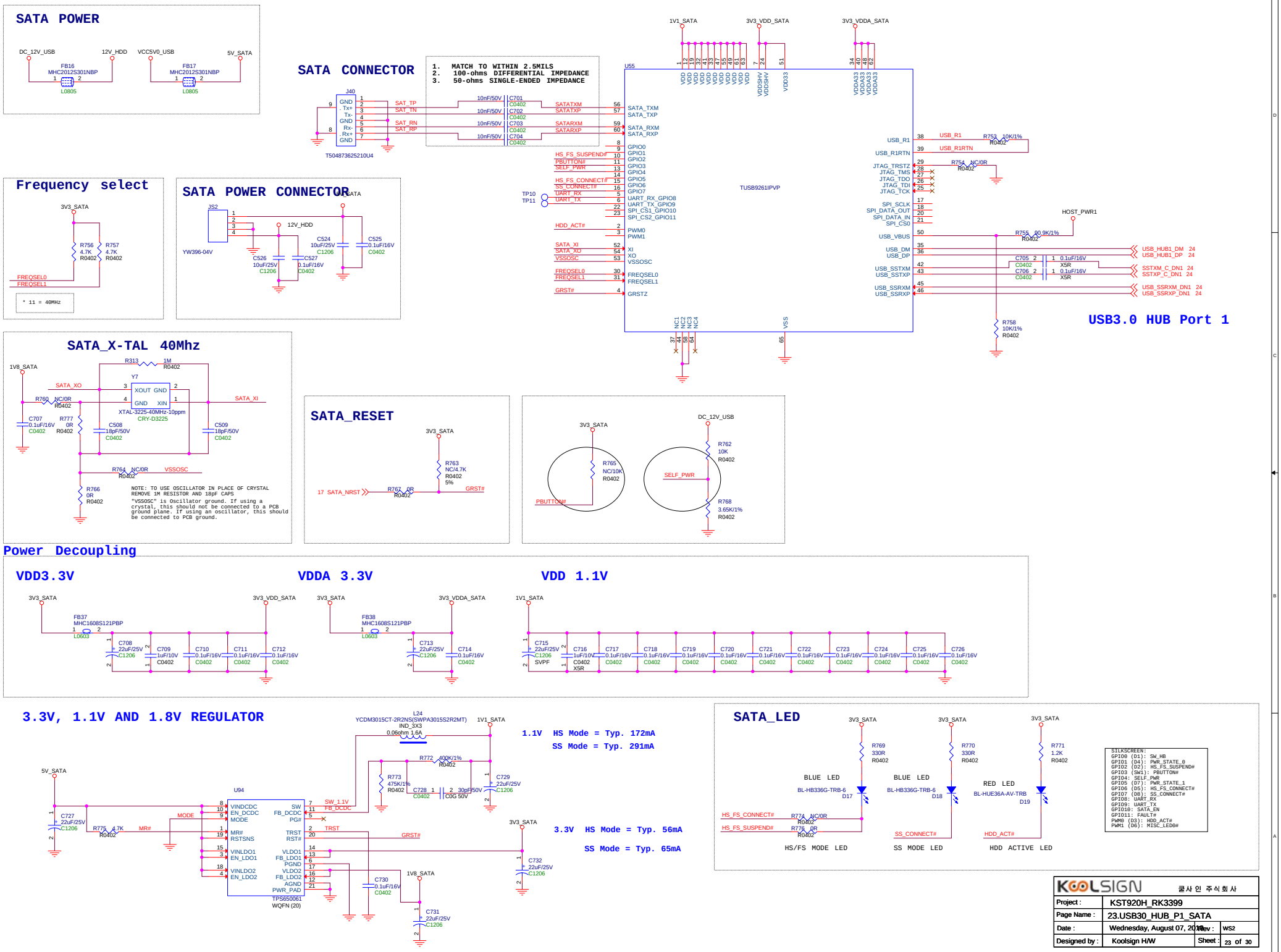
SATA POWER
DC_12V_USB
12V_HDD
VCC5V0_USB
5V_SATA
FB16 MHC2012S301NBP
FB17 MHC2012S301NBP
L0805
SATA CONNECTOR
1. MATCH TO WITHIN 2.5MILS
2. 100-ohms DIFFERENTIAL IMPEDANCE
3. 50-ohms SINGLE-ENDED IMPEDANCE
J40
GND
Tx+
Tx-
GND
Rx-
Rx+
GND
SAT_TP
SAT_TN
SAT_RN
SAT_RP
10nF/50V
C701
C702
C703
C704
C0402
SATATXM
SATATXP
SATARXM
SATARXP
T504873625210U4
U55
TUSB9261IPVP
1V1_SATA
3V3_VDD_SATA
3V3_VDDA_SATA
SATA_TXM
SATA_TXP
SATA_RXM
SATA_RXP
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
UART_RX_GPIO8
UART_TX_GPIO9
SPI_CS1_GPIO10
SPI_CS2_GPIO11
PWM0
PWM1
XI
XO
VSSOSC
FREQSEL0
FREQSEL1
GRSTZ
HS_FS_SUSPEND#
PBUTTON#
SELF_PWR
HS_FS_CONNECT#
SS_CONNECT#
UART_RX
UART_TX
HDD_ACT#
SATA_XI
SATA_XO
VSSOSC
FREQSEL0
FREQSEL1
GRST#
TP10
TP11
USB_R1
USB_R1RTN
JTAG_TRSTZ
JTAG_TMS
JTAG_TDO
JTAG_TDI
JTAG_TCK
SPI_SCLK
SPI_DATA_OUT
SPI_DATA_IN
SPI_CS0
USB_VBUS
USB_DM
USB_DP
USB_SSTXM
USB_SSTXP
USB_SSRXM
USB_SSRXP
R753 10K/1% R0402
R754 NC/0R R0402
R755 90.9K/1% R0402
R758 10K/1% R0402
HOST_PWR1
USB_HUB1_DM 24
USB_HUB1_DP 24
SSTXM_C_DN1 24
SSTXP_C_DN1 24
USB_SSRXM_DN1 24
USB_SSRXP_DN1 24
C705 0.1uF/16V X5R C0402
C706 0.1uF/16V X5R C0402
USB3.0 HUB Port 1
Frequency select
3V3_SATA
R756 4.7K R0402
R757 4.7K R0402
FREQSEL0
FREQSEL1
* 11 = 40MHz
SATA POWER CONNECTOR
JS2
YW396-04V
12V_HDD
C526 10uF/25V C1206
C527 0.1uF/16V C0402
C524 10uF/25V C1206
C525 0.1uF/16V C0402
SATA_X-TAL 40Mhz
1V8_SATA
R313 1M R0402
Y7
XOUT GND
GND XIN
XTAL-3225-40MHz-10ppm
CRY-D3225
SATA_XO
SATA_XI
R760 NC/0R R0402
C707 0.1uF/16V C0402
R777 0R R0402
C508 18pF/50V C0402
C509 18pF/50V C0402
R764 NC/0R R0402
VSSOSC
R766 0R R0402
NOTE: TO USE OSCILLATOR IN PLACE OF CRYSTAL REMOVE 1M RESISTOR AND 18pF CAPS
"VSSOSC" is Oscillator ground. If using a crystal, this should not be connected to a PCB ground plane. If using an oscillator, this should be connected to PCB ground.
SATA_RESET
3V3_SATA
R763 NC/4.7K R0402 5%
17 SATA_NRST
R767 0R R0402
GRST#
3V3_SATA
R765 NC/10K R0402
PBUTTON#
DC_12V_USB
R762 10K R0402
SELF_PWR
R768 3.65K/1% R0402
Power Decoupling
VDD3.3V
3V3_SATA
3V3_VDD_SATA
FB37 MHC1608S121PBP
L0603
C708 22uF/25V C1206
C709 1uF/10V C0402
C710 0.1uF/16V C0402
C711 0.1uF/16V C0402
C712 0.1uF/16V C0402
VDDA 3.3V
3V3_SATA
3V3_VDDA_SATA
FB38 MHC1608S121PBP
L0603
C713 22uF/25V C1206
C714 0.1uF/16V C0402
VDD 1.1V
1V1_SATA
C715 22uF/25V C1206 SVPF
C716 1uF/10V C0402 X5R
C717 0.1uF/16V C0402
C718 0.1uF/16V C0402
C719 0.1uF/16V C0402
C720 0.1uF/16V C0402
C721 0.1uF/16V C0402
C722 0.1uF/16V C0402
C723 0.1uF/16V C0402
C724 0.1uF/16V C0402
C725 0.1uF/16V C0402
C726 0.1uF/16V C0402
3.3V, 1.1V AND 1.8V REGULATOR
L24 YCDM3015CT-2R2NS(SWPA3015S2R2MT)
IND_3X3
0.06ohm 1.6A
1V1_SATA
1.1V HS Mode = Typ. 172mA
SS Mode = Typ. 291mA
R772 400K/1% R0402
R773 475K/1% R0402
C728 30pF/50V C0G
C729 22uF/25V C1206
5V_SATA
C727 22uF/25V C1206
R775 4.7K R0402
MR#
MODE
U94
VINDCDC
EN_DCDC
MODE
MR#
RSTSNS
VINLDO1
EN_LDO1
VINLDO2
EN_LDO2
SW
FB_DCDC
PG#
TRST
RST#
VLDO1
FB_LDO1
PGND
VLDO2
FB_LDO2
AGND
PWR_PAD
TPS650061
WQFN (20)
SW_1.1V
FB_DCDC
TRST
GRST#
3V3_SATA
3.3V HS Mode = Typ. 56mA
SS Mode = Typ. 65mA
C732 22uF/25V C1206
C730 0.1uF/16V C0402
1V8_SATA
C731 22uF/25V C1206
SATA_LED
3V3_SATA
R769 330R R0402
BLUE LED
BL-HB336G-TRB-6
D17
HS_FS_CONNECT#
HS_FS_SUSPEND#
R774 NC/0R R0402
R776 0R R0402
HS/FS MODE LED
R770 330R R0402
BLUE LED
BL-HB336G-TRB-6
D18
SS_CONNECT#
SS MODE LED
R771 1.2K R0402
RED LED
BL-HUE36A-AV-TRB
D19
HDD_ACT#
HDD ACTIVE LED
SILKSCREEN:
GPIO0 (D1): SW_HB
GPIO1 (D4): PWR_STATE_0
GPIO2 (D2): HS_FS_SUSPEND#
GPIO3 (Sw1): PBUTTON#
GPIO4: SELF_PWR
GPIO5 (D7): PWR_STATE_1
GPIO6 (D5): HS_FS_CONNECT#
GPIO7 (D8): SS_CONNECT#
GPIO8: UART_RX
GPIO9: UART_TX
GPIO10: SATA_EN
GPIO11: FAULT#
PWM0 (D3): HDD_ACT#
PWM1 (D6): MISC_LED0#
KOOLSIGN 쿨사인 주식회사
Project : KST920H_RK3399
Page Name : 23.USB30_HUB_P1_SATA
Date : Wednesday, August 07, 2018
Rev : WS2
Designed by : Koolsign H/W
Sheet : 23 of 30