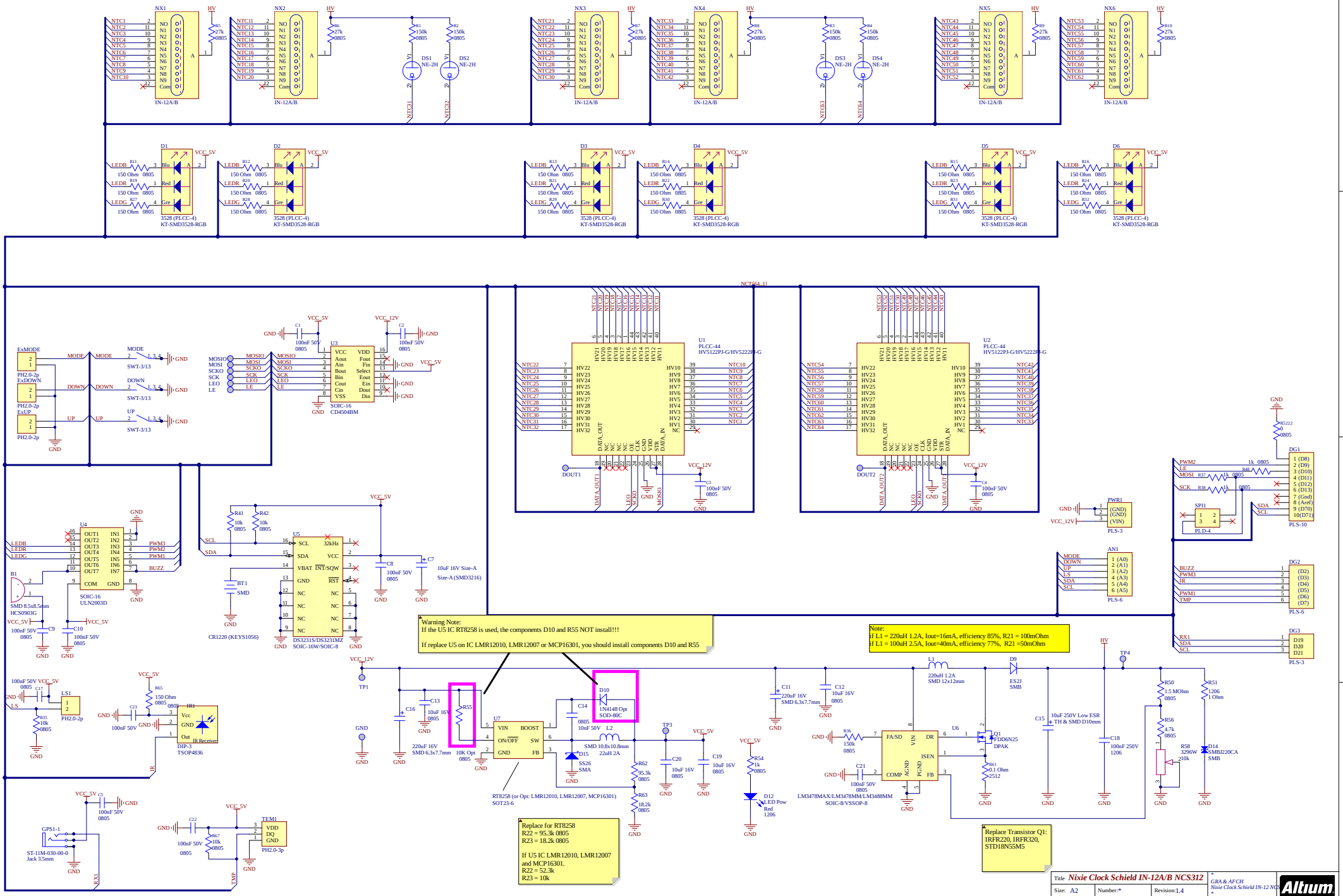
NX1
NX2
NX3
NX4
NX5
NX6
IN-12A/B
HV
DS1 NE-2H
DS2 NE-2H
DS3 NE-2H
DS4 NE-2H
D1
D2
D3
D4
D5
D6
VCC_5V
LEDB
LEDR
LEDG
150 Ohm 0805
3528 (PLCC-4)
KT-SMD3528-RGB
U1
U2
PLCC-44
HV5122PJ-G/HV5222PJ-G
NCT64..1
DOUT1
DOUT2
VCC_12V
ExMODE
ExDOWN
ExUP
PH2.0-2p
MODE
DOWN
UP
SWT-3/13
SOIC-16
CD4504BM
U3
U4
SOIC-16
ULN2003D
U5
DS3231S/DS3231MZ
SOIC-16W/SOIC-8
BT1
SMD
CR1220 (KEYS1056)
B1
SMD 8.5x8.5mm
HCS0903G
LS1
PH2.0-2p
IR1
DIP-3
TSOP4836
IR Receiver
GPS1-1
ST-11M-030-00-0
Jack 3.5mm
TEM1
VDD
DQ
GND
PH2.0-3p
TP1
TP3
TP4
U7
VIN
BOOST
ON/OFF
SW
GND
FB
RT8258 (or Opt: LMR12010, LMR12007, MCP16301)
SOT23-6
D10
1N4148 Opt
SOD-80C
L2
SMD 10.8x10.8mm
22uH 2A
SS26
SMA
D12
LED Pow
Red
1206
U6
LM3478MAX/LM3478MM/LM3488MM
SOIC-8/VSSOP-8
FA/SD
DR
ISEN
COMP
AGND
PGND
Q1
FDD6N25
DPAK
L1
220uH 1.2A
SMD 12x12mm
D9
ES2J
SMB
D14
SMBJ220CA
SMB
DG1
DG2
DG3
PLS-10
PLS-6
PLS-3
PLD-4
PWR1
AN1
SPI1
RX1
SDA
SCL
MODE
DOWN
UP
LS
PWM1
PWM2
PWM3
BUZZ
IR
TMP
Warning Note:
If the U5 IC RT8258 is used, the components D10 and R55 NOT install!!!
If replace U5 on IC LMR12010, LMR12007 or MCP16301, you should install components D10 and R55
Note:
if L1 = 220uH 1.2A, Iout=16mA, efficiency 85%, R21 = 100mOhm
if L1 = 100uH 2.5A, Iout=40mA, efficiency 77%, R21 =50mOhm
Replace for RT8258
R22 = 95.3k 0805
R23 = 18.2k 0805
If U5 IC LMR12010, LMR12007 and MCP16301.
R22 = 52.3k
R23 = 10k
Replace Transistor Q1:
IRFR220, IRFR320,
STD18N55M5
Title Nixie Clock Schield IN-12A/B NCS312
Size: A2
Number:*
Revision:1.4
Date: 09.09.2020
Time: 16:38:02
Sheet * of *
File: C:\Dropbox\PCB_Nixie_Clock_Shield_NCS312\Nixie_Clock_Shield.SchDoc
GRA & AFCH
Nixie Clock Schield IN-12 NCS
Grisha Anafriev
Altium