PAGE NO	PAGE TITLE
01	TITLE PAGE
02	REGULATOR AND CONNECTORS
03	REVISION HISTORY

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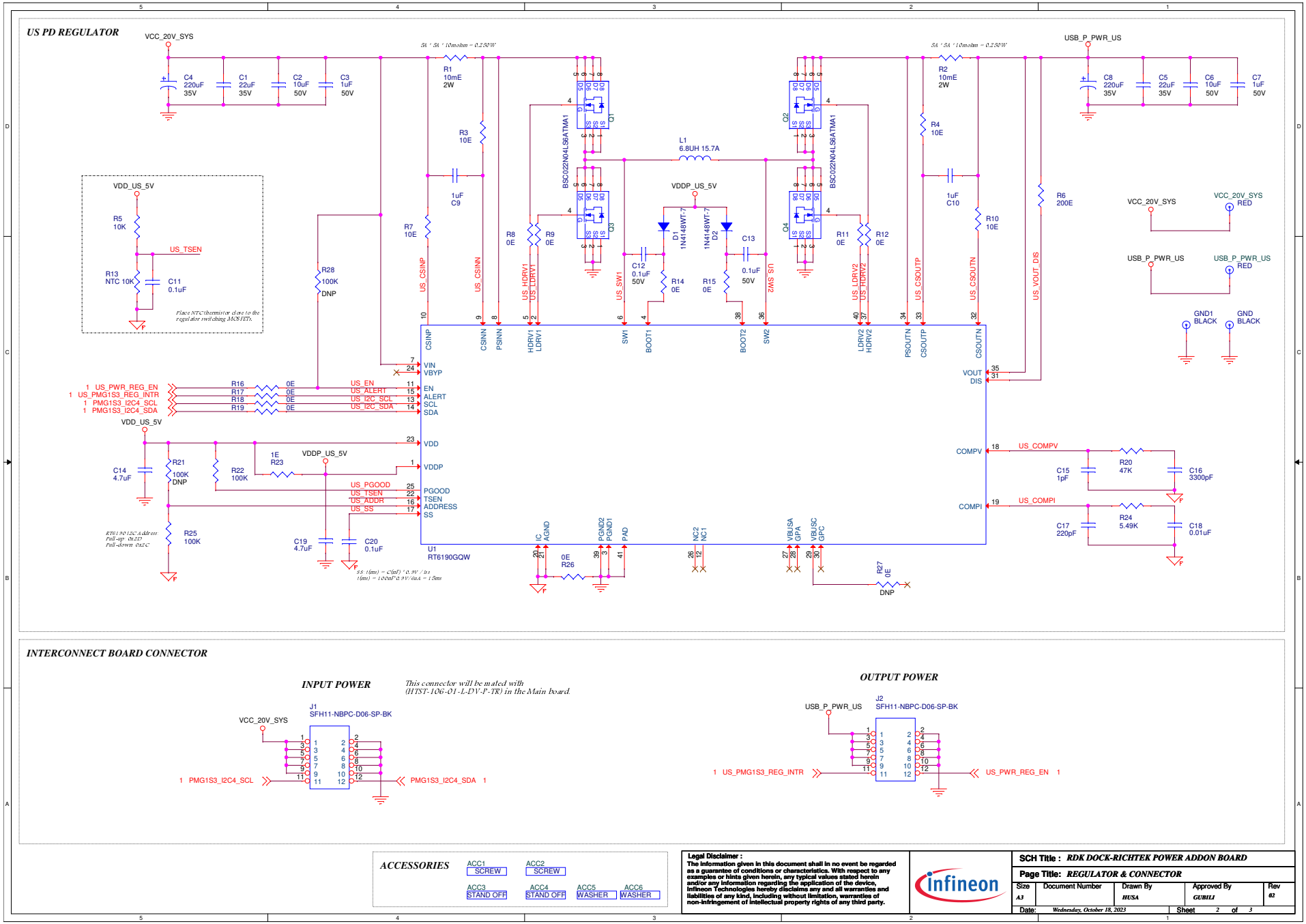
SCH Title : ***RDK DOCK-RICHTEK POWER ADDON BOARD***

Page Title: ***TITLE PAGE***

Size	Document Number	Drawn By	Approved By	Rev
A3		*HUSA*	*GUBILI*	*02*

Date: *Wednesday, October 18, 2023* Sheet *1* of *3*


US PD REGULATOR
VCC_20V_SYS
USB_P_PWR_US
C4 220uF 35V
C1 22uF 35V
C2 10uF 50V
C3 1uF 50V
C8 220uF 35V
C5 22uF 35V
C6 10uF 50V
C7 1uF 50V
R1 10mE 2W
R2 10mE 2W
R3 10E
R4 10E
L1 6.8UH 15.7A
BSC022N04LS6ATMA1
Q1
Q2
Q3
Q4
VDD_US_5V
R5 10K
R13 NTC 10K
C11 0.1uF
Place NTC thermistor close to the regulator switching MOSFETs.
R28 100K DNP
C9 1uF
C10 1uF
R6 200E
R10 10E
R7 10E
R8 0E
R9 0E
R11 0E
R12 0E
R14 0E
R15 0E
C12 0.1uF 50V
C13 0.1uF 50V
D1 1N4148WT-7
D2 1N4148WT-7
VDDP_US_5V
US_CSINP
US_CSINN
US_HDRV1
US_LDRV1
US_SW1
US_SW2
US_LDRV2
US_HDRV2
US_CSOUTP
US_CSOUTN
US_VOUT_DIS
VCC_20V_SYS
VCC_20V_SYS RED
USB_P_PWR_US
USB_P_PWR_US RED
GND1 BLACK
GND BLACK
CSINP
CSINN
PSINN
HDRV1
LDRV1
SW1
BOOT1
BOOT2
SW2
LDRV2
HDRV2
PSOUTN
CSOUTP
CSOUTN
VIN
VBYP
EN
ALERT
SCL
SDA
VOUT
DIS
VDD
VDDP
PGOOD
TSEN
ADDRESS
SS
COMPV
COMPI
US_PWR_REG_EN
US_PMG1S3_REG_INTR
US_PMG1S3_I2C4_SCL
US_PMG1S3_I2C4_SDA
US_EN
US_ALERT
US_I2C_SCL
US_I2C_SDA
R16 0E
R17 0E
R18 0E
R19 0E
R21 100K DNP
R22 100K
R23 1E
R25 100K
R20 47K
R24 5.49K
C14 4.7uF
C19 4.7uF
C20 0.1uF
C15 1pF
C16 3300pF
C17 220pF
C18 0.01uF
US_PGOOD
US_TSEN
US_ADDR
US_SS
US_COMPV
US_COMPI
RT6190 I2C Address
Pull-up 0x23
Pull-down 0x2C
SS: t(ms) = C(nF) * 0.9V / 1uA
t(ms) = 100nF * 0.9V/6uA = 15ms
U1
RT6190GQW
IC
AGND
PGND2
PGND1
PAD
NC2
NC1
VBUSA
GPA
VBUSC
GPC
R26 0E
R27 0E DNP
INTERCONNECT BOARD CONNECTOR
INPUT POWER
This connector will be mated with (HTST-106-01-L-DV-P-TR) in the Main board.
J1
SFH11-NBPC-D06-SP-BK
VCC_20V_SYS
PMG1S3_I2C4_SCL
PMG1S3_I2C4_SDA
OUTPUT POWER
J2
USB_P_PWR_US
US_PMG1S3_REG_INTR
US_PWR_REG_EN
ACCESSORIES
ACC1 SCREW
ACC2 SCREW
ACC3 STAND OFF
ACC4 STAND OFF
ACC5 WASHER
ACC6 WASHER
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SCH Title : RDK DOCK-RICHTEK POWER ADDON BOARD
Page Title: REGULATOR & CONNECTOR
Size A3
Document Number
Drawn By HUSA
Approved By GUBILI
Rev 02
Date: Wednesday, October 18, 2023
Sheet 2 of 3

REVISION HISTORY

REVISION NO	DESCRIPTION OF CHANGE'	RELEASE DATE	RELEASE NOTES
REV 01	INITIAL RELEASE	01FEB2023	
REV 02	1. J1 & J2 part number changed to "SFH11-NBPC-D06-SP-BK" 2. Q1 & Q2 part number changed to "BSC022N04LS6ATMA1" 3. L1 part number changed to "XGL1010-682MEB" 4. R1, R2 part number changed to "TLRH3APTTE10L0F" 5. Added Washers 2qty	18OCT2023	

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Size *A3*	Document Number	Drawn By *HUSA*	Approved By *GUBILI*	Rev *02*
Date: *Wednesday, October 18, 2023*		Sheet *3* of *3*		