

Table of Contents	
1	TITLE PAGE, NOTES
2	Block Diagram
3	POWER
4	RF
5	SPI/I2C/ATX/CT
6	GPIO/DEBUG
7	ANALOG/CONTROL
8	OPENSDA
9	LEVEL SHIFT
10	ARDUINO

Revisions			
Rev	Description	Date	Approved
A	Release	9 FEB 2022	Michael Neurohr
B	Set J1, J2, J3, J4 default close with 2-3 Set J43 default open Change U14 to NTS0104GU12 Add R250, R251, R252 Change R136, R137, R213 to 3-pin resistor Remove jumpers on J59 Add U38 Add C88-C109 Change U20 to LM1086CS-5.0/NOPB Add R6 (DNP) and R8 (DNP) Change U1 to ADP1290ACBZ -R7 Change D1 to PTVS5V0P1UTP,115 Place C26, C27 before J34 Release	14 OCT 2022	Michael Neurohr
B1	Change R55, R82, R83 to 2.2K Release (Schematic Change Only)	28 NOV 2022	Michael Neurohr


PNEV7642A

REF DES	JUMPER(DEFAULT)	PAGE NAME
J8,J34,J42	1-2	03 POWER
J1,J2,J3,J4	2-3	03 POWER
J7,J43	NONE	03 POWER
J55,J56,J57,J58,J68	1-2, 3-4, 5-6, 7-8	05 SPI/I2C/ATX/CT
J54	1-3, 2-4, 5-7, 6-8	05 SPI/I2C/ATX/CT
J59	NONE	05 SPI/I2C/ATX/CT
J60	1-2, 3-4, 5-6, 7-8, 9-10, 11-12	06 GPIO/DEBUG
J63,J64,J65	1-2	06 GPIO/DEBUG
J17	2-3	06 GPIO/DEBUG
J66,J67	NONE	06 GPIO/DEBUG
J19	1-2, 3-4, 5-6	07 ANALOG/CONTROL
J20,J45,J61,J62	1-2	07 ANALOG/CONTROL
J22	2-3	07 ANALOG/CONTROL
J18,J24,J25,J26	NONE	07 ANALOG/CONTROL
J30,J31,J32	1-2	09 LEVEL SHIFT
J23,J52,J53	NONE	10 ARDUINO

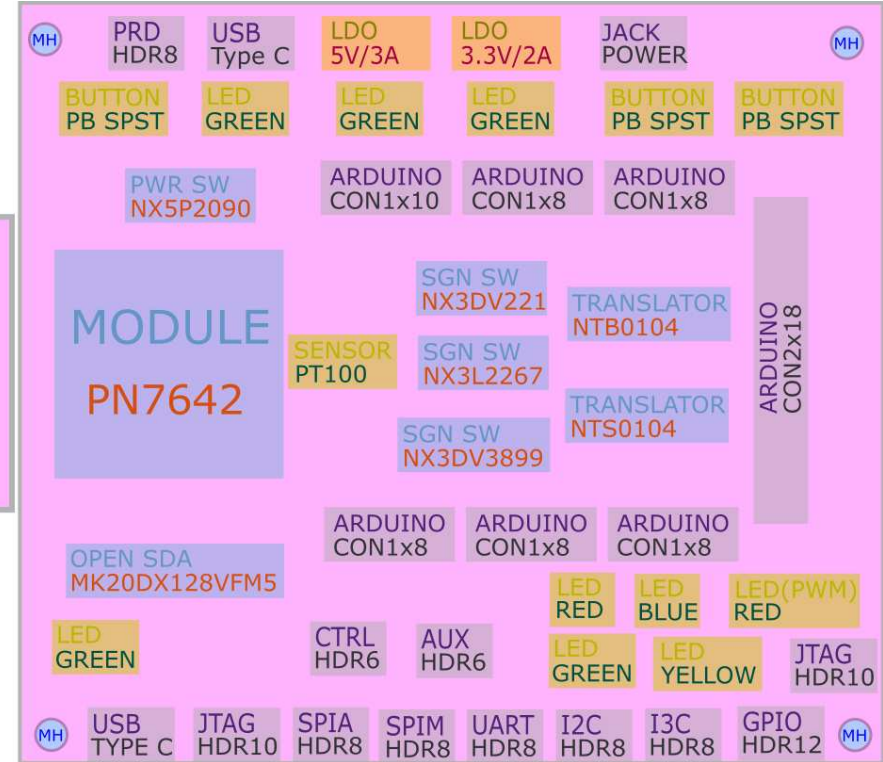
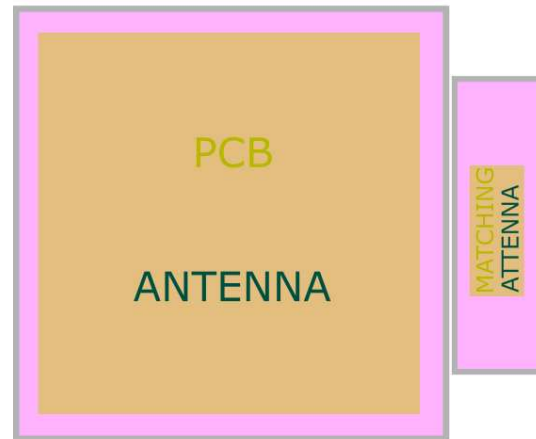
REF DES	ASSY_OPT	PAGE NAME
C6,C7,C8,C10,C12,C14,C18,C21,C52,C54,R6,R8,R194	DNP	03 POWER
C34,C38,J12,J13,J14,J15,J16,R19,R20,R27,R28,R41,R133,R238	DNP	04 RF
C88,C90,C93,C95,C97,R18,R42,R44,R45,R87,R88,R172,R173,R174,R179	DNP	05 SPI/I2C/ATX/CT
C99,C101,R69,R89,R138,R141	DNP	06 GPIO/DEBUG
C55,C56,C82,C83,C84,C85,C86,C103,C104,C105,R165,R239,R240,U22,Y1	DNP	07 ANALOG/CONTROL
C62,C63,J28,R106,R107,R109,R110	DNP	08 OPENSDA
J33,J44,R115	DNP	09 LEVEL SHIFT
J41,R39,R40,R81,R95,R134,R135,R139,R144,R145,R146,R147,R151,R154,R166,R167,R214,R215,R216,R217,R219,R220,R221,R222,R223,R224,R225,R226,R227,R228,R231,R232,R233,R234,R235,R236,R241	DNP	10 ARDUINO

REF DES	SWITCH(DEFAULT)	PAGE NAME
SW6	1-2	07 ANALOG/CONTROL
SW5,SW7	2-3	07 ANALOG/CONTROL

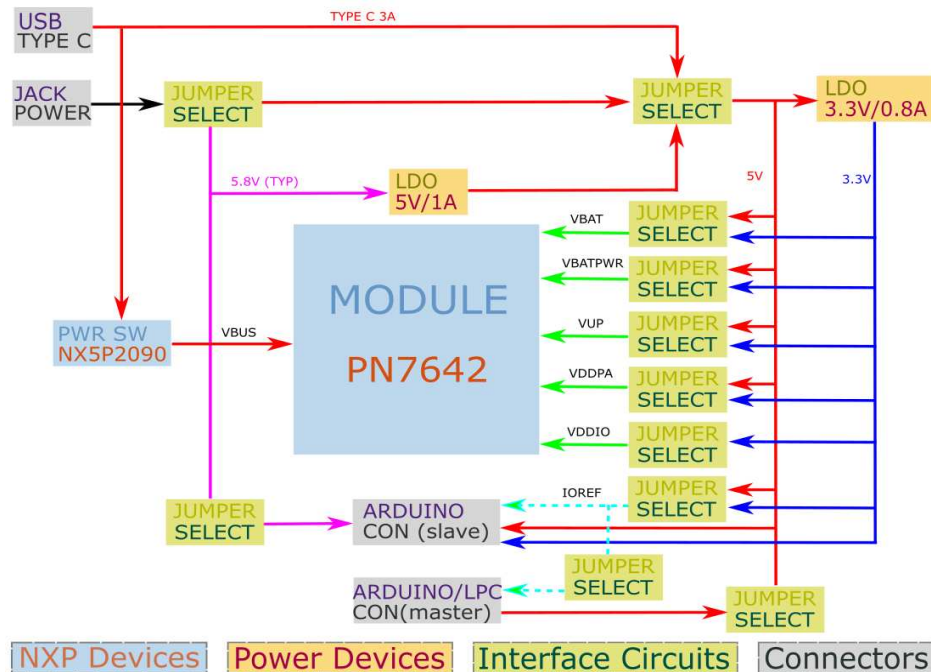
- Interrupted lines coded with the same letter or letter combinations are electrically connected.
- Device type number is for reference only. The number varies with the manufacturer.
- Special signal usage:
 - _B Denotes - Active-Low Signal
 - <> or [] Denotes - Vectored Signals
- Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.

		Smart Transactions & Identity (STI) Group High Tech Campus 60 5656 AG Eindhoven, The Netherlands	
This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.			
© NXP SEMICONDUCTORS		Classification: Public	
Designer: Jun Glas	Drawing Title: PNEV7642A		
Drawn by: Jun Glas	Page Title: Title Page, Notes		
Approved: Michael Neurohr	Size C	Document Number SCH-54813 PDF: SPF-54813	Rev B1
Date: Monday, January 30, 2023		Sheet 1 of 10	

PNEV7642A: BLOCK SCHEME

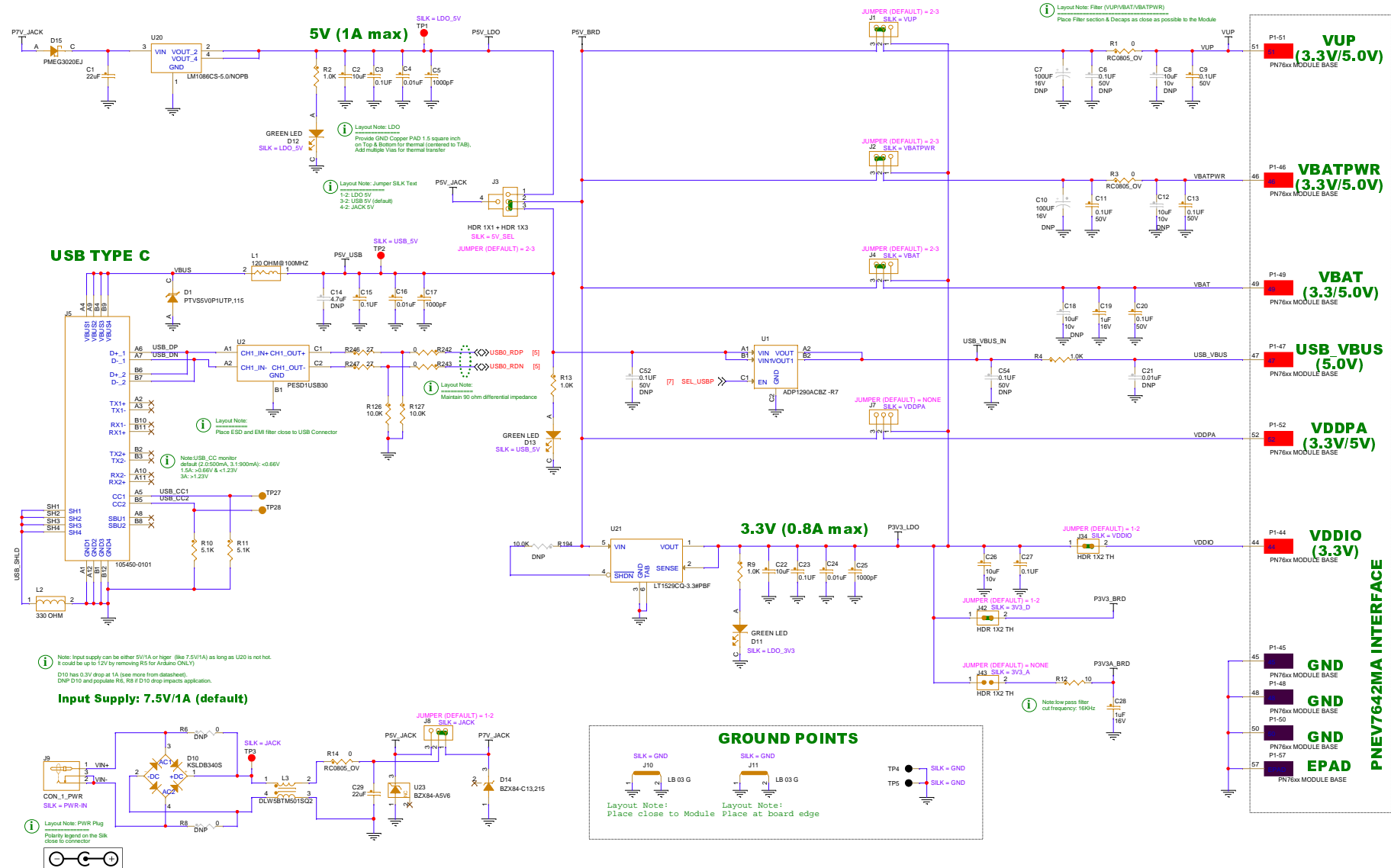


PNEV7642A: POWER TREE



NXP Devices Power Devices Interface Circuits Connectors

POWER SECTION

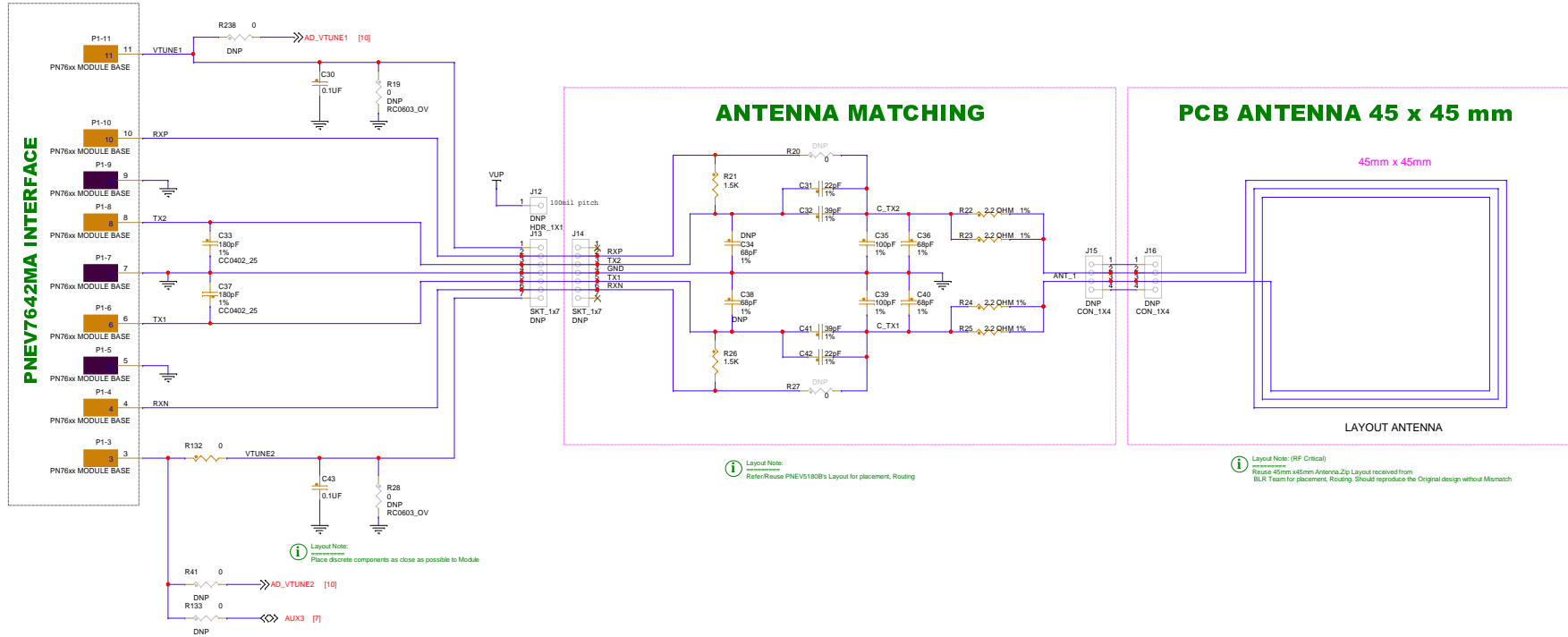


PNEV7642MA INTERFACE

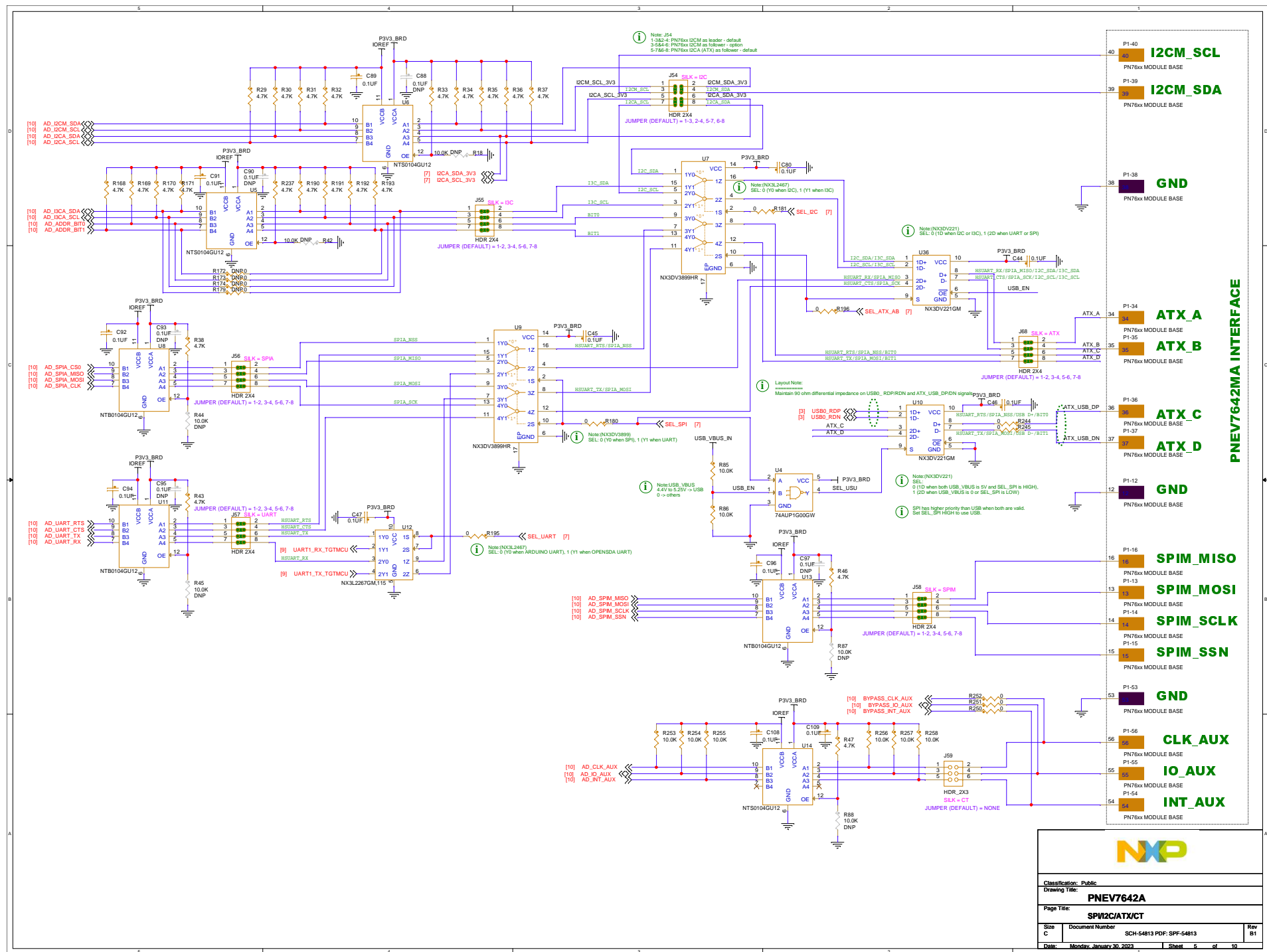


Classification: Public			
Drawing Title: PNEV7642A			
Page Title: POWER			
Size C	Document Number	SCH-54813 PDF: SPF-54813	
Date:	Monday, January 30, 2023	Sheet	3 of 10

NFC ANTENNA INTERFACE



Classification: Public		
Drawing Title: PNEV7642A		
Page Title: RF		
Size C	Document Number SCH-54813 PDF: SPF-54813	Rev B1
Date: Monday, January 30, 2023	Sheet 4 of 10	



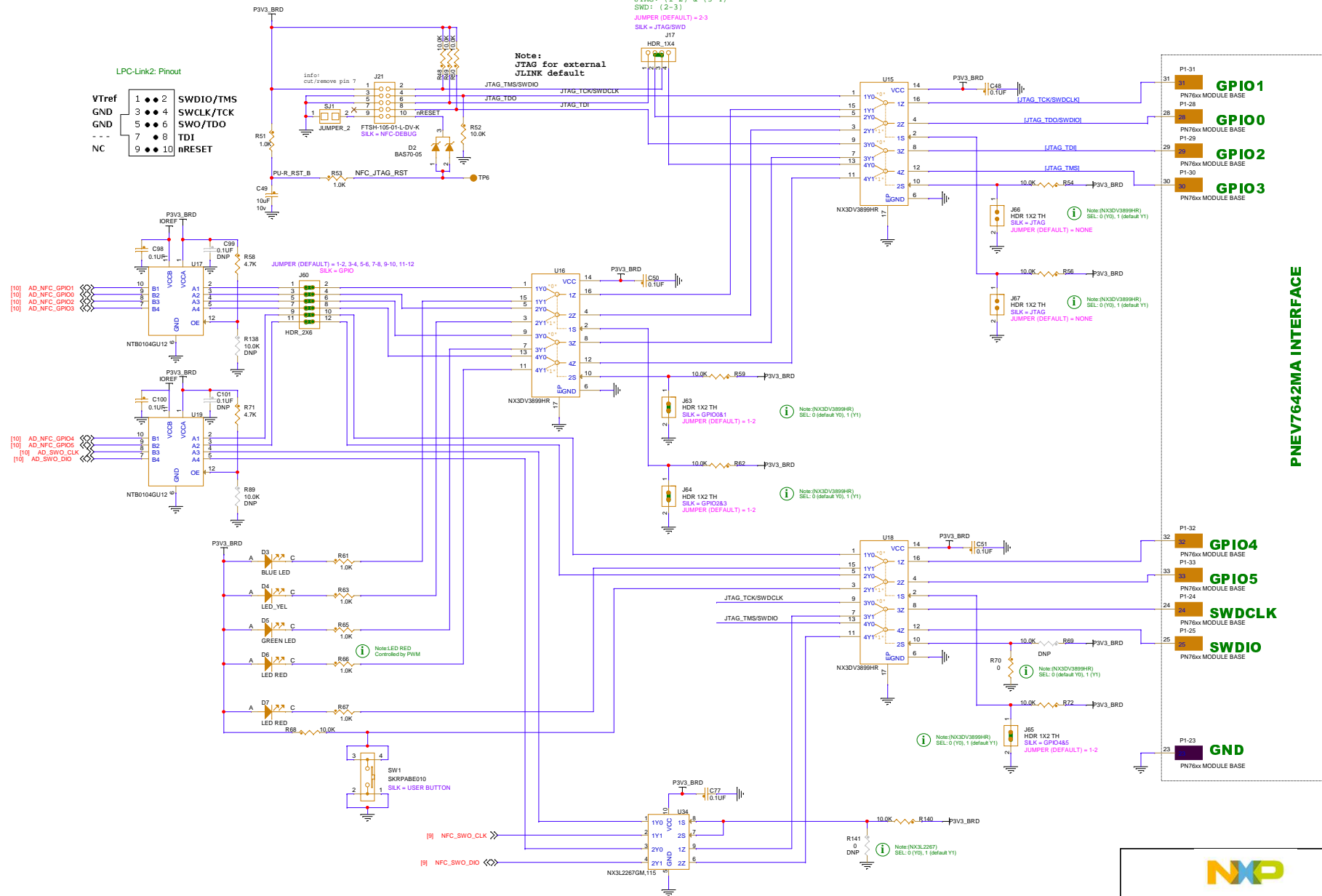
JTAG/SWD NFCC

Layout Note: Add on silk
JTAG: (1-2) & (3-4)
SWD: (2-3)
JUMPER (DEFAULT) = 2-3
SILK = JTAG/SWD

Note:
JTAG for external
JLINK default

LPC-Link2: Pinout

VTref	1	2	SWDIO/TMS
GND	5	6	SWCLK/TCK
NC	7	8	SWO/TDO
	9	10	TDI
			nRESET

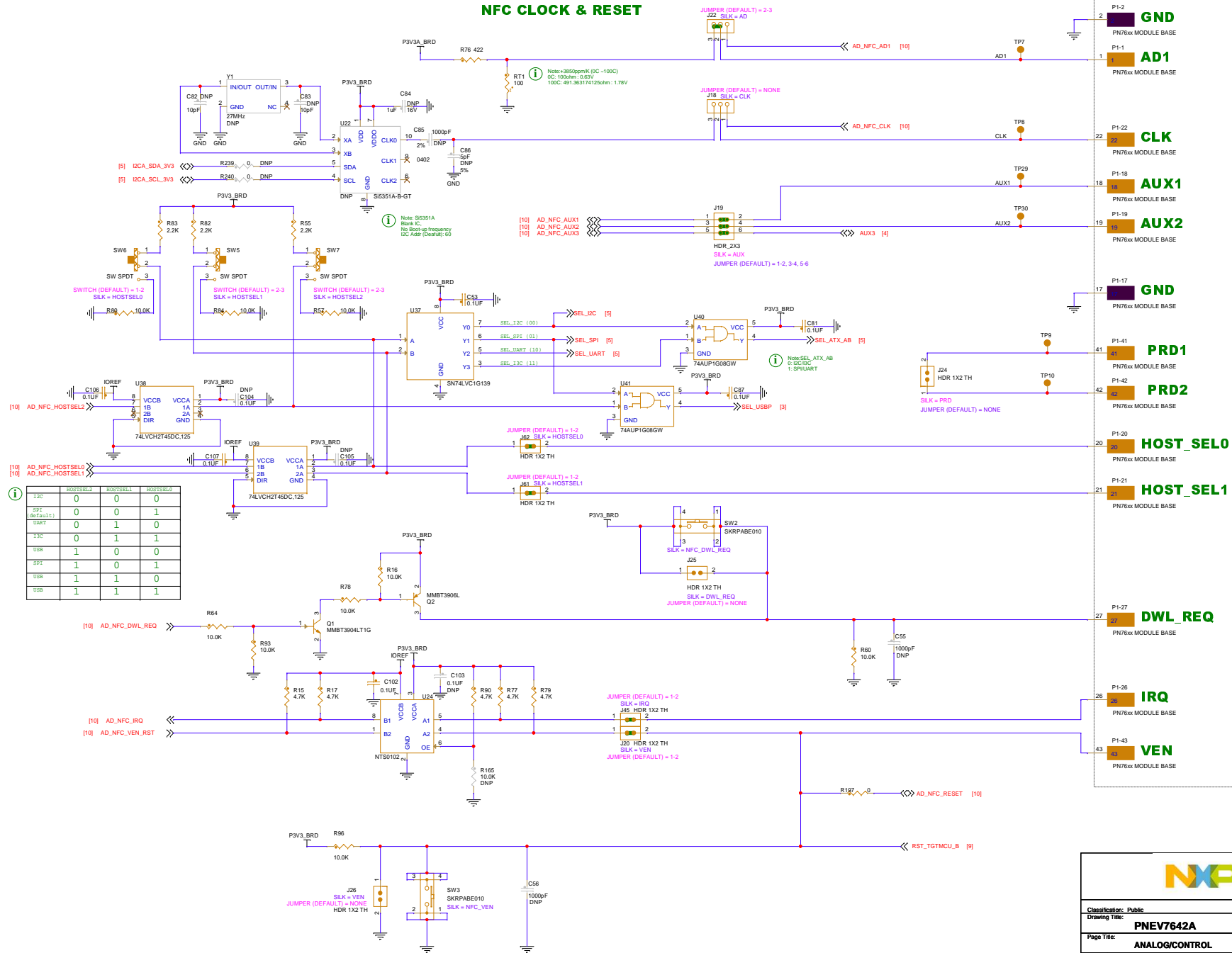


PNEV7642MA INTERFACE



Classification: Public	
Drawing Title: PNEV7642A	
Page Title: GPIO/DEBUG	
Size C	Document Number SCH-54813 PDF: SPF-54813
Date: Monday, January 30, 2023	Sheet 6 of 10

NFC CLOCK & RESET



PNEV7642M2 INTERFACE



USB TYPE C

PSV0_SDA_USB_CONN_VBUS

SDA_USB_CONN_DN

SDA_USB_CONN_DP

SDA_USB_CC1

SDA_USB_CC2

SDA_USB_SBU1

SDA_USB_SBU2

SDA_USB_SBU3

SDA_USB_SBU4

SDA_USB_SBU5

SDA_USB_SBU6

SDA_USB_SBU7

SDA_USB_SBU8

SDA_USB_SBU9

SDA_USB_SBU10

SDA_USB_SBU11

SDA_USB_SBU12

SDA_USB_SBU13

SDA_USB_SBU14

SDA_USB_SBU15

SDA_USB_SBU16

SDA_USB_SBU17

SDA_USB_SBU18

SDA_USB_SBU19

SDA_USB_SBU20

SDA_USB_SBU21

SDA_USB_SBU22

SDA_USB_SBU23

SDA_USB_SBU24

SDA_USB_SBU25

SDA_USB_SBU26

SDA_USB_SBU27

SDA_USB_SBU28

SDA_USB_SBU29

SDA_USB_SBU30

SDA_USB_SBU31

SDA_USB_SBU32

SDA_USB_SBU33

SDA_USB_SBU34

SDA_USB_SBU35

SDA_USB_SBU36

SDA_USB_SBU37

SDA_USB_SBU38

SDA_USB_SBU39

SDA_USB_SBU40

SDA_USB_SBU41

SDA_USB_SBU42

SDA_USB_SBU43

SDA_USB_SBU44

SDA_USB_SBU45

SDA_USB_SBU46

SDA_USB_SBU47

SDA_USB_SBU48

SDA_USB_SBU49

SDA_USB_SBU50

SDA_USB_SBU51

SDA_USB_SBU52

SDA_USB_SBU53

SDA_USB_SBU54

SDA_USB_SBU55

SDA_USB_SBU56

SDA_USB_SBU57

SDA_USB_SBU58

SDA_USB_SBU59

SDA_USB_SBU60

SDA_USB_SBU61

SDA_USB_SBU62

SDA_USB_SBU63

SDA_USB_SBU64

SDA_USB_SBU65

SDA_USB_SBU66

SDA_USB_SBU67

SDA_USB_SBU68

SDA_USB_SBU69

SDA_USB_SBU70

SDA_USB_SBU71

SDA_USB_SBU72

SDA_USB_SBU73

SDA_USB_SBU74

SDA_USB_SBU75

SDA_USB_SBU76

SDA_USB_SBU77

SDA_USB_SBU78

SDA_USB_SBU79

SDA_USB_SBU80

SDA_USB_SBU81

SDA_USB_SBU82

SDA_USB_SBU83

SDA_USB_SBU84

SDA_USB_SBU85

SDA_USB_SBU86

SDA_USB_SBU87

SDA_USB_SBU88

SDA_USB_SBU89

SDA_USB_SBU90

SDA_USB_SBU91

SDA_USB_SBU92

SDA_USB_SBU93

SDA_USB_SBU94

SDA_USB_SBU95

SDA_USB_SBU96

SDA_USB_SBU97

SDA_USB_SBU98

SDA_USB_SBU99

SDA_USB_SBU100

SDA_USB_SBU101

SDA_USB_SBU102

SDA_USB_SBU103

SDA_USB_SBU104

SDA_USB_SBU105

SDA_USB_SBU106

SDA_USB_SBU107

SDA_USB_SBU108

SDA_USB_SBU109

SDA_USB_SBU110

SDA_USB_SBU111

SDA_USB_SBU112

SDA_USB_SBU113

SDA_USB_SBU114

SDA_USB_SBU115

SDA_USB_SBU116

SDA_USB_SBU117

SDA_USB_SBU118

SDA_USB_SBU119

SDA_USB_SBU120

SDA_USB_SBU121

SDA_USB_SBU122

SDA_USB_SBU123

SDA_USB_SBU124

SDA_USB_SBU125

SDA_USB_SBU126

SDA_USB_SBU127

SDA_USB_SBU128

SDA_USB_SBU129

SDA_USB_SBU130

SDA_USB_SBU131

SDA_USB_SBU132

SDA_USB_SBU133

SDA_USB_SBU134

SDA_USB_SBU135

SDA_USB_SBU136

SDA_USB_SBU137

SDA_USB_SBU138

SDA_USB_SBU139

SDA_USB_SBU140

SDA_USB_SBU141

SDA_USB_SBU142

SDA_USB_SBU143

SDA_USB_SBU144

SDA_USB_SBU145

SDA_USB_SBU146

SDA_USB_SBU147

SDA_USB_SBU148

SDA_USB_SBU149

SDA_USB_SBU150

SDA_USB_SBU151

SDA_USB_SBU152

SDA_USB_SBU153

SDA_USB_SBU154

SDA_USB_SBU155

SDA_USB_SBU156

SDA_USB_SBU157

SDA_USB_SBU158

SDA_USB_SBU159

SDA_USB_SBU160

SDA_USB_SBU161

SDA_USB_SBU162

SDA_USB_SBU163

SDA_USB_SBU164

SDA_USB_SBU165

SDA_USB_SBU166

SDA_USB_SBU167

SDA_USB_SBU168

SDA_USB_SBU169

SDA_USB_SBU170

SDA_USB_SBU171

SDA_USB_SBU172

SDA_USB_SBU173

SDA_USB_SBU174

SDA_USB_SBU175

SDA_USB_SBU176

SDA_USB_SBU177

SDA_USB_SBU178

SDA_USB_SBU179

SDA_USB_SBU180

SDA_USB_SBU181

SDA_USB_SBU182

SDA_USB_SBU183

SDA_USB_SBU184

SDA_USB_SBU185

SDA_USB_SBU186

SDA_USB_SBU187

SDA_USB_SBU188

SDA_USB_SBU189

SDA_USB_SBU190

SDA_USB_SBU191

SDA_USB_SBU192

SDA_USB_SBU193

SDA_USB_SBU194

SDA_USB_SBU195

SDA_USB_SBU196

SDA_USB_SBU197

SDA_USB_SBU198

SDA_USB_SBU199

SDA_USB_SBU200

SDA_USB_SBU201

SDA_USB_SBU202

SDA_USB_SBU203

SDA_USB_SBU204

SDA_USB_SBU205

SDA_USB_SBU206

SDA_USB_SBU207

SDA_USB_SBU208

SDA_USB_SBU209

SDA_USB_SBU210

SDA_USB_SBU211

SDA_USB_SBU212

SDA_USB_SBU213

SDA_USB_SBU214

SDA_USB_SBU215

SDA_USB_SBU216

SDA_USB_SBU217

SDA_USB_SBU218

SDA_USB_SBU219

SDA_USB_SBU220

SDA_USB_SBU221

SDA_USB_SBU222

SDA_USB_SBU223

SDA_USB_SBU224

SDA_USB_SBU225

SDA_USB_SBU226

SDA_USB_SBU227

SDA_USB_SBU228

SDA_USB_SBU229

SDA_USB_SBU230

SDA_USB_SBU231

SDA_USB_SBU232

SDA_USB_SBU233

SDA_USB_SBU234

SDA_USB_SBU235

SDA_USB_SBU236

SDA_USB_SBU237

SDA_USB_SBU238

SDA_USB_SBU239

SDA_USB_SBU240

SDA_USB_SBU241

SDA_USB_SBU242

SDA_USB_SBU243

SDA_USB_SBU244

SDA_USB_SBU245

SDA_USB_SBU246

SDA_USB_SBU247

SDA_USB_SBU248

SDA_USB_SBU249

SDA_USB_SBU250

SDA_USB_SBU251

SDA_USB_SBU252

SDA_USB_SBU253

SDA_USB_SBU254

SDA_USB_SBU255

SDA_USB_SBU256

SDA_USB_SBU257

SDA_USB_SBU258

SDA_USB_SBU259

SDA_USB_SBU260

SDA_USB_SBU261

SDA_USB_SBU262

SDA_USB_SBU263

SDA_USB_SBU264

SDA_USB_SBU265

SDA_USB_SBU266

SDA_USB_SBU267

SDA_USB_SBU268

SDA_USB_SBU269

SDA_USB_SBU270

SDA_USB_SBU271

SDA_USB_SBU272

SDA_USB_SBU273

SDA_USB_SBU274

SDA_USB_SBU275

SDA_USB_SBU276

SDA_USB_SBU277

SDA_USB_SBU278

SDA_USB_SBU279

SDA_USB_SBU280

SDA_USB_SBU281

SDA_USB_SBU2



Drawing Title:

Page Title:

Page Title: OPENSDA

Size	Document Number
------	-----------------

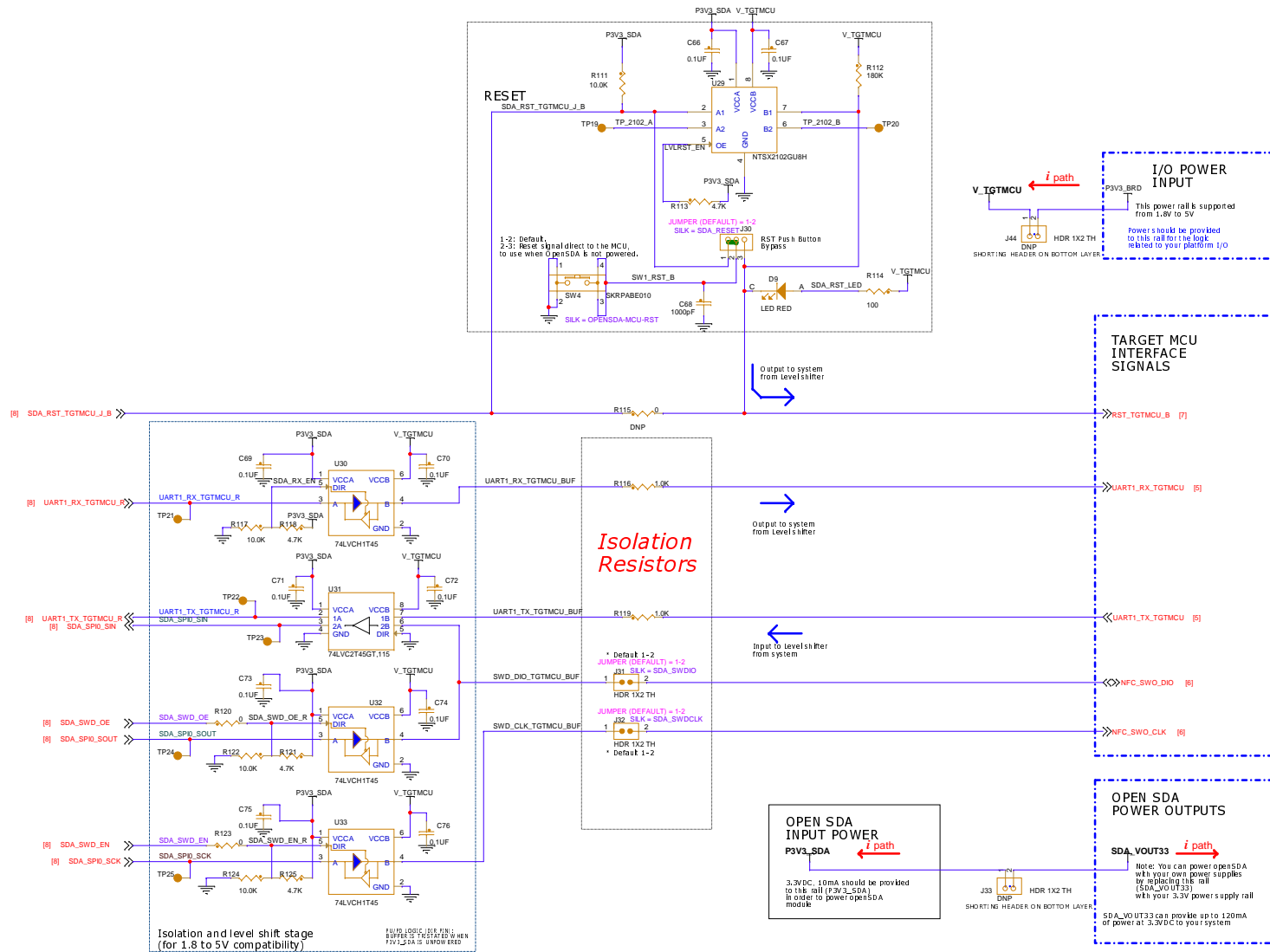
C	SCH-54813 PDF: SPF-54813
---	--------------------------

Date: Monday, January 30, 2023	Sheet 8 of 10
--------------------------------	---------------

Rev

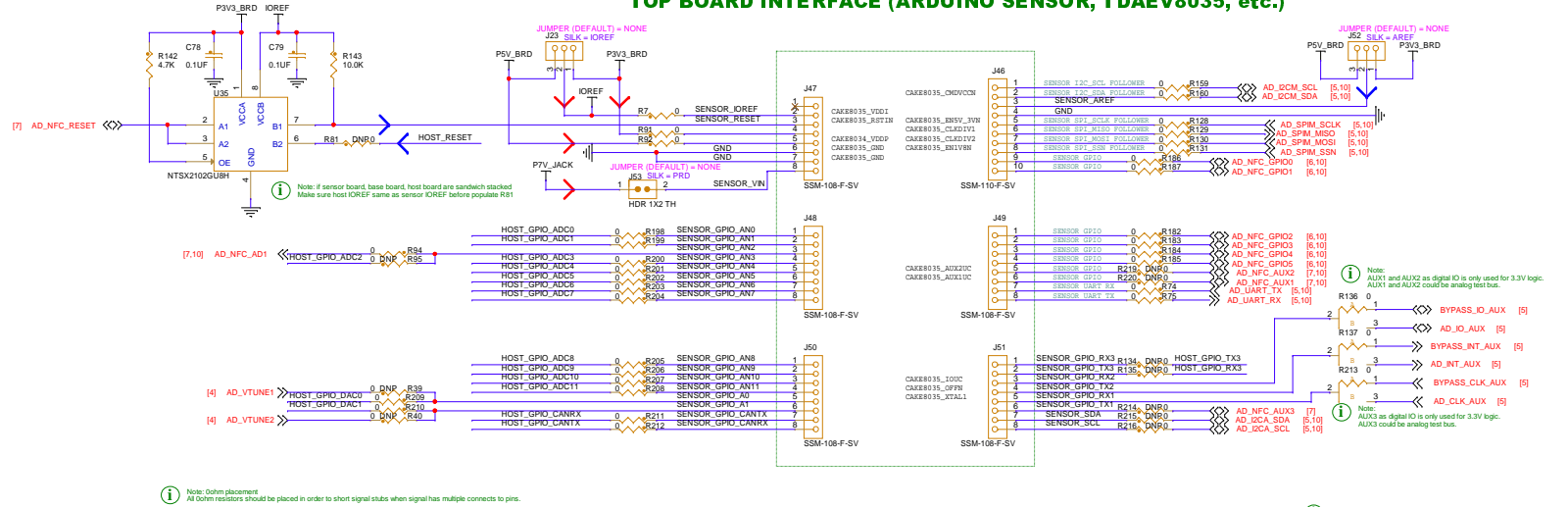
B1

--	--



Classification: Public		
Drawing Title: PNEV7642A		
Page Title: LEVEL SHIFT		
Size C	Document Number SCH-54813 PDF: SPF-54813	Rev B1
Date: Monday, January 30, 2023	Sheet 9	of 10

TOP BOARD INTERFACE (ARDUINO SENSOR, TDAEV8035, etc.)



BOTTOM BOARD INTERFACE (ARDUINO UNO/DUE, LPC55S16-EVK)

