Version	Date	Author	Change Note	Approved
V1.0	20101207	HCH	First edictor	
V1.1	20110516	BrookWang	1) Change U45:AK8973 to AK8975 (BGA-package) 2) Power sequnce circuit change include HDMI etc. 3) Camera circuit: connect a resistor R40[10R] in series with NET[VIP_CLKIN]. 4) DC circuit: add a decoupling capacitor R256[22uF/16V] to reduce power ripple.	Luoxh
V1.2	20110622	BrookWang	1) Change LED TP_VCC NET conection to VB. 2) [DCN] Change compenent Q16(3904) type with XP151 PMOS,and add a pull-down resitance R256(20K) with GND, to make sure AP3911 to be fully off 3) [DCN] Change compenent C199 C201 C272 PCB decal with C0603 to ensure real value 4) [DCN] Change compenent D10(1SS400) with CAP 1uF	Luoxh

1.I2C0 IC
2.I2C1 IO
3.UART1
4.IO
5. GPIO RK2900 IO

Title: MSI1003HC
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AC/DC IN

BATTER DET
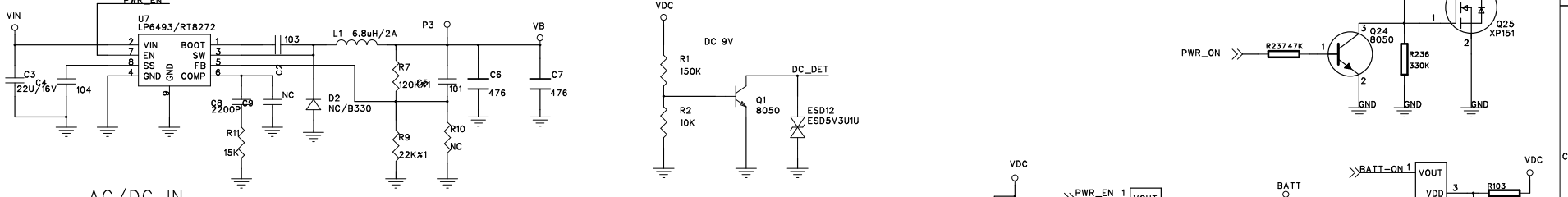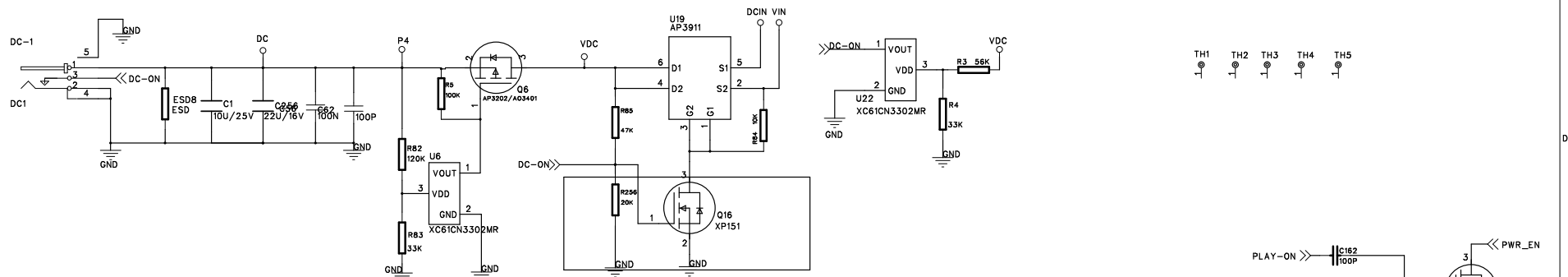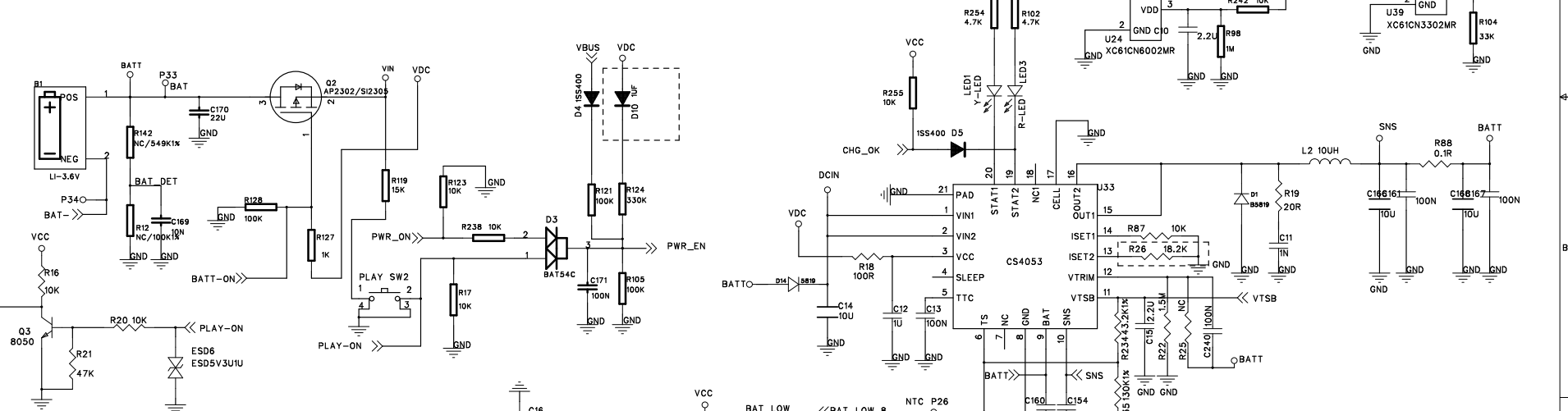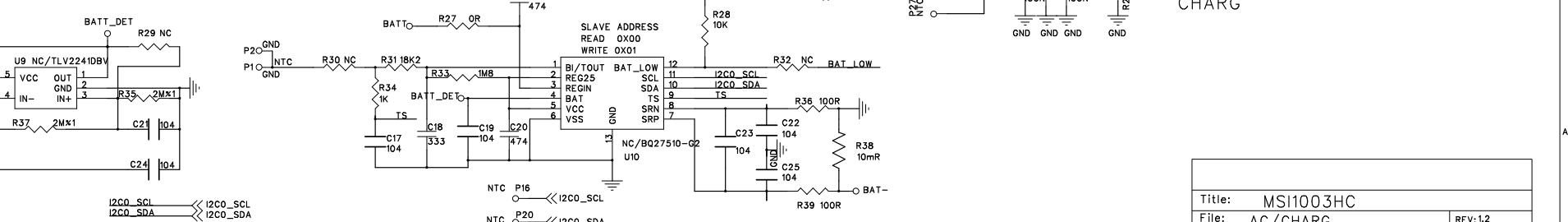
CHARG

Title:	MSI1003HC	
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VB
U11 LP6341
VIN1
VIN2
SW1
SW2
L3 3.3uH/2A
P9 VDD
C27 226
R43 22K
EN
AGND GND PGND1 PGND2 P
FB
C26 470P
R42 R233
110K×1 1.5M×1
C28 22U
1.05V-1.37V
VDD_FB
C31 0.1U

PWM2
R45 8K2×1
R46 27K×1
R47 270K×1
VDD_FB
VCC
R48 18K×1
R49 6K8×1
C34 33N
R50 100K×1
R96 1M×1

1.5V
VB
U14 LP6341
VIN1
VIN2
SW1
SW2
L4 3.3uH/2A
P10 VCCDR
C38 22U
R55 22K
EN
AGND GND PGND1 PGND2 P
FB
C39 471
R54 150K 1%
C40 226
C43 0.22U
R57 100K×1

VB
U16 FP6161/SY8008B
VIN
GND
EN
LX
FB/OUT
L5 2.2uH/1A
3.0V
P11 VCC
C47 226
R60 22K
C49 NC/0.1U
C46 471
R59 120K×1
C48 226
R61 30K×1

VCC
U12 PT5108-25
IN
GND
SHDN
FB/OUT
BP
VCC25 P15
C30 22U
R44 22K
C32 NC
C29 106
C33 104

VB
U13 PT5108-33
IN
GND
SHDN
FB/OUT
BP
VCCA33 P14
C35 22U
VCC
R263 22K
C305 NC/0.1U
C36 106
C37 104

VCC
U15 PT5108-18
IN
GND
SHDN
FB/OUT
BP
VCCA18 P13
C42 22U
R56 22K
C44 NC
C41 10U
C45 100N

VCC
U44 PT5108-12
IN
GND
SHDN
FB/OUT
BP
VDD12 P21
C299 226
R259 22K
C300 NC
C301 106
C298 104

SYSTEM POWER

USB&HOST

U17
AP2151/LPW5205H

VB
USB_HOST

5 IN OUT 1
2 GND
4 EN SET 3

OTG_DRV R65 10K
C50 104
C51 476
R66 10K

USB_INT >> USB_INT 8
UART1_SOUT >> UART1_SOUT 8
UART1_SIN >> UART1_SIN 8

VBUS
D9 SS32 > VB
R70 47K
Q5 8050
USB_INT USB
R75 10K

5V
DM USB_DM
DP USB_DP
ID
GND
HOST J3

ESD16 ESD
ESD15 ESD
ESD17 ESD
C60 226
R8 10K
R64 15K
USB_DET
C61 103

USB USB
500mA
USB
LCD
USB_HOST

5V
DM HOST_DM
DP HOST_DP
ID
GND
HOST J2

ESD3 ESD5V3U1U
ESD4 ESD5V3U1U
ESD5 ESD5V3U1U

RTC

VIN
R63 510K
Q19 8050
VCCA33
D8 1SS400
C53 105
R67 680K
VCC
C304 105
GND
R68 10K
RTC_CLKOUT

C52 12P
U18
IT7C4337HYM8563
Y1 32.76BK

1 OSCI VDD 8
2 OSCO CLKOUT 7
RTC_INT 3 INT SCL 6 I2C0_SCL
4 VSS SDA 5 I2C0_SDA

I2C0_SCL >> I2C0_SCL 3,8,9,12
I2C0_SDA >> I2C0_SDA 3,8,9,12
RTC_INT >> RTC_INT 8
RTC_CLKOUT >> RTC_CLKOUT 13

SLAVE ADDRESS
READ D1
WRITE D0

USB/Crystal/NPOR Module

U1-D

R69 56R
C54 24M 12P
R72 1M
Y2 C57 12P
XOUT GND
GND XIN

G1 XOUT24M
G2 XIN24M

R78 56R
C58 27M 12P
R80 1M
Y3 C59 12P
XOUT GND
GND XIN

H1 XOUT27M
H2 XIN27M

P23 XOUT32K
P24 XIN32K
P22 RTCINT_OUT

HOST11_DM R23 USB11_DM
HOST11_DP R24 USB11_DP

OTG_DM V23 USB_DM
OTG_DP V24 USB_DP
OTG_ID V20
OTG_VBUS W22 USB_DET
GPIO4_A[5]/OTG_DRV_VBUS G17
OTG_RKELVIN W24 R76 44R2

HOST20_DM T23 HOST_DM
HOST20_DP T24 HOST_DP
HOST20_ID T20
HOST20_VBUS U22 OTG_DRV
GPIO4_A[6]/HOST20_DRV_VBUS B11
HOST20_RKELVIN U24 R79 44R2

NPOR K6 RESET

RK2918

USB11_DM >> USB11_DM
USB11_DP >> USB11_DP
R260 15K R261 15K
GND

RESET

VCC
U42
MAX809SD
/RESET VCC GND
R73 10K
R71 1K RESET
C283 103
GND
2.7V

RESET
SW1 VOL-
4 3 2 1
ESD9 ESD5V3U1U
GND

VIBRATION

VB
C55 104
C284 106
R77 47R
M1 A MOTO
D7 SS32
VIB_CON R62 1K
Q18 8050
R74 NC/47K
GND

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DDRII

U1-L — MEMORY Module (RK2918)

Signal	Pin			Pin	Signal
DDR_D0	K4	DQ0	A0	T2	DDR_A0
DDR_D1	K3	DQ1	A1	T1	DDR_A1
DDR_D2	K2	DQ2	A2	U1	DDR_A2
DDR_D3	K1	DQ3	A3	U2	DDR_A3
DDR_D4	L4	DQ4	A4	V3	DDR_A4
DDR_D5	L3	DQ5	A5	V4	DDR_A5
DDR_D6	M2	DQ6	A6	V1	DDR_A6
DDR_D7	M1	DQ7	A7	AC3	DDR_A7
DDR_D8	AC4	DQ8	A8	AC1	DDR_A8
DDR_D9	AB5	DQ9	A9	AD3	DDR_A9
DDR_D10	AB6	DQ10	A10	AB1	DDR_A10
DDR_D11	AD5	DQ11	A11	AD1	DDR_A11
DDR_D12	AA6	DQ12	A12	AC4	DDR_A12
DDR_D13	AA7	DQ13	A13	AC2	DDR_A13
DDR_D14	AC7	DQ14	A14	AB4	DDR_A14
DDR_D15	AD7	DQ15	A15	AD2	
DDR_D16	N4	DQ16			
DDR_D17	M3	DQ17	BA0	R3	DDR_BA0
DDR_D18	N2	DQ18	BA1	T3	DDR_BA1
DDR_D19	N1	DQ19	BA2	T4	DDR_BA2
DDR_D20	P4	DQ20			
DDR_D21	P3	DQ21	CAS_B	AA2	DDR_CASN
DDR_D22	R2	DQ22	RAS_B	AB2	DDR_RASN
DDR_D23	R1	DQ23	WE_B	AB1	DDR_WEN
DDR_D24	AC8	DQ24			
DDR_D25	AD8	DQ25	CS_B0	V2	DDR_CSON
DDR_D26	AB9	DQ26	CS_B1	W1	
DDR_D27	AA10	DQ27			
DDR_D28	AA9	DQ28	ODT0	W2	DDR_ODT0
DDR_D29	AC10	DQ29	ODT1	AA3	
DDR_D30	AB10	DQ30			
DDR_D31	AD10	DQ31	CK	Y1	DDR_CLK
			CK#	Y2	DDR_CLKN
DDR_DQS0P	L1	DQS0	CKE0	Y3	DDR_CKE0
DDR_DQS0M	L2	DQS0#	CKE1	W3	
DDR_DQS1P	AD6	DQS1			
DDR_DQS1M	AC6	DQS1#	VREF0	P6	VREF_MCU
DDR_DQS2P	P1	DQS2	VREF1	U6	VREF_MCU
DDR_DQS2M	P2	DQS2#	VREF2	W6	VREF_MCU
DDR_DQS3P	AD9	DQS3			
DDR_DQS3M	AC9	DQS3#			
			ZQ_PIN	R4	
DDR_DM0	M4	DM0	RET_EN	W4	
DDR_DM1	AC5	DM1	RESET	V6	
DDR_DM2	N3	DM2			
DDR_DM3	AB7	DM3			
	U3	NC0			
	U4	NC1			
	AB3	NC2			
	AA4	NC3	DLL_TEST_PIN[0]	AA5	
	AA8	NC4	DLL_TEST_PIN[1]	Y4	
	AB8	NC5			
	W9	NC6	ANALOG_TEST_PIN	T6	

R86 240R×1 → ZQ_PIN
R253 240R×1 → RESET / DDR_RST
R4
VCCDR

DDR_CLK — R249 NC/100R — DDR_CLKN
DDR_DQS0P — R250 NC/100R — DDR_DQS0M
DDR_DQS1P — R58 NC/100R — DDR_DQS1M
DDR_DQS2P — R81 NC/100R — DDR_DQS2M
DDR_DQS3P — R125 NC/100R — DDR_DQS3M

CLK

U2 — DDRIII-256MB

Signal	Pin			Pin	Signal
DDR_D0	E3	DQ0	A0	N3	DDR_A0
DDR_D1	F7	DQ1	A1	P7	DDR_A1
DDR_D2	F2	DQ2	A2	N2	DDR_A2
DDR_D3	F8	DQ3	A3	P3	DDR_A3
DDR_D4	H3	DQ4	A4	P8	DDR_A4
DDR_D5	H8	DQ5	A5	P2	DDR_A5
DDR_D6	G2	DQ6	A6	R8	DDR_A6
DDR_D7	H7	DQ7	A7	R2	DDR_A7
DDR_D16	D7	DQ8	A8	T8	DDR_A8
DDR_D17	C3	DQ9	A9	R3	DDR_A9
DDR_D18	C8	DQ10	A10/AP	L7	DDR_A10
DDR_D19	C2	DQ11	A11	R7	DDR_A11
DDR_D20	A7	DQ12	A12/BC#	T3	DDR_A12
DDR_D21	A2	DQ13	A13	T7	DDR_A13
DDR_D22	B8	DQ14	A14		DDR_A14
DDR_D23	A3	DQ15			
			BA0	M2	DDR_BA0
DDR_CKE0	K9	CKE	BA1	N8	DDR_BA1
DDR_CS0N	L2	CS#	BA2	M3	DDR_BA2
DDR_ODT0	K1	ODT			
			CK	J7	DDR_CLK
DDR_RASN	J3	RAS#	CK#	K7	DDR_CLKN
DDR_CASN	K3	CAS#			
DDR_WEN	L3	WE#	LDM	E7	DDR_DM0
			UDM	D3	DDR_DM2

VDD: B2, D9, G7, G8, K2, K8, N1, N9, R1, R9
LDQS / LDQS# : F3 / G3 — DDR_DQS0P / DDR_DQS0M
UDQS / UDQS# : C7 / B7 — DDR_DQS2P / DDR_DQS2M

VDDQ: A1, A8, C1, C9, D2, E9, F1, H2, H9
VCCDR

VSSQ: B1, B9, D1, D8, E8, F9, G1, G9

VREF_DQ — H1 — VREFDQ
VREF_CA — M8 — VREFCA

VSS: A9, B3, E1, G8, J2, J8, M1, M9, P1, P9, T1, T9
DDR_RST — T2 — RESET#
— L8 — ZQ
R52 240R×1 → GND

NC: J1, J9, L1, L9, M7

U3 — DDRIII-256MB

Signal	Pin			Pin	Signal
DDR_D8	E3	DQ0	A0	N3	DDR_A0
DDR_D9	F7	DQ1	A1	P7	DDR_A1
DDR_D10	F2	DQ2	A2	N2	DDR_A2
DDR_D11	F8	DQ3	A3	P3	DDR_A3
DDR_D12	H3	DQ4	A4	P8	DDR_A4
DDR_D13	H8	DQ5	A5	P2	DDR_A5
DDR_D14	G2	DQ6	A6	R8	DDR_A6
DDR_D15	H7	DQ7	A7	R2	DDR_A7
DDR_D24	D7	DQ8	A8	T8	DDR_A8
DDR_D25	C3	DQ9	A9	R3	DDR_A9
DDR_D26	C8	DQ10	A10/AP	L7	DDR_A10
DDR_D27	C2	DQ11	A11	R7	DDR_A11
DDR_D28	A7	DQ12	A12/BC#	T3	DDR_A12
DDR_D29	A2	DQ13	A13	T7	DDR_A13
DDR_D30	B8	DQ14	A14		DDR_A14
DDR_D31	A3	DQ15			
			BA0	M2	DDR_BA0
DDR_CKE0	K9	CKE	BA1	N8	DDR_BA1
DDR_CS0N	L2	CS#	BA2	M3	DDR_BA2
DDR_ODT0	K1	ODT			
			CK	J7	DDR_CLK
DDR_RASN	J3	RAS#	CK#	K7	DDR_CLKN
DDR_CASN	K3	CAS#			
DDR_WEN	L3	WE#	LDM	E7	DDR_DM1
			UDM	D3	DDR_DM3

LDQS / LDQS# : F3 / G3 — DDR_DQS1P / DDR_DQS1M
UDQS / UDQS# : C7 / B7 — DDR_DQS3P / DDR_DQS3M

VCCDR

VREF_DQ — H1 — VREFDQ
VREF_CA — M8 — VREFCA
DDR_RST — T2 — RESET#
— L8 — ZQ
R53 240R×1 → GND

Decoupling / Reference networks

VCCDR: C63 476, C64 476, C65 226, C66 104, C67 104, C68 104, C69 104, C70 104, C71 104, C72 104, C73 104, C74 104, C75 104, C76 104, C77 104, C78 104, C79 104, C80 104

VCCDR: C84 104, C85 104, C86 104, C87 104, C88 104, C89 104, C90 104

VCCDR: C91 104, C92 104, C93 104, C94 104, C95 104, C96 104, C97 104

VCCDR — R91 1K1% — VREF_MCU ; R92 1K×1 / R93 NC ; C98 102, C99 102, C100 103, C101 103

VCCDR — R89 1K1% — VREF_DQ ; R90 1K×1 ; C81 102, C82 102, C83 101 ; GND

VCCDR — R252 1K1% — VREF_CA ; R251 1K×1 ; C280 102, C296 102, C297 101 ; GND

FLASH

U23 FLASH_1ST

VCC — R95 0R — VCCNAND — 106 C102 — GND

VCCNAND / GND / R177 0402 R7K1

Pin	Signal		Pin	Signal
1	NC/VCC	VSS	48	GND
2	NC/VSS	DNU/NC	47	
3	NC	NC	46	
4	NC	NC	45	
5	NC	I/O7	44	FLASH_D7
6	NC	I/O6	43	FLASH_D6
7	R/B	I/O5	42	FLASH_D5
8	RE	I/O4	41	FLASH_D4
9	CE	NC	40	
10	NC	PSL/VCCQ/NC	39	
11	NC	VCCQ/NC/PRE	38	GND
12	VCC	VCC	37	
13	VSS	VSS	36	
14	CFLASH_CS2 NC	NC	35	
15	NC	VCCQ/NC	34	
16	CLE	NC	33	
17	ALE	I/O3	32	FLASH_D3
18	WE	I/O2	31	FLASH_D2
19	WP	I/O1	30	FLASH_D1
20	NC	I/O0	29	FLASH_D0
21	NC	NC	28	
22	NC	NC	27	
23	NC/VSS	VSS	26	
24	NC/VCC	DNU/NC	25	GND

FLASH_RDY, FLASH_RDN, FLASH_CS0, FLASH_CS1, VCCNAND, C205 100N 0402C2, FLASH_CS3, FLASH_CLE, FLASH_ALE, FLASH_WRN, FLASH_WP

FLASH-HY27UF082G2M_2

Flash

VCCNAND — C206 100N C286 100N C287 100N C288 100N — GND

38pin :0 Flash
Intel Toshiba Flash
38pin :1

SMT_LGA46 U31

Signal	Pin		Pin	Signal
FLASH_CS0	A5	CE1	G3	FLASH_D0
FLASH_CS1	C5	CE2	H2	FLASH_D1
FLASH_CS2	A1	CE3	J3	FLASH_D2
FLASH_CS3	QA0	CE4	K2	FLASH_D3
FLASH_RDY	E5	R/B	L5	FLASH_D4
	E7	R/B2	K6	FLASH_D5
	A7	R/B3	J5	FLASH_D6
	QA8	R/B4	H6	FLASH_D7
FLASH_CLE	A3	CLE	G1	
	C3	NC	J1	
FLASH_WRN	E3	WE1	L1	
	E1	NC	N3	
FLASH_RDN	C7	RE	N5	
	D6	NC	L7	
FLASH_ALE	C1	ALE1	J7	
	D2	ALE2	G7	
FLASH_WP	F2	WP	QB0	
	G5	NC	QC0	
VCCNAND	B6	VCC	QD0	
	N1	VCCQ	QE0	
	M6	VCC	QF0	
	N7	NC	QF8	
	QD8	PSL	QE8	
	B2	VSS	QD8	
	F6	VSS	VSS	
	L3	VSS	VSS	M2

GND — NANDFLASH_1ST — GND

NAND FLASH/EMMC

U1-F Module

NAND FLASH Module RK2918

Signal	Pin	Net
FLASH_DATA[0]	N23	FLASH_D0
FLASH_DATA[1]	N19	FLASH_D1
FLASH_DATA[2]	L22	FLASH_D2
FLASH_DATA[3]	L23	FLASH_D3
FLASH_DATA[4]	N24	FLASH_D4
FLASH_DATA[5]	M23	FLASH_D5
FLASH_DATA[6]	L19	FLASH_D6
FLASH_DATA[7]	L21	FLASH_D7
GPIO4_B[0]/FLASH_DATA[8]	L20	
GPIO4_B[1]/FLASH_DATA[9]	M22	
GPIO4_B[2]/FLASH_DATA[10]	J23	
GPIO4_B[3]/FLASH_DATA[11]	J24	
GPIO4_B[4]/FLASH_DATA[12]	N22	
GPIO4_B[5]/FLASH_DATA[13]	M20	
GPIO4_B[6]/FLASH_DATA[14]	K21	
GPIO4_B[7]/FLASH_DATA[15]	M19	
FLASH_RDN	N21	FLASH_RDN
FLASH_RDY	N20	FLASH_RDY
FLASH_WRN	K20	FLASH_WRN
FLASH_WP	K19	FLASH_WP
FLASH_CLE	M21	FLASH_CLE
FLASH_ALE	P19	FLASH_ALE
GPIO0_A[5]/FLASH_DQS	J21	
FLASH_CSN0	M24	FLASH_CS0
GPIO0_D[2]/FLASH_CSN1	K24	FLASH_CS1
GPIO0_D[3]/FLASH_CSN2	K22	FLASH_CS2
GPIO0_D[4]/FLASH_CSN3	K23	FLASH_CS3
GPIO0_D[5]/FLASH_CSN4	J22	
GPIO0_D[6]/FLASH_CSN5	J19	
GPIO0_D[7]/FLASH_CSN6	L24	
GPIO1_A[0]/FLASH_CSN7/MDDR_TQ	J20	

EMMC

Signal	Pin	Net
GPIO3_B[2]/EMMC_DATA0	F22	
GPIO3_B[3]/EMMC_DATA1	H24	
GPIO3_B[4]/EMMC_DATA2	F23	
GPIO3_B[5]/EMMC_DATA3	F24	
GPIO3_B[6]/EMMC_DATA4	G23	
GPIO3_B[7]/EMMC_DATA5	D23	
GPIO3_C[0]/EMMC_DATA6	F21	
GPIO3_C[1]/EMMC_DATA7	G21	
GPIO3_B[0]/EMMC_CLKOUT	E22	
GPIO3_B[1]/EMMC_CMD	H21	
GPIO1_A[5]/EMMC_PWR_EN/PWM3	A9	

SDMMC Module

RK2918

Signal	Pin	Net
GPIO1_D[2]/SDMMC0_DATA0	D20	SDMMC_D0
GPIO1_D[3]/SDMMC0_DATA1	G22	SDMMC_D1
GPIO1_D[4]/SDMMC0_DATA2	B24	SDMMC_D2
GPIO1_D[5]/SDMMC0_DATA3	G19	SDMMC_D3
GPIO1_D[6]/SDMMC0_DATA4	C23	
GPIO1_D[7]/SDMMC0_DATA5	C20	HDMI_DET
GPIO2_A[0]/SDMMC0_DATA6	E20	
GPIO2_A[1]/SDMMC0_DATA7	E23	
GPIO1_D[0]/SDMMC0_CLKOUT	D22	SDMMC_CLK
GPIO1_D[1]/SDMMC0_CMD	G20	SDMMC_CMD
GPIO2_A[2]/SDMMC0_DETECT_N	B10	SDMMC_DET
GPIO5_D[5]/SDMMC0_PWR_EN	A7	SDMMC_PWR
GPIO1_C[3]/SDMMC1_DATA0	H22	SD1_D0
GPIO1_C[4]/SDMMC1_DATA1	H23	SD1_D1
GPIO1_C[5]/SDMMC1_DATA2	H18	SD1_D2
GPIO1_C[6]/SDMMC1_DATA3	H19	SD1_D3
GPIO1_C[7]/SDMMC1_CLKOUT	G24	SD1_CLK
GPIO1_C[2]/SDMMC1_CMD	D24	SD1_CMD
GPIO5_D[6]/SDMMC1_PWR_EN	A6	WIFI_PWR

HDMI_DET 11

13 SD1_D0 — SD1_D0
13 SD1_D1 — SD1_D1
13 SD1_D2 — SD1_D2
13 SD1_D3 — SD1_D3
13 SD1_CMD — SD1_CMD
13 SD1_CLK — SD1_CLK
13 WIFI_PWR — WIFI_PWR

SD CARD

VCC — 106 C107 — C108 103 — R99 100K — R100 — SDMMC_PWR — 1K

Q7 AO3401
VCC_SD — 106 C109 — C110 104

RP1 33R / 33R

SDMMC_D0 — 4 — 5
SDMMC_D1 — 3 — 6
SDMMC_D2 — 2 — 7
SDMMC_D3 — 1 — 8

SDMMC_CMD — R101
SDMMC_CLK
SDMMC_DET

TF2 TFOUT

Pin	Signal
10	NC
11	NC1
1	DATA2
2	CD/DAT3
3	CMD
4	VDD
5	CLK
6	VSS2
7	DATA0
8	DATA1
9	CD

TF CARD

I2S/I2C/UART/SPI Module (U1-I)

Pin	Signal	Net
C21	GPIO2_D[4]/I2SO_SDO0/MII_RXD2	I2SO_SDO0
A23	GPIO2_D[5]/I2SO_SDO1/MII_RXD3	I2SO_SDO1
A24	GPIO2_D[6]/I2SO_SDO2/MII_TXD2	I2SO_SDO2
C24	GPIO2_D[7]/I2SO_SDO3/MII_TXD3	I2SO_SDO3
B22	GPIO2_D[3]/I2SO_SDI/MII_COL	I2SO_SDI
E24	GPIO2_D[0]/I2SO_CLK/MII_RX_CLKIN	I2SO_CLK
H20	GPIO2_D[1]/I2SO_SCLK/MII_CRS	I2SO_SCLK
F20	GPIO4_D[6]/I2SO_LRCK_TX0	I2SO_LRCK_TX0
B21	GPIO4_D[7]/I2SO_LRCK_TX1	
A21	GPIO2_D[2]/I2SO_LRCK_RX/MII_TX_ERR	I2SO_LRCK_RX
C15	GPIO4_A[7]/SPDIF_TX	SPDIF
A5	GPIO3_A[4]/I2S1_SDO	I2S1_SDO
B5	GPIO3_A[1]/I2S1_SDI	I2S1_SDI
D7	GPIO3_A[0]/I2S1_MCLK	I2S1_MCLK
C6	GPIO3_A[3]/I2S1_SCLK	I2S1_SCLK
B6	GPIO3_A[2]/I2S1_LRCK_RX	I2S1_LRCK_RX
A4	GPIO3_A[5]/I2S1_LRCK_TX	I2S1_LRCK_TX
C9	GPIO2_B[6]/I2C0_SDA	I2C0_SDA
D10	GPIO2_B[7]/I2C0_SCL	I2C0_SCL
A12	GPIO1_A[6]/I2C1_SDA	I2C1_SDA
B12	GPIO1_A[7]/I2C1_SCL	I2C1_SCL
B8	GPIO5_D[3]/I2C2_SDA	I2C2_SDA
D9	GPIO5_D[4]/I2C2_SCL	I2C2_SCL
D6	GPIO2_B[4]/UART3_CTS_N/I2C3_SDA	
E7	GPIO2_B[5]/UART3_RTS_N/I2C3_SCL	
D5	GPIO1_B[7]/UART0_SOUT	
D8	GPIO1_B[6]/UART0_SIN	
A3	GPIO1_C[0]/UART0_CTS_N/SDMMC1_DETECT_N	WIFI_DET 13
C4	GPIO1_C[1]/UART0_RTS_N/SDMMC1_WRITE_PRT	
E9	GPIO2_A[5]/UART1_SOUT	UART1_SOUT
C7	GPIO2_A[4]/UART1_SIN	UART1_SIN
E8	GPIO2_B[1]/UART2_SOUT	UART2_SOUT 13
E6	GPIO2_B[0]/UART2_SIN	UART2_SIN 13
B4	GPIO2_A[7]/UART2_RTS_N	UART2_RTS 13
C5	GPIO2_A[6]/UART2_CTS_N	UART2_CTS 13
F8	GPIO2_B[3]/UART3_SOUT	UART3_RX
A8	GPIO2_B[2]/UART3_SIN	UART3_TX
D15	GPIO2_C[3]/SPI0_RXD	PEN_DOUT
E15	GPIO2_C[2]/SPI0_TXD	PEN_DIN/TUNER/SPI_EN
D14	GPIO2_C[0]/SPI0_CLK	PEN_CLK
E14	GPIO2_C[1]/SPI0_CSN0	
A10	GPIO1_A[4]/EMMC_WRITE_PRT/SPI0_CSN1	
C14	GPIO2_C[7]/SPI1_RXD	HDMI_RST
B16	GPIO2_C[6]/SPI1_TXD	TP_VCC_EN
F16	GPIO2_C[4]/SPI1_CLK	
A13	GPIO2_C[5]/SPI1_CSN0	
F15	GPIO1_A[3]/EMMC_DETECT_N/SPI1_CSN1	

RK2918

GPIO/PWM/ADC Module (U1-J)

Pin	Signal	Net
J1	RECOVER	
J2	DC_DET	DC_DET
J3	BAT_LOW	BAT_LOW
H4	CHG_OK	CHG_OK
J4	PWR_ON	PWR_ON
	GPIO4_A[0]	
	GPIO4_A[1]	
	GPIO4_A[2]	
	GPIO4_A[3]	
	GPIO4_A[4]	
D12	GPIO4_D[0]	
E11	GPIO4_D[1]	
F10	GPIO4_D[2]	
F9	GPIO4_D[3]	
C10	GPIO4_D[4]	
F11	GPIO6_D[5]	
F13	BT_RST	BT_RST 13
E10	BT_WAKE	BT_WAKE
C11	GPIO6_D[6]	
E13	GPIO6_D[7]	
V9	LCDC_DISP	LCDC_DISP
W8	LCDC_CS	LCDC_CS
V8	CABC_EN	CABC_EN
W7	VIB_CON	VIB_CON
E2	GPIO5_A[0]	
F3	GPIO5_A[1]	
E4	GPIO5_A[2]	
F12	VIP_PDN0	VIP_PDN0
P7	EWAKEUP_STOP	
T7	EWAKEUP_POWER	
P20	VDDCORE_EFUSE	VDD
T19	VDDIO_EFUSE	VCCIO
R20	EFUSE_VQPS	
N6	BTMODE	
V7	TEST	
F4	GPIO0_A[0] USB_INT	USB_INT
F2	GPIO0_A[1] RTC_INT	RTC_INT
G3	GPIO0_A[2] TOUCH_INT	TOUCH_INT
H3	GPIO0_A[3] GSENSOR_INT	GSENSOR_INT
G4	GPIO0_A[4]	COMP_INT
A1	GPIO6_A[0] MENU	MENU
B3	GPIO6_A[1] VOL+	VOL+
C3	GPIO6_A[2] VOL-	VOL-
D4	GPIO6_A[3] HOME	HOME
E5	GPIO6_A[4]	ENTER
C1	GPIO6_A[5] ESC	ESC 12
D1	GPIO6_A[6]	KEY_LED
D2	GPIO6_A[7] PWR_KEY	PWR_KEY
E1	GPIO6_B[0]	
F1	GPIO6_B[1] 3G_PWR	3G_PWR
E3	GPIO6_B[2]	GPS_EN
D3	GPIO6_B[3]	EVDO_ONOFF
C2	GPIO6_B[4]	EVDO_RST
B2	GPIO6_B[5] FLASH_LED	FLASH_LED
B1	GPIO6_B[6] SPK_CON	SPK_CON
A2	GPIO6_B[7] VIP_PDN1	VIP_PDN1
C12	GPIO6_C[0] WIFI_RST	WIFI_RST
E12	GPIO6_C[1]	GPS_RESET
A11	GPIO6_C[2]	
D13	GPIO6_C[3] TOUCH_RST	TOUCH_RST
C8	GPIO1_B[5]/PWM0 LCDC_BL	LCDC_BL
B7	GPIO5_D[2]/PWM1/UART1_SIR_IN	
B9	GPIO2_A[3]/SDMMC0_WRITE_PRT/PWM2/UART1_S PWM2	PWM2
AA23	SARADC_AIN0	BAT_DET
Y23	SARADC_AIN1	
Y24	SARADC_AIN2	
AA24	SARADC_AIN3	LIGHT_DET

RK2918

POWER Module (U1-K)

Pin	Signal
N5	VDDIO_DDR0
R5	VDDIO_DDR1
U5	VDDIO_DDR2
Y6	VDDIO_DDR4
Y8	VDDIO_DDR5
Y10	VDDIO_DDR6
W5	VDDIO_DDR3
M5	VSSIO_DDR0
P5	VSSIO_DDR1
T5	VSSIO_DDR2
V5	VSSIO_DDR3
Y5	VSSIO_DDR4
Y7	VSSIO_DDR5
Y9	VSSIO_DDR6
L7	VDDCORE
N7	VDDCORE
U7	VDDCORE
V10	VDDCORE
V12	VDDCORE
V14	VDDCORE
V16	VDDCORE
R18	VDDCORE
N18	VDDCORE
L18	VDDCORE
J18	VDDCORE
G16	VDDCORE
G14	VDDCORE
G12	VDDCORE
G10	VDDCORE
F5	AVDD_DPLL	VDD12
G5	DVDD_APLL
F5	DVDD_DPLL
H5	DVDD_CGPLL
J5	AVDD_CGPLL
J6	AHVDD_APLL
F6	AVSS_DPLL	VCCPLL
G6	DVSS_APLL
G7	DVSS_DPLL
H6	DVSS_CGPLL
H7	AVSS_CGPLL
F7	AHVSS_APLL
K7	VDDIO0	VCCIO
T18	VDDIO1
K18	VDDIO2
G18	VDDIO3
G13	VDDIO4
G11	VDDIO5
	VDDIO6
G9	VDDIO_AP0
G8	VDDIO_AP1
P18	VDDIO_FLASH0
M18	VDDIO_FLASH1
V17	VDDIO_SMC0
V18	VDDIO_SMC1
V11	VDDIO_LCD0
V13	VDDIO_LCD1
V15	VDDIO_VIP
AB24	VDDA_SARADC
U18	VDDCORE_RTC
P21	VDDIO_RTC
R22	VDDIO_UHOST11
W23	OTG_VDD33	VCCA33
V23	HOST20_VDD33
V19	OTG_DVDD	VDD_USB
U19	HOST20_DVDD
W22	OTG_VDD25	VCC25
T22	HOST20_VDD25
R21	VSSIO_UHOST11
V21	OTG_VSSA
W21	OTG_DVSS
T21	HOST20_DVSS
U21	HOST20_VSSA
W20	OTG_VSSAC
U20	HOST20_VSSAC

GND pins: K10, K11, K12, K13, K14, K15, L10, L11, L12, L13, L14, L15, M10, M11, M12, M13, M14, M15, N10, N11, N12, N13, N14, N15, P15, P14, P13, P12, P11, P10, R15, R14, R13, R12, R11, R10

RK2918

UART DEBUG

- E9 UART1_SOUT → T18
- C7 UART1_SIN → T19, T20

VCC R115 NC / R116 10K

VOL+ R106 1K RECOVER

Decoupling capacitors

VCC25: C111 (106)
VCC: C112 (103), C113 (102)
VCCDR: C114 (106), C115 (103)
VCCDR: C116 (226), C117 (104), C118 (104), C119 (104)
VCC R107 OR VCCIO: C120 (106), C121 (103), C122 (103), C123 (103), C124 (103), C125 (103)

VDD: C126 (476), C127 (476), C128 (104), C129 (104), C130 (104), C131 (104), C132 (104), C133 (104), C134 (104)
VDD12: C135 (103), C136 (102), C137 (104)
VCCA33: C322 (103), C324 (102)

VDD: C138 (104), C139 (104), C140 (104), C141 (104), C142 (104)
VCC25 L6 120R@100M VCCPLL: C143 (103), C144 (102), C145 (104)
VDD12 Q22 SI2302 VDD_USB: VCC R108 10K, C302 (105) GND, C158 (105), R122 10K

I2C pull-ups

VCC / VCC_LCD
R109 4K7, R110 4K7, R111 4K7, R112 4K7, R113 4K7, R114 4K7
- I2C0_SDA
- I2C0_SCL
- I2C1_SDA
- I2C1_SCL
- I2C2_SDA
- I2C2_SCL

UART1_SOUT → UART1_SOUT 5
UART1_SIN → UART1_SIN 5

MIC

R117 2K2 R118 100R MICBIAS
C146 225
MIC1
MIC
C152 101
R120 2K2
MICP1
MICN1

CODEC

VCCA18 CPVDDLO
L7 10UH C147 475
DCVDD
L10 10UH C153 104
VCCA33 DBVDD
L12 120R@120M C157 104
MICBIAS MICN1
MICP1
C155 105
C156 105
AVDD
L14 120R@100M C165 475
CPVDDHI
L17 120R@100M C172 475

U21
WM8900
PAD
AUX/LCOM
LINOUT_1R
LINOUT_1L
AGND
VMID
AVDD
LINOUT_2L
LINOUT_2R
HP_INR
HP_INL
MICBIAS
LINPUT1
RINPUT1
LINPUT2
RINPUT2
LINPUT3/JD
RINPUT3/JD
MODE/GPIO
DBVDD
DGND
MCLK
DCVDD
BCLK
ADCDAT
ADCLRC
DACLRC
SDIN
SCLK
CSB/GPIO
HPGND
HP_L
HP_R
CFB2
VNEG
CPGND
VPOS
CFB1
CPVDDHI
CPVDDLO
C150 475 AGR ADL C148 475 C151 474 C149 474

C159 106
C163 106
C164 105
CPVDDHI
CPVDDLO

LOUT1
ROUT1

SLAVE ADDRESS
R126 NC CSB 0(DEFAULT) 1 1A 1B

DCVDD DBVDD

Analog TVout

GND
P12 ST016SMT
LOUT1 R194 16R L42 10UH
ROUT1 R192 16R L41 10UH
R182 470R R174 470R R190 16R R184 16R HP_DET L13 120R@100M
GND
C189C190 47N
GND GND
RES2A ESD1 ESD7 ESD2
GND

HEADPHONE

RMII/MII/JTAG Module

U1-G
RK2918

I2S0_CLK R130 33R WM_I2S_MCLK
I2S0_SCLK R131 33R WM_I2S_BCLK
I2S0_LRCK_TX0 WM_I2S_DACLRC
I2S0_SD00 WM_I2S_ADCLRC
I2S0_LRCK_RX WM_I2S_DACDAT
I2S0_SDI WM_I2S_ADCDAT
RP3 33R

GPIO4_C[3]/RMII_TXD0/MII_TXD0 D21
GPIO4_C[7]/RMII_RXD0/MII_RXD0 E19
GPIO4_C[6]/RMII_RXD1/MII_RXD1 B23
GPIO4_C[2]/RMII_TXD1/MII_TXD1 C19
GPIO4_C[0]/RMII_CLKOUT/RMII_CLKIN A20
GPIO4_C[5]/RMII_CRS_DVALID/MII_RXD_VALID A18
GPIO4_C[1]/RMII_TX_EN/MII_TX_EN A22
GPIO4_C[4]/RMII_RX_ERR/MII_RX_ERR C18
GPIO5_A[3]/MII_TX_CLKIN B18
GPIO0_A[6]/MII_MD D18
GPIO0_A[7]/MII_MDCLK D11

8,11 I2S0_SD00 I2S0_SD00
8 I2S0_SDI I2S0_SDI
8,11 I2S0_CLK I2S0_CLK
8 I2S0_SCLK I2S0_SCLK
8,11 I2S0_LRCK_TX0 I2S0_LRCK_TX0
8 I2S0_LRCK_RX I2S0_LRCK_RX
3,5,8,12 I2C0_SCL I2C0_SCL
3,5,8,12 I2C0_SDA I2C0_SDA

TRST_N K5 TRST_N T21
TCK L5 TCK T22
TDI L6 TDI T23
TDO M7 TDO T24
TMS M6 TMS T25
T26
JTAG

ADKey

VB
L20 120R@100M
EC6 10U C184 1U
C186 1U
C180 1U C176 1U C187 4.7N C188 4.7N
GND GND
P5
LOUT1 100R C174 100N
R132 470R C183 1N
C175 100N
INL- PVDD OUTL+
INL+ OUTL-
U8 QFN16-0.65
SPEAKER
SP1 SPK
P6
L21 10UH
L9 10UH
ROUT1 R24 100R
R172 470R C177 1N
C178 100N
INR- AVDD OUTR+
INR+ OUTR-
SPEAKER
SPK
L11 10UH
L8 10UH
SPK_CON
C182 100N
R15 10K SDL THERMAL_PAD
SDR G0
GND
G1
PT5326
VCC
HP_DET R129 100K
PGND2
AGND
GND
R14 100K
R23 100K
C173 1U C179 1U C185 4.7N C196 4.7N
R255 R257 NC NC/10K

Audio AMP

[DCN] VCC_TP ,TP_VCC 5V

U25 DTC34LMB5AL

LCD CONNECTOR

U1-A
LCDC Module

RK2918

LIGHT SENSOR

GL3526
PR1

NC

CS7146
U43
QFN16-0.65

LIGHT_DET

CON-20327_030E02
J7

J5

HDMI

Signal Labels (left side)

LCDC_HSYNC — LCDC_HSYNC 10
LCDC_VSYNC — LCDC_VSYNC 10
LCDC_CLK — LCDC_CLK 10
LCDC_DE — LCDC_DE 10
LCDC_D23 — LCDC_D23 10
LCDC_D22 — LCDC_D22 10
LCDC_D21 — LCDC_D21 10
LCDC_D20 — LCDC_D20 10
LCDC_D19 — LCDC_D19 10
LCDC_D18 — LCDC_D18 10
LCDC_D17 — LCDC_D17 10
LCDC_D16 — LCDC_D16 10
LCDC_D15 — LCDC_D15 10
LCDC_D14 — LCDC_D14 10
LCDC_D13 — LCDC_D13 10
LCDC_D11 — LCDC_D11 10
LCDC_D10 — LCDC_D10 10
LCDC_D9 — LCDC_D9 10
LCDC_D8 — LCDC_D8 10
LCDC_D7 — LCDC_D7 10
LCDC_D6 — LCDC_D6 10
LCDC_D5 — LCDC_D5 10
LCDC_D4 — LCDC_D4 10
LCDC_D3 — LCDC_D3 10
LCDC_D2 — LCDC_D2 10
LCDC_D1 — LCDC_D1 10
LCDC_D0 — LCDC_D0 10

I2SO_SDO0 — I2SO_SDO0 8,9
I2SO_SDO1 — I2SO_SDO1 8
I2SO_SDO2 — I2SO_SDO2 8
I2SO_SDO3 — I2SO_SDO3 8
I2SO_SDI — I2SO_SDI 8,9
I2SO_CLK — I2SO_CLK 8,9
I2SO_SCLK — I2SO_SCLK 8,9
I2SO_LRCK_TXO — I2SO_LRCK_TXO 8,9

SPDIF — SPDIF 8
PWR_ON — PWR_ON 3,8,12
I2C1_SCL — I2C1_SCL 8,12
I2C1_SDA — I2C1_SDA 8,12

HDMI IC (ANX7150)

HDMI IC

ANX7150

Notes

HDMI ,Layout :
LCD_CLK 148MHz ,Layout , ;
HDMI HDMI , , , 100R;
ESD HDMI, 5pF;

ESD Devices

U27 RClamp0524J
R155 150R TX_2+
R156 150R TX_1-

U28 RClamp0524J
R160 150R TX_0+
R161 150R TX_C-

U29 RClamp0524J
DDC_SCL
DDC_SDA
VB
HPD

Components

C207 472
R145 10K TEST_EN
R146 10K ADDR_SEL
R147 3K5
R148 22R I2C1_SCL
R153 22R I2C1_SDA
R154 33R LCDC_CLK

R149 22K HPD
R150 47K
R151 51K
R152 47K
Q12 8050
HDMI_DET — HDMI_DET 7 HPD

RP9 33R
RP10 33R
RP11 33R
RP12 33R
RP13 33R
RP14 33R
RP15 33R
RP16 33R
R157 33R
R158 33R
R159 33R

HDMI_C

Bottom section

VCC_HDMI VB
R162 4K7 R163 1K5
HDMI_DSCK — DDC_SCL
Q13 WNM2028-3/TR

VCC_HDMI VB
R164 4K7 R165 1K5
HDMI_DSDA — DDC_SDA
Q14 WNM2028-3/TR

VCC_HDMI
C210 104 C211 104 C212 104 C213 104

VDD_HDMI
C214 104 C215 104 C216 104 C217 104

VDD_HDMI
Q15 SI2306
PWR_ON R166 1K
R167 27R R168 27R R169 27R R170 27R
VOREG0 VOREG1 VOREG2 VOREG_C
C218 104 C219 104 C220 104 C221 104

VCCA18
R171 120R@100M HDMI1.8V VDD_HDMI
C222 226 C223 104

VCCA33 VCC_HDMI
D11 CRS08
C225 106

PWR_ON
R173 100K
HDMI_RST
C226 104

Title Block

Title: MSI1003HC
File: HDMI
REV: 1.2
Create Date:
Modify Date: Wednesday, June 22, 2011
Page Num:
Page Total:

HDMI

2V8OUT

10K
R247

I2C1_SDA
I2C1_SCL

C257

VIP_PDN1

VIP_D[0:11]

J9 FPC24PIN-0.5MM

NC	1
AGND	2
SIO_D	3
AVDD	4
SIO_C	5
RESET	6
VSYNC	7
PWDN	8
HREF	9
DVDD	10
DOVDD	11
Y9	12
XCLK1	13
Y8	14
DGND	15
Y7	16
PCLK	17
Y6	18
Y5	19
Y3	20
Y4	21
Y1	22
Y0	23
GND	24
GND	25
GND	26

GND
I2C1_SDA
C_AVDD
I2C1_SCL
SENSOR_RST
VIP_VSYNC
VIP_PDN1
VIP_HREF
C_DVDD
C_DOVDD
VIP_D11
VIP_CLKOUT
VIP_D10
GND
VIP_D9
VIP_CLKIN
VIP_D8
VIP_D4
VIP_D7
VIP_D5
VIP_D6

C279 NC NC
C245 C224
GND GND

2M_pixel_camera

J4 FPC24PIN-0.5MM

NC	1
AGND	2
SIO_D	3
AVDD	4
SIO_C	5
RESET	6
VSYNC	7
PWDN	8
HREF	9
DVDD	10
DOVDD	11
Y9	12
XCLK1	13
Y8	14
DGND	15
Y7	16
PCLK	17
Y6	18
Y2	19
Y5	20
Y3	21
Y4	22
Y1	23
Y0	24
GND	25
GND	26

VIP_PDN0

C303 C224
NC NC
GND

5M_pixel_camera

VB
U30 FP6161/SY8008B
VIN LX
GND
EN FB/OUT
L19 3.3uH/1A
1.5V
C282 100P
R265 150K%1
C290 C294
104 106
C292 106
GND
R264 100K%1
P17 C_DVDD

VB
U20 PT5107-2.8v
IN FB/OUT
GND
SHDN BP
C291 106
R6 22K
C293 474
C289 104
C295 106
P18 2V8OUT
GND

2V8OUT
C_DOVDD
L38 120R@100M 0603R
C268 10U
L45 120R@100M 0603R
C_AVDD
C278 10U

3D G-Sensor

VCC
R181 0R
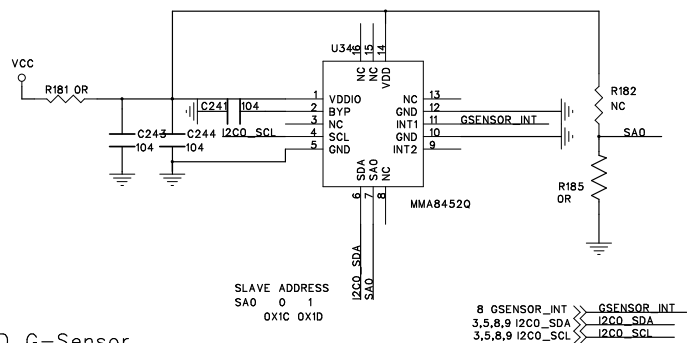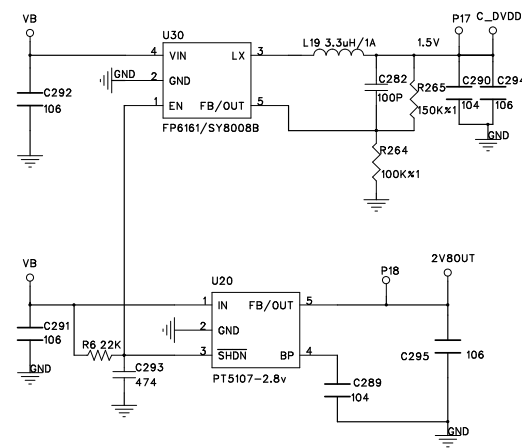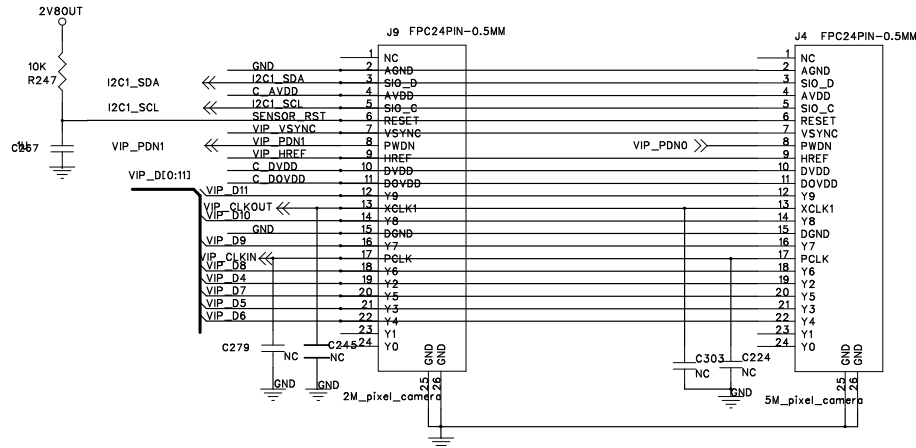C241 104
C243 104
C244 104
I2C0_SCL

U34 MMA8452Q
VDDIO
BYP
NC
SCL
GND
NC
NC
VDD
NC
GND
INT1
GND
INT2
SDA
SAO
NC

13
12
11
10
9

R182 NC
SAO
R185 0R

GSENSOR_INT

SLAVE ADDRESS
SAO 0 1
0X1C 0X1D

I2C0_SDA
SAO

8 GSENSOR_INT GSENSOR_INT
3,5,8,9 I2C0_SDA I2C0_SDA
3,5,8,9 I2C0_SCL I2C0_SCL

Compass

COMP_INT COMP_INT

VCC VCC
U45 AK8975C
B1 C1 C2 D1
TST1
CSB
TRG
SCL
VDD
VSS
TST2
CAD0
CAD1
DRDY
TST6
A1
A2
A4
A3
D2
C3 COMP_INT
B3
SDA
SO
VID
D4 B4 C4
VCC
I2C1_SCL
VCC
I2C1_SDA

VCC
C313 104 C0402
C312 104 C0402

U1-B
VIP Module

GPIO1_B[0]/VIP_DATAIN[0] AA16
GPIO1_B[1]/VIP_DATAIN[1] AA17
GPIO1_B[2]/VIP_DATAIN[2] AD18
GPIO1_B[3]/VIP_DATAIN[3] AC18
VIP_DATAIN[4] W15 VIP_D4
VIP_DATAIN[5] AB16 VIP_D5
VIP_DATAIN[6] AC16 VIP_D6
VIP_DATAIN[7] Y16 VIP_D7
VIP_DATAIN[8] AB17 VIP_D8
VIP_DATAIN[9] AD16 VIP_D9
VIP_DATAIN[10] AA15 VIP_D10
VIP_DATAIN[11] Y15 VIP_D11

VIP_VSYNC AB18 VIP_VSYNC
VIP_HREF AC17 VIP_HREF

VIP_CLKIN AD17 R40 0R VIP_CLKIN

GPIO1_B[4]/VIP_CLKOUT W16 R196 0R VIP_CLKOUT

RK2918

C245

KEY BAORD

SW4 PLAY
VOL+
1 2
4 3
PLAY SW5
VOL-
4 3

VOL+
VOL-
ESD13 ESD14
ESD5V3U1U ESD5V3U1U

VCC
R187 10K R188 10K
VOL+
VOL-

J1 VCC
8
1
2 MENU
3 HOME
4 ESC
5 ENTER
6 KEY_LED
7
9 GND
CON7
GND

3G/WIFI — MSI1003HC

SIM CARD section

UIM_PWR
R97 15K
R189 100R
R186 100R
R191 100R
UIM_DAT
UIM_CLK
UIM_RST
U4
VPP
IO
GND
NC
CLK
NC VCC RST
SIMCARD
UIM_PWR
C231 100P C232 100P C233 100P

U5 3G-MC8630

Pin	Signal
36	RF_ANT
35	GND
34	NC
33	NC
32	NC
31	USB11_DM / USB_D-
30	USB11_DP / USB_D+
29	ON/OFF
28	NC
27	NC
26	NC
25	NC
24	NC
23	NC
22	NC
21	NC
20	GND
19	RF_ANT
1	V_UIM_3V
2	UIM_RST
3	UIM_CLK
4	UIM_DATA
5	GND
6	EAR2_P
7	EAR1_P
8	EAR1_N
9	MIC2_P
10	MIC2_N
11	MIC1_P
12	MIC1_N
13	GND
14	/PON_RESET
15	VBUS
16	VCHG
17	V_MAIN
18	V_MAIN / V_MSMP / V_MSMP

EVDO_ONOFF R176 0R
3G-AOUT GND
UIM_PWR
UIM_RST
UIM_CLK
UIM_DAT
C228 100P
R180 10R
R179 10R
C229 100P
MIC2 MIC
R195 R197 NC 2.2K
VCCA33
C234 10U GND
R198 NC
R175 0R EVDO_RST
R246 NC EVDO_VCC
NC R178
EVDO_VCC
C255 100N
C227 10U GND
EVDO_VCC EVDO_VCC EVDO_VCC
C105 22U C104 100N C103 22U C106 100N
GND

Power (U46)

VIN
AP3202/SI2305 Q4
C316 10U/16V R51 100K C318 104
U46 LP6493/RT8272
VIN BOOT
EN SW
SS FB
GND COMP
103
C32
C325 2200P C317
R239 15K
L27 6.8uH/3A
C314 101 R41 91K 1%
R204 22K×1
P19
R94 0R
C257
EVDO_VCC
C230 47U
SIM CARD
3G_PWR R240 10K Q17 8050 GND

WIFI+BT section

VCC_W
R205...R223 NC
SD1_CMD
SD1_D3
SD1_D2
SD1_D1
SD1_D0

8 BT_WAKE BT_WAKE
8 UART2_SOUT UART2_SOUT
8 UART2_SIN UART2_SIN
8 UART2_CTS UART2_CTS
8 UART2_RTS UART2_RTS
8 BT_RST BT_RST
5 USB11_DM USB11_DM
5 USB11_DP USB11_DP
8 3G_PWR 3G_PWR
8 WIFI_DET WIFI_DET
5 RTC_CLKOUT RTC_CLKOUT
8 WIFI_RST WIFI_RST
7 WIFI_PWR WIFI_PWR

7 SD1_D0 SD1_D0 R222 33R WIFI_D0
7 SD1_D1 SD1_D1 R221 33R WIFI_D1
7 SD1_D2 SD1_D2 R220 33R WIFI_D2
7 SD1_D3 SD1_D3 R219 33R WIFI_D3
7 SD1_CMD SD1_CMD R206 33R WIFI_CMD
7 SD1_CLK SD1_CLK R207 33R WIFI_CLK

WIFI_PWR
GND C259 106
VB L33120R@100M L32 4.7uH
GND C260 106
VCC_W
C261 C262 C263 C264 C265
WIFI_RST
BT_RST
50 ohm trace RF_IN/OUT
C266 0R
L34 NC L35 NC
ANT1 GND
WIFI_RST R209 47K Q23 WIFI 8050 WIFI_DET

U37

Pin	Signal
41	VIO
42	VIO_SDIO
3	VBAT
48	SR_VLX
43	VIN_1.2V
44	VDD_CORE
45	VDD_RADIO_PLL
46	VDD_PA
20	VDD_2.5V
27	WL_REG_ON
21	BT_REG_ON
23	WL_RST
15	ANT
6	OSCOUT
7	OSCIN
22	SLEEP_CLK
36	SDIO_D0
31	SDIO_D1
34	SDIO_D2
32	SDIO_D3
35	SDIO_CLK
33	SDIO_DCMD
28	WL_HOST_WAKE
29	WL_WAKE
39	WL_UART_TXD
40	WL_UART_RXD
24	BT_HOST_WAKE
26	BT_WAKE
9	BT_UART_TX
10	BT_UART_RX
11	BT_UART_RTS
12	BT_UART_CTS
17	BT_PCM_IN
19	BT_PCM_OUT
13	BT_PCM_CLK
18	BT_PCM_SYNC
37	CLK_REQ

SWB-B23
Y4 26M-10PPM
C262 18P C269 18P
XIN GND
GND XOUT
C270 104
RTC_CLKOUT

BT_WAKE
UART2_SIN
UART2_SOUT
UART2_CTS
UART2_RTS
BT_PCM_IN
BT_PCM_OUT
BT_PCM_CLK
BT_PCM_SYNC

WIFI_D0 WIFI_D1 WIFI_D2 WIFI_D3 WIFI_CLK WIFI_CMD

U38 FP6161/SY8008B

VB
C272 106 C273 104
VIN LX
GND
EN FB/OUT
L36 3.3uH/1.5A
C271 471 R210 R208 0R
R211 120K×1
R215 10K WIFI_PWR
R211 30K×1
C274 226 C275 104
VCC_W T17 TEST
C276 226 C277 104

PCM / I2S

BT_PCM_IN R212 33R I2S1_SDO
BT_PCM_OUT R213 33R I2S1_SDI
BT_PCM_CLK R214 33R I2S1_SCLK
R216 NC I2S1_MCLK
BT_PCM_SYNC R217 33R I2S1_LRCK_RX
R218 NC I2S1_LRCK_TX

I2S1_SDO
I2S1_SDI
I2S1_SCLK
I2S1_MCLK
I2S1_LRCK_RX
I2S1_LRCK_TX

WIFI+BT

LNA_EN
R228
NC

100

REGA2V8

GND

U35
LNA_MAX2659
1 GND1 OUT 6
2 GND2 EN 5
3 IN VCC 4

50 ohm

C254
18P

U36
SAW_856576
1 IN OUT1 3
2 GND1
5 GND2 OUT2 4

L16 10NH

L23 10NH

U32
GNS7560
J1 RFINM
H1 RFINP

C253
0.5P

REGA1V2

REGA1V2

VCCIO1 A5   R202 0R
VCCIO2 D1

VDD1 E5   R232 0R
VDD2 A3
VDD3 C1   C285
                100N

VDDANA H3
VDDRF G2   C247
VDDMS H6   100N   R227 0R

CON2
2
2
3   1
1
GPS_ANT_CON

50 ohm

C237
470P

L22 6.8NH

D6
NC

GND

GND

R201
0R

L18
39NH
REG_2V8

L15
39NH

C239
33N

C246
100N

GND

GND

J3 SAWOUT
R229 0R
J2 SAWIN

G3 TESTOUT
H4 TESTIN
H5 SXTEST

R244 10K

R243 22R   UART3_RX
R203 22R   UART3_TX

IOPORT[0] B4
IOPORT[1] E2
IOPORT[2] D4
IOPORT[3] D2
IOPORT[4] E3
IOPORT[5] C6
IOPORT[6] C4
IOPORT[7] D5
IOPORT[8] F4
IOPORT[9] E4   TCXO_EN
IOPORT[10] B6 LNA_EN
IOPORT[11] B5
IOPORT[12] C5
IOPORT[13] E1

C248   C251
NC/12PF NC/12PF

R241
NC

GND GND GND

TP TP13

TP14 TP

REG_2V8

REG_2V8

B3 MODE[3]
C3 MODE[2]
A1 MODE[1]
B2 MODE[0]

REG_2V8

R200
0R

R199 NC

C252
100N

X4
1 NC VCC 4
2 GND OUT 3
IT3205CE-TX5080-16.368MHZ

R245 NC

10N C242

F1 BOOTSEL[0]
F2 BOOTSEL[1]
F3 BOOTSEL[2]

J6 XIN
F5 CLK32IN
F6 CLK32OUT

GND

TCXO_EN

GPS_RTC_CLK

GPS_RESET   D6 RSTN

D3 DEBUG_BOOT
C2 CLKSEL

VSS1 E6
VSS2 A4
VSS3 A2
VSS4 B1
VSSPLL A6
VSSANA J4
VSSSX J5
VSSMS G6
GNDC2 G5
GNDC1 G4
GNDRF1 G1
GNDRF2 H2

C238
12P

X5
32.768KHZ

C250
12P

GND

VB

U40
XC6401FF G5DR
3 EN1 VOUT2 6
2 VIN VOUT1 5
1 EN2 VSS 4
       PAD 7

REG_2V8

REG_1V2

C235
2.2U

C249 C236
2.2U 2.2U

GND

GND GND

GPS_EN   R231 0R

R230
10K

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