CMW21T-221M-N 220 Ω \pm		FL1
35	06-120-43106469	SMD Power Inductors (4.5x4.0x3.2mm)10 μ H \pm	1	L2
36	06-012-43110649	SMD Power Inductors SB43-1(4.0x3.2x4.5) 10 μ		L2
37	06-012-43122649	SMD Power Inductors SB43-1(4.0x3.2x4.5) 22 μ	1	L4
38	06-120-43226469	SMD Power Inductors (4.5x4.0x3.2mm)22 μ H \pm		L4
39	03-021-62301009	MOSFET Si2301BDS-T1-E3 SOT-23	2	Q3, Q1
40	03-010-63906009	Transistor MMBT3906 SOT-23/23F	2	Q4, Q2
41	03-010-63904009	Transistor MMBT3904 SOT-23/23F	1	Q5
42	03-010-68050000	Transistor 2SD8050 SOT-23/23F	1	Q6
43	04-442-04720620	RES-ROW 4.7K Ω -0402-8P4R-J(\pm 5%)	1	RP1
44	04-442-03301620	RES-ROW 33 Ω -8P4R-0402-1/16W-J(\pm 5%)	8	RP2, RP3, RP4, RP5, RP6, RP7, RPS, RP9
45	04-442-01811620	RES-ROW 180 Ω -8P4R-0402-1/16W-J(\pm 5%)	1	RP10
46	04-400-04702620	RES-ROW 47 Ω -8P4R-0603-J(\pm 5%)	4	RP11, RP12, RP13, RP14

47	04-142-01031620	RES 10K Ω -0402-1/16W-J($\pm 5\%$)	18	R18, R42, R43, R46, R47, R48, R49, R50, R51, R52, R54, R55, R56, R103, R107, R110, R113, R134
48	04-142-04731620	RES 47K Ω -0402-1/16W-J($\pm 5\%$)	4	R4, R40, R124, R126
49	04-142-02021620	RES 2K Ω -0402-1/16W-J($\pm 5\%$)	1	R5
50	04-185-04781820	RES 4 Ω 7-0805-1/8W-J($\pm 5\%$)	2	R6, R7
51	04-142-01001620	RES 10 Ω -0402-1/16W-J($\pm 5\%$)	1	R8
52	04-142-01021620	RES 1K Ω -0402-1/16W-J($\pm 5\%$)	4	R9, R33, R34, R116
53	04-142-00001620	RES 0 Ω -0402-1/16W-J($\pm 5\%$)	6	R10, R35, R57, R118, R125, R59
54	04-142-03301620	RES 33 Ω -0402-1/16W-J($\pm 5\%$)	6	R11, R12, R13, R36, R112, R105
55	04-142-04721620	RES 4K7-0402-1/16W-J($\pm 5\%$)	14	R16, R20, R21, R23, R28, R30, R1, R2, R3, R38, R41, R99, R127, R128
56	04-142-01011620	RES 100 Ω -0402-1/16W-J($\pm 5\%$)	1	R27
57	04-142-01041620	RES 100K Ω -0402-1/16W-J($\pm 5\%$)	5	R31, R117, R119, R120, R17
58	04-142-03481010	RES 3K48-0402-1/10W-F($\pm 1\%$)	1	R32
59	04-142-01811620	RES 180 Ω -0402-1/16W-J($\pm 5\%$)	2	R44, R26
60	04-142-07501620	RES 75 Ω -0402-1/16W-J($\pm 5\%$)	2	R45, R100
61	04-142-01541620	RES 150K Ω -0402-1/16W-J($\pm 5\%$)	3	R58, R60, R137
62	04-142-04711620	RES 470 Ω -0402-1/16W-J($\pm 5\%$)	2	R61, R62
63	04-142-03331620	RES 33K Ω -0402-1/16W-J($\pm 5\%$)	2	R63, R64
64	04-142-03321610	RES 3K3-0402-1/16W-F($\pm 1\%$)	1	R115
65	04-142-06811610	RES 680 Ω -0402-1/16W-F($\pm 1\%$)	1	R122
66	04-163-04701020	RES 47 Ω -0603-1/10W-J($\pm 5\%$)	2	R77, R78
67	04-142-01221620	RES 1K2-0402-1/16W-J($\pm 5\%$)	1	R108
68	04-142-01821620	RES 1K8-0402-1/16W-J($\pm 5\%$)	1	R123
69	04-126-01281420	RES 1.2 Ω -1206-1/4W-J($\pm 5\%$)	2	R130, R129
70	04-142-02211620	RES 220 Ω -0402-1/16W-J($\pm 5\%$)	1	R133
71	04-185-00101820	RES 1 Ω -0805-1/8W-J($\pm 5\%$)	1	R135
72	20-370-11170029	IC DC Power AIC1117-33PY SOT-223	1	U1
73	20-370-11170069	IC DC Power BL1117-33CX SOT-223		U1
74	20-370-11170039	IC DC Power AP1117ELA(ADJ) SOT-223-3L	1	U2
75	20-370-11170059	IC DC Power BL1117-CX SOT-223		U2
76	01-110-01449101	IC CPU AML6210DP LQFP-144 Amlogic	1	U3
77	01-349-04160129	IC SDRAM W9864G6XH-6 (4Mb16bit) TSOP-54 win	1	U4
78	01-353-02080019	IC FLASH EN29LV160EB-70TIP (2Mx8-bit) TSOP-	1	U6
79	20-246-20110019	AMP Mono Class-D EUA2011JIR1 DFN-8 EUTECH	1	U7
80	20-120-71340019	IC Logic AUDIO D/A CONVERTER ES7134 SOIC-8	1	U8
81	20-520-13020019	IC DRM RTC RAM HYM1302 SOP-8	1	U9
82	20-386-14880009	IC DC Power MP1488DJ-LF-Z TSOT23-6 Backligh	1	U11
83	20-900-10030019	IC Orientation Senser TS1003 EDISON	1	U10
84	08-241-27001209	X' TAL 27.000000MHZ 49/S ± 20 ppm	1	Y1
85	08-226-32762059	X' TAL 32.768KHZ $\Phi 2 \times 6 \pm 20$ ppm 12.5pF	1	Y2
86	08-226-32762029	X' TAL 32.768KHZ $\Phi 2 \times 6$ JU ± 20 ppm		Y2
87	10-330-01711159	CONN Switch (4.5x8.7x2.0) 0.3A 50V	1	SWS
88	10-050-01711139	CONN DC Power Jack $\Phi 6$ 3PIN DIP (PF171M)	1	J1
89	10-151-01711149	CONN USB Jack USB USB-A-90 USB-A-02	1	J2
90	52-675-02101059	Battery 210mAh CR2032 3.0V 20m	1	CE1

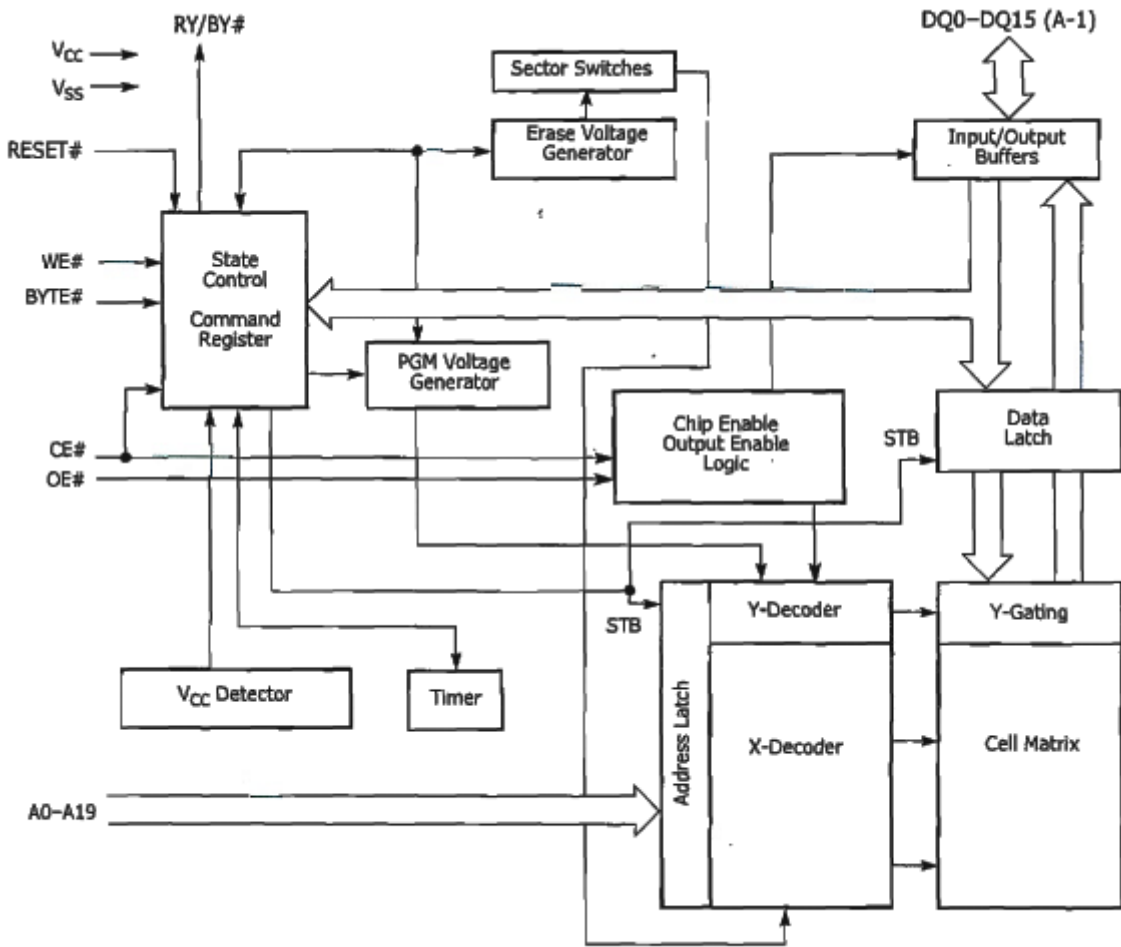
4. MAIN IC BLOCK DIAGRAM

5.1 AMLOGIC AML6210DP PIN CONFIGURATION

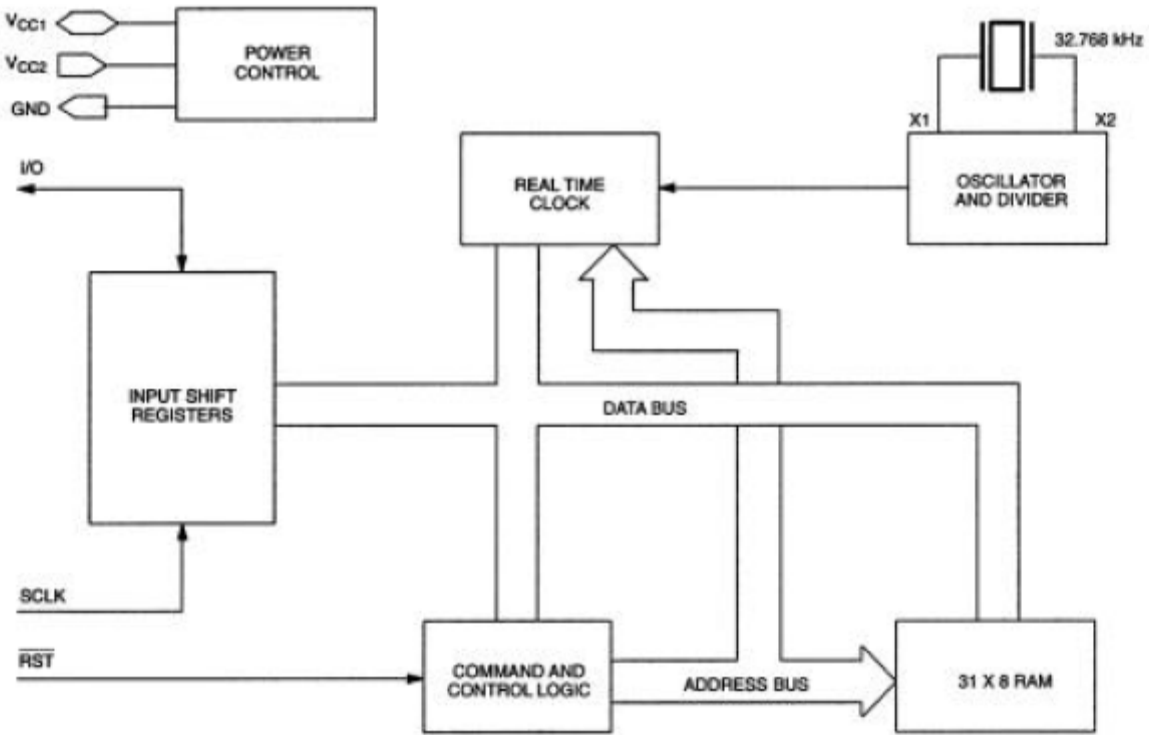
5.1 Package pin-out diagram



5.2 EON EN29LV160 BLOCK DIAGRAM

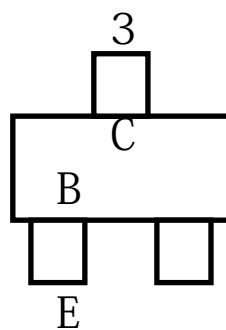


5.3 RTC HYM1302 BLOCK DIAGRAM

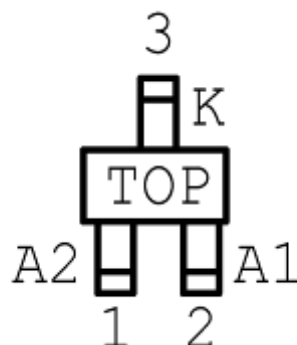


5. TRANSISTOR ILLUSTRATION

6.1 MMBT3904/ MMBT3906 SOT-23

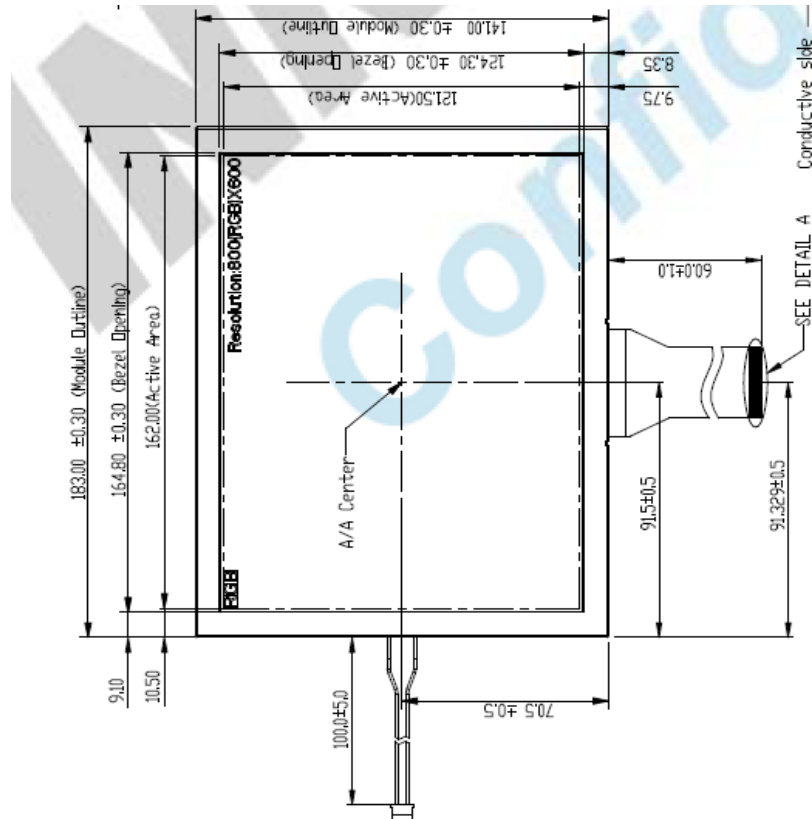


6.2 BAT54C SOT-23



6. DISPLAY PANEL

Display Screen	LCD PANEL
LCD Size	8 inch
Active Area	162.0(W) × 121.5(H) mm
Module Size	183.0(W) × 141.0(H) × 6.3(D) mm
Resolution	800*600 dots
Brightness	250 cd/m ²
Contrast	500:1
Viewing Angle	@ C/R ≥ 10
Angle (Horizontal)	130°
Angle (Vertical)	90°



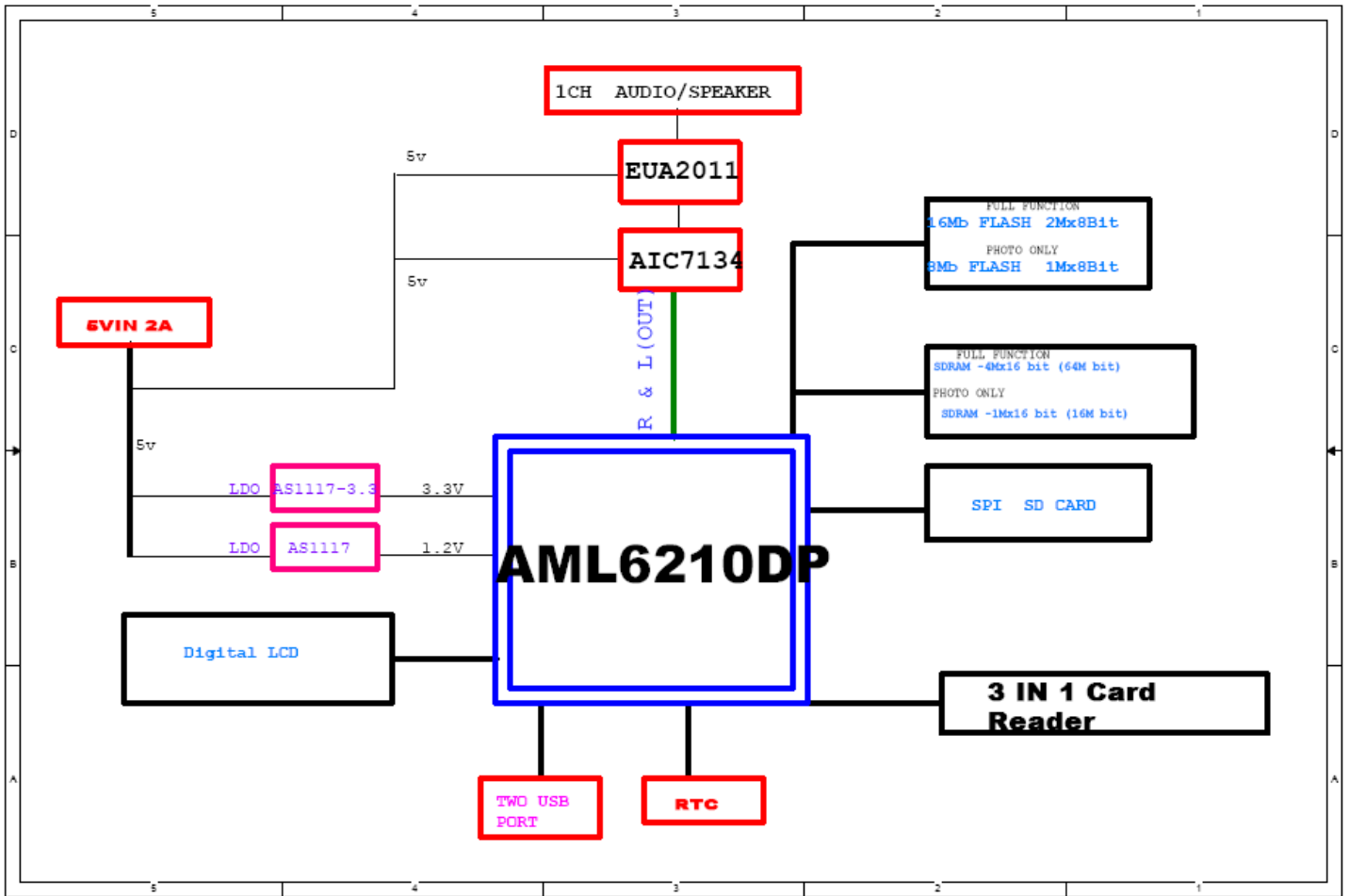
Pin Assignment

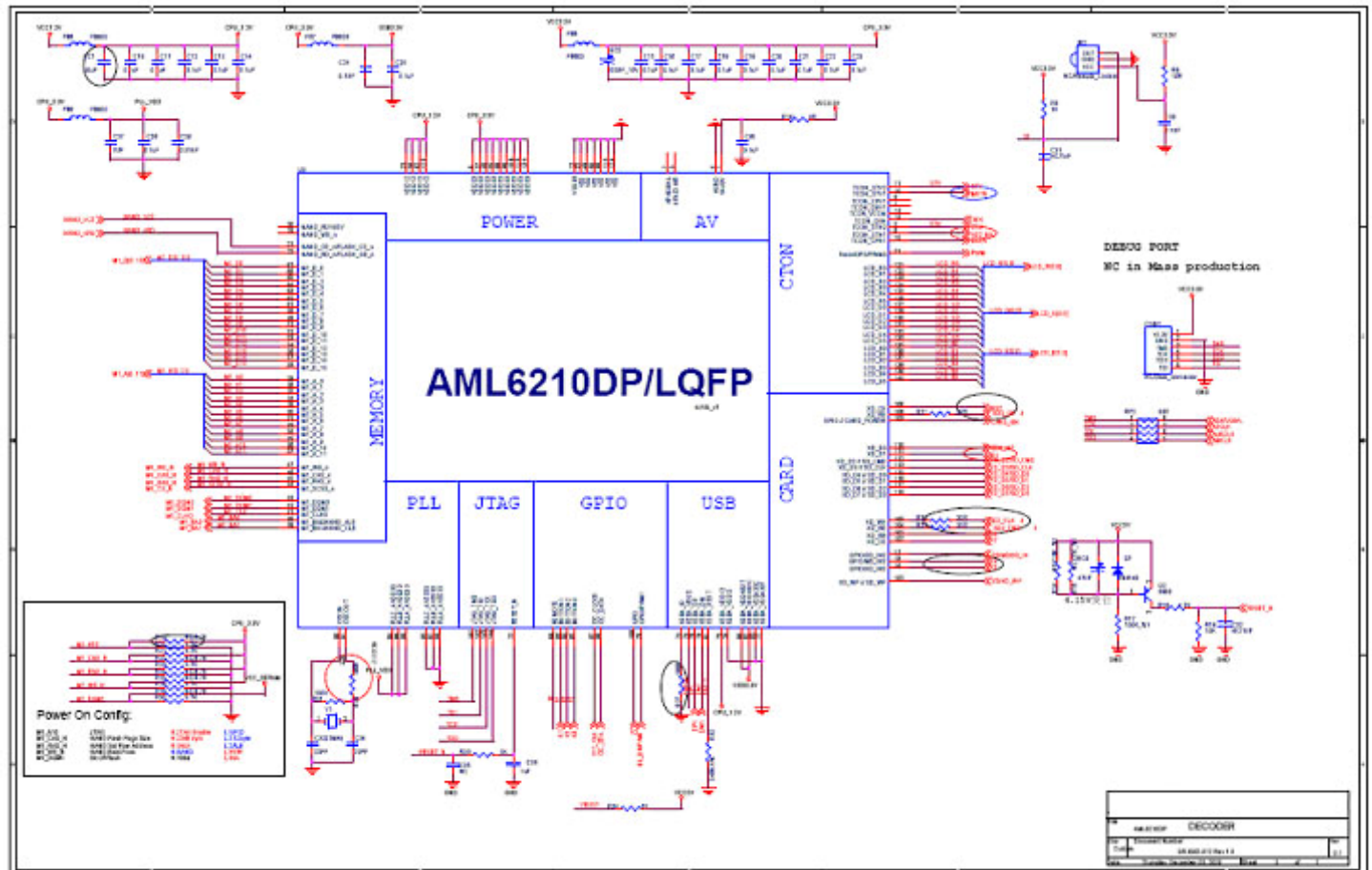
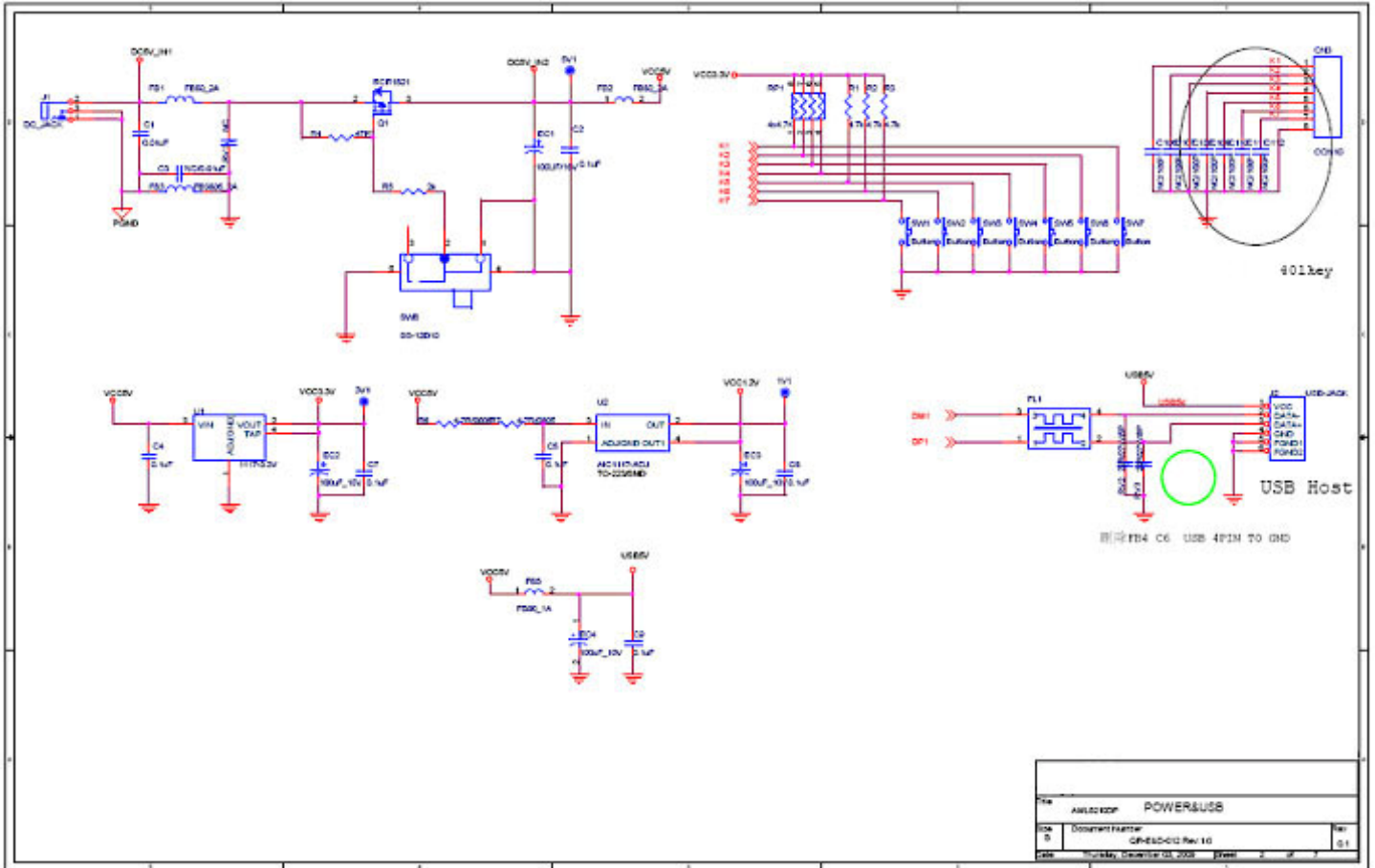
Pin No.	Symbol	I/O	Function	Remark
1	NC		No connection	
2	NC		No connection	
3	NC		No connection	
4	NC		No connection	
5	GND	P	Power ground	
6	V _{COM}	I	Common voltage	
7	V _{CC}	P	Power for Digital circuit	
8	MODE	I	DE/SYNC mode select	Note3
9	DE	I	Data Input Enable	
10	VS	I	Vertical Sync Input	
11	HS	I	Horizontal Sync Input	
12	B7	I	Blue data(MSB)	
13	B6	I	Blue data	
14	B5	I	Blue data	
15	B4	I	Blue data	
16	B3	I	Blue data	
17	B2	I	Blue data	
18	B1	I	Blue data	
19	B0	I	Blue data(LSB)	
20	G7	I	Green data (MSB)	

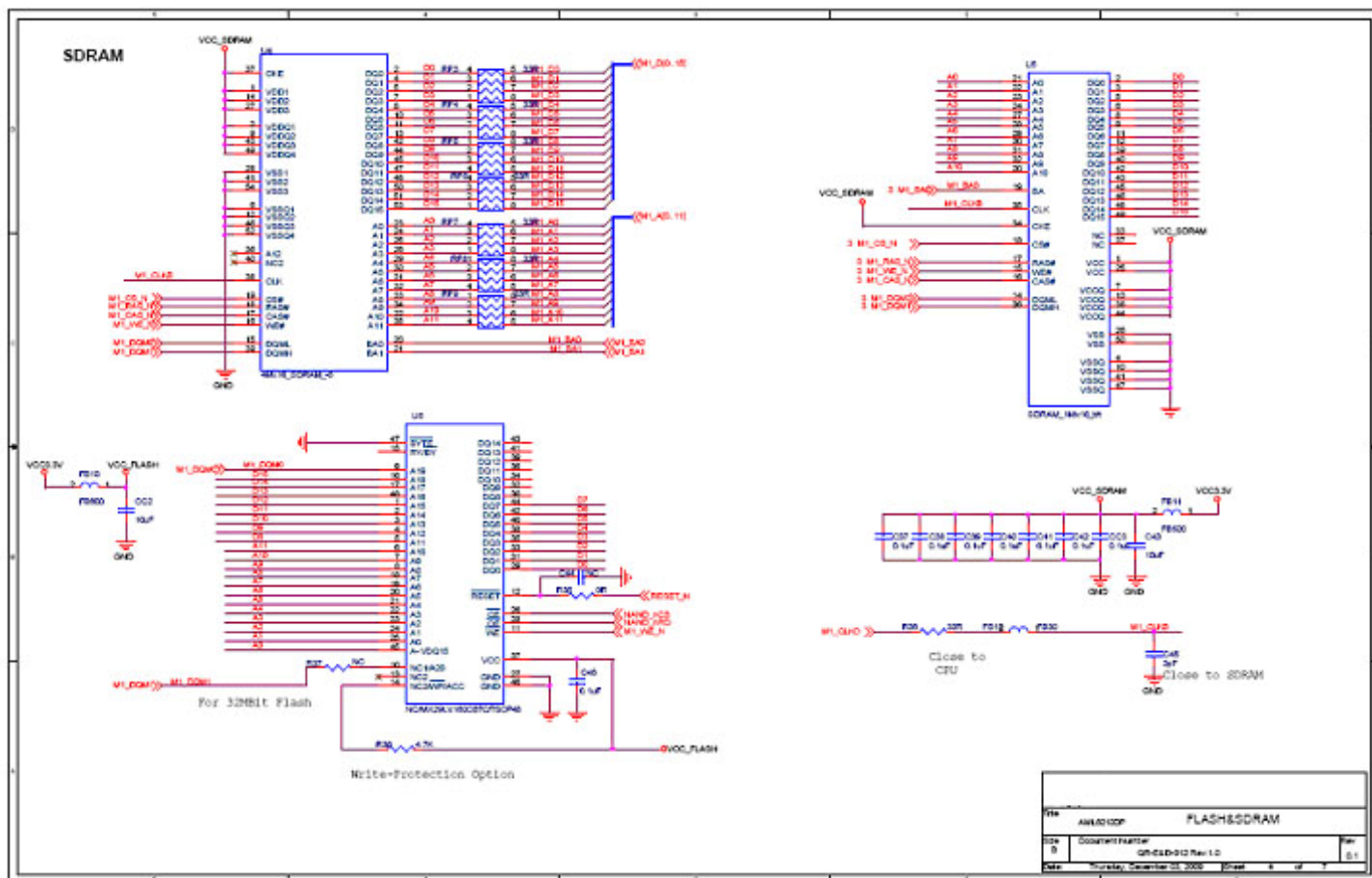
21	G6	I	Green data	
22	G5	I	Green data	
23	G4	I	Green data	
24	G3	I	Green data	
25	G2	I	Green data	
26	G1	I	Green data	
27	G0	I	Green data (LSB)	
28	R7	I	Red data (MSB)	
29	R6	I	Red data	
30	R5	I	Red data	

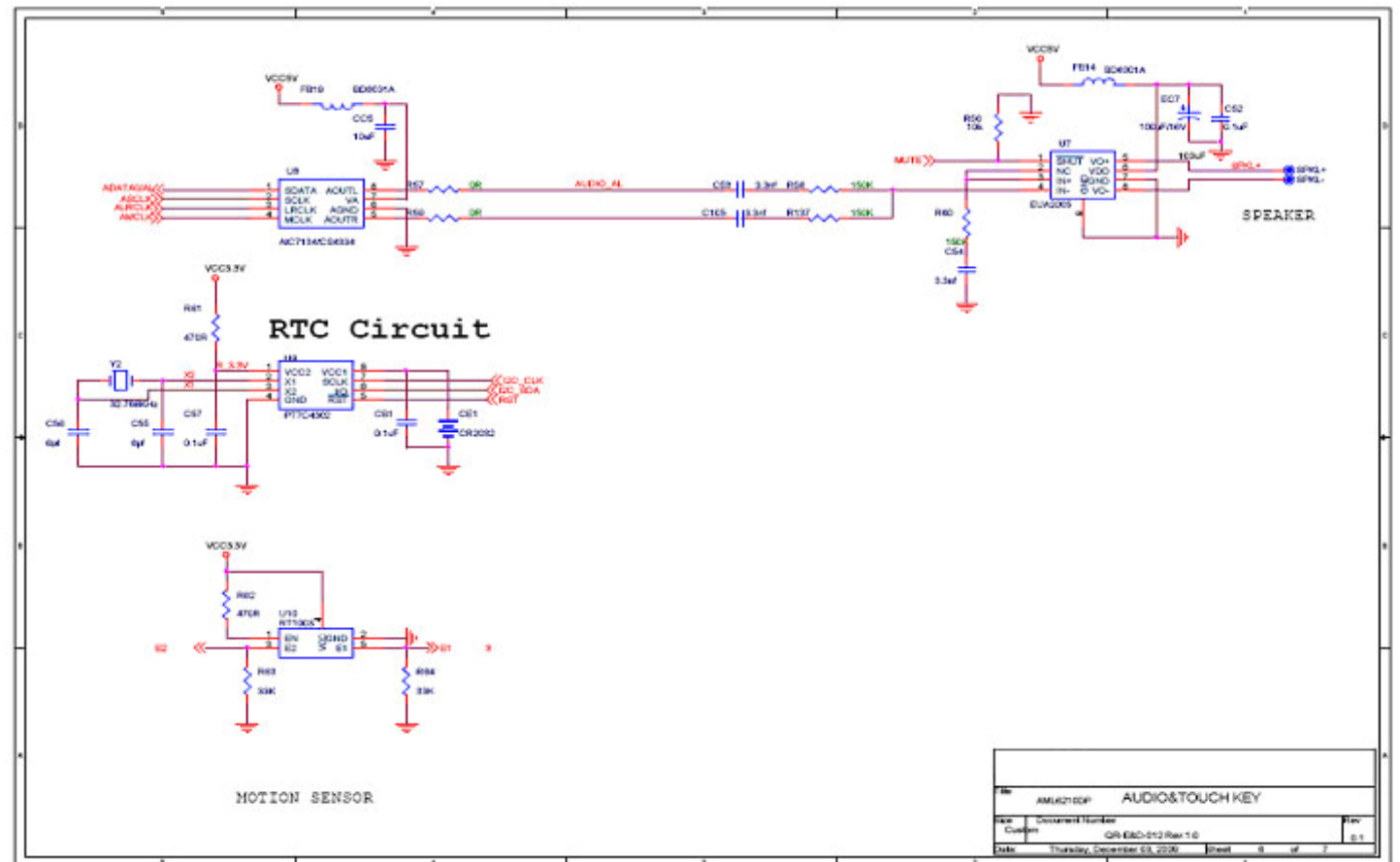
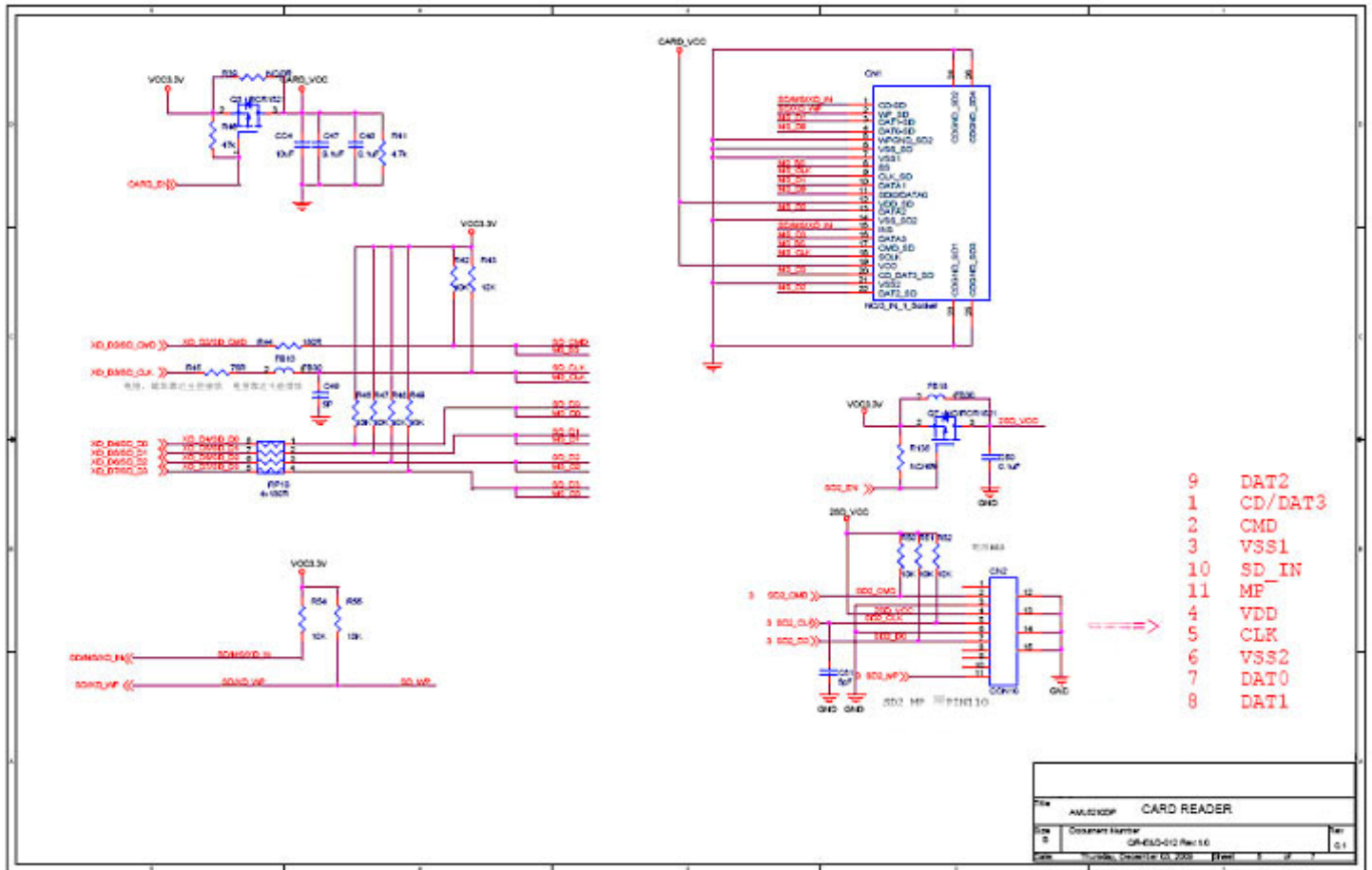
31	R4	I	Red data	
32	R3	I	Red data	
33	R2	I	Red data	
34	R1	I	Red data	
35	R0	I	Red data (LSB)	
36	GND	P	Power ground	
37	DCLK	I	Sample clock	
38	GND	P	Power ground	
39	L/R	I	Right/ left selection	Note2,5
40	U/D	I	Up/down selection	Note2,5
41	V _{GH}	P	Gate ON voltage	
42	V _{GL}	P	Gate OFF voltage	
43	AV _{DD}	P	Power for Analog circuit	
44	RESET	I	Global reset pin.	Note1
45	NC		No connection	
46	V _{COM}	I	Common voltage	
47	DITHB	I	Dithering function	Note 4
48	GND	P	Power ground	
49	NC		No connection	
50	NC		No connection	

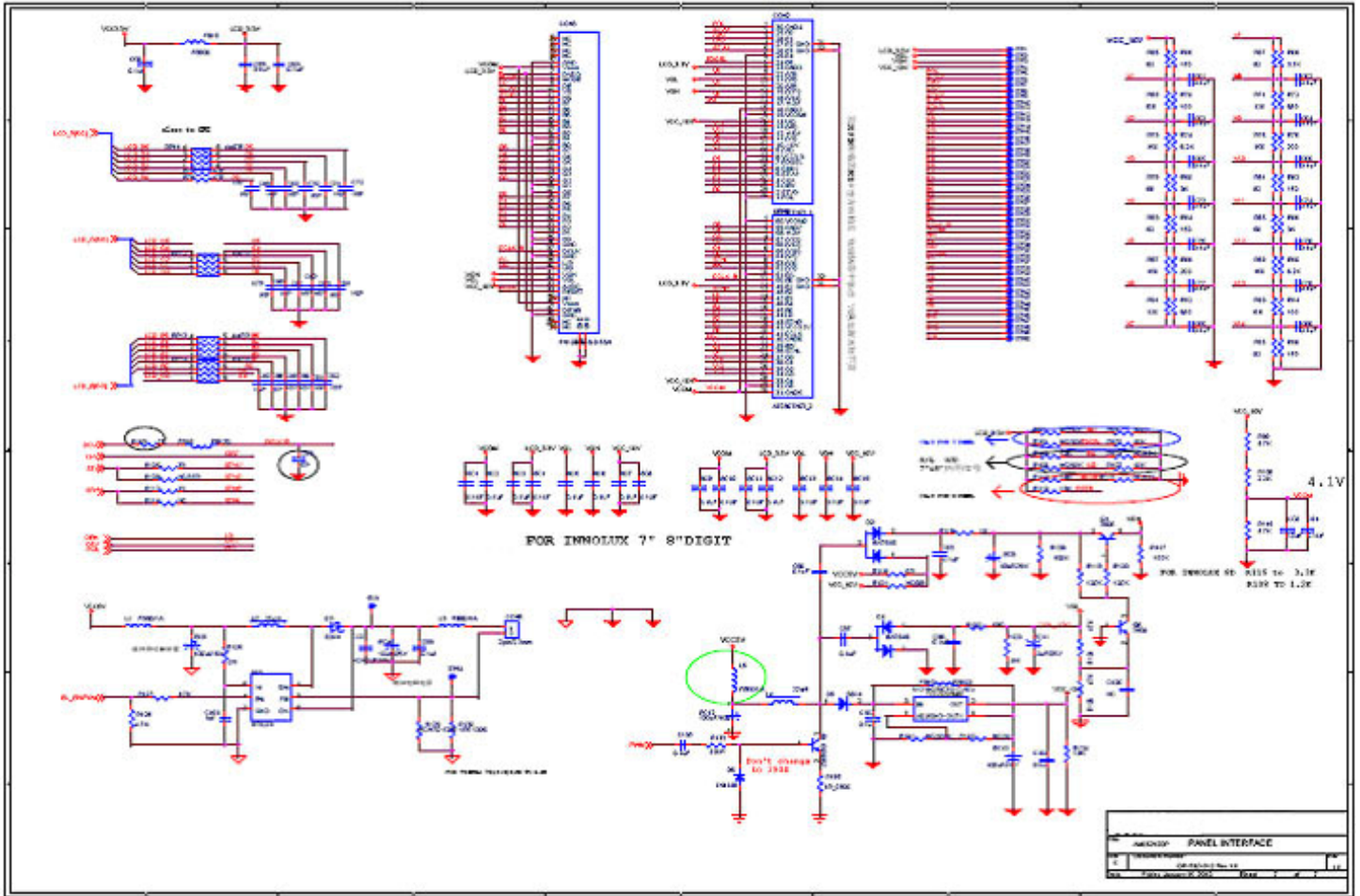
7. SCHEMATIC DIAGRAM



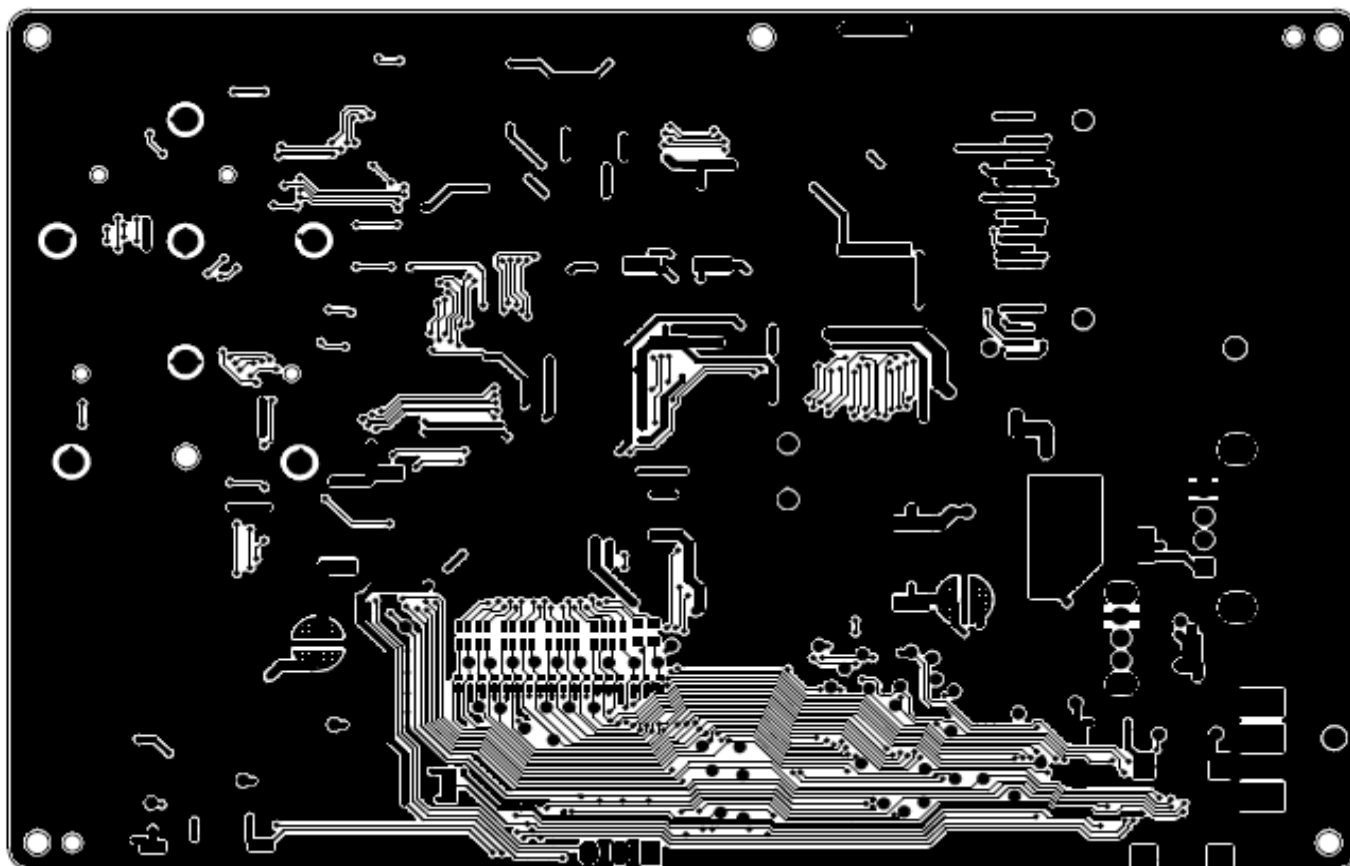


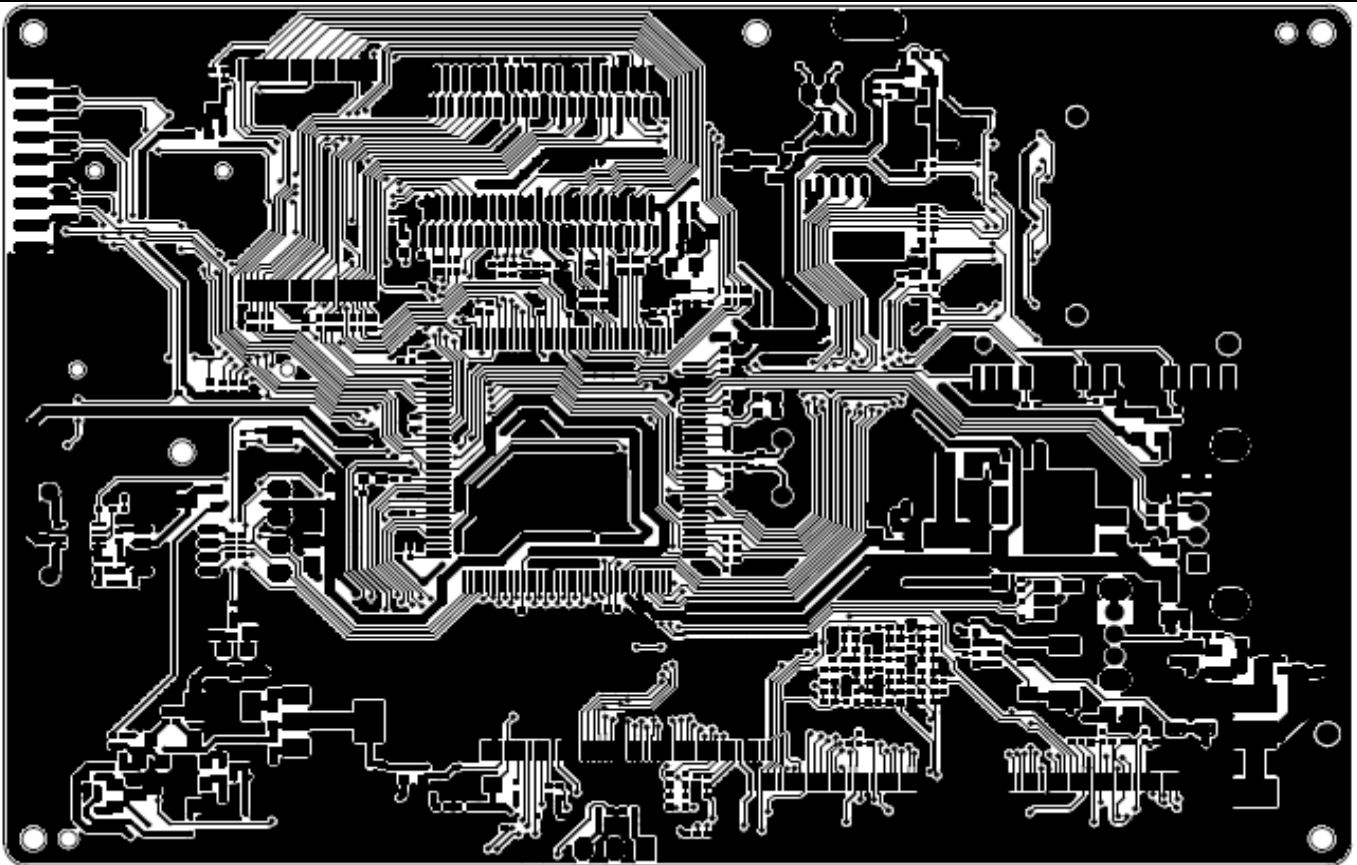






9. PCB LAYOUT GERBER FILE





10.MECHANICAL EXPLOSIVE VIEW & MAIN PARTS LIST

