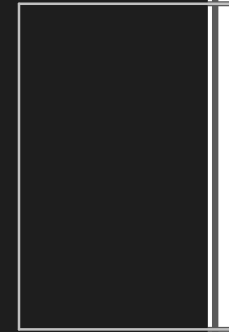




ZÁPADOČESKÁ  
UNIVERZITA  
V PLZNI



J4



SW1



C16 C12 C15

C4 C3

GND

C1

C2

C3

C4

C5

C6

C7

C8

C9

C10

C11

C12

C13

C14

C15

C16

C17

C18

C19

C20

C21

C22

C23

C24

C25

C26

C27

C28

C29

C30

C31

C32

C33

C34

C35

C36

C37

C38

C39

C40

C41

C42

C43

C44

C45

C46

C47

C48

C49

C50

C51

C52

C53

C54

C55

C56

C57

C58

C59

C60

C61

C62

C63

C64

C65

C66

C67

C68

C69

C70

C71

C72

C73

C74

C75

C76

C77

C78

C79

C80

C81

C82

C83

C84

C85

C86

C87

C88

C89

C90

C91

C92

C93

C94

C95

C96

C97

C98

C99

C100

C101

C102

C103

C104

C105

C106

C107

C108

C109

C110

C111

C112

C113

C114

C115

C116

C117

C118

C119

C120

C121

C122

C123

C124

C125

C126

C127

C128

C129

C130

C131

C132

C133

C134

C135

C136

C137

C138

C139

C140

C141

C142

C143

C144

C145

C146

C147

C148

C149

C150

C151

C152

C153

C154

C155

C156

C157

C158

C159

C160

C161

C162

C163

C164

C165

C166

C167

C168

C169

C170

C171

C172

C173

C174

C175

C176

C177

C178

C179

C180

C181

C182

C183

C184

C185

C186

C187

C188

C189

C190

C191

C192

C193

C194

C195

C196

C197

C198

C199

C200

C201

C202

C203

C204

C205

C206

C207

C208

C209

C210

C211

C212

C213

C214

C215

C216

C217

C218

C219

C220

C221

C222

C223

C224

C225

C226

C227

C228

C229

C230

C231

C232

C233

C234

C235

C236

C237

C238

C239

C240

C241

C242

C243

C244

C245

C246

C247

C248

C249

C250

C251

C252

C253

C254

C255

C256

C257

C258

C259

C260

C261

C262

C263

C264

C265

C266

C267

C268

C269

C270

C271

C272

C273

C274

C275

C276

C277

C278

C279

C280

C281

C282

C283

C284

C285

C286

C287

C288

C289

C290

C291

C292

C293

C294

C295

C296

C297

C298

C299

C300

C301

C302

C303

C304

C305

C306

C307

C308

C309

C310

C311

C312

C313

C314

C315

C316

C317

C318

C319

C320

C321

C322

C323

C324

C325

C326

C327

C328

C329

C330

C331

C332

C333

C334

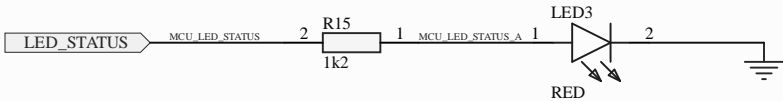
C335

[illegible]

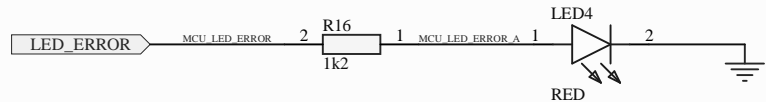
The schematic diagram illustrates the internal circuitry of the USB to UART module. Key components include:

- IC23 (FT232RL):** The central IC that provides level shifting and protocol conversion between the MCU's UART pins and the USB pins.
- MCU Connections:**
  - TP17 (MCU\_UART4\_RX) to IC23 TXD (pin 28).
  - TP18 (MCU\_UART4\_NRTS) to IC23 DTR# (pin 27).
  - MCU\_UART4\_TX to IC23 TXD (pin 28) via R23.
  - MCU\_UART\_NCTS to IC23 DSR# (pin 19) via R25.
- USB Connections:**
  - IC23 RXD (pin 5) to USB D+ (pin 16).
  - IC23 TXD (pin 28) to USB D- (pin 15).
  - IC23 GND (pin 8) to USB GND (pin 17).
- Reset Circuit:**
  - IC23 RESET# (pin 18) to a pull-up resistor R21 (+3V3) and a reset button R22.
  - Reset button R22 to IC23 RESET# (pin 18) and a 1uF capacitor C34 to ground.
- LEDs:**
  - LED1 (RED\_RX) connected to IC23 TXD (pin 28) via R21 and a 10K resistor R57 to +3V3.
  - LED2 (RED\_TX) connected to IC23 RXD (pin 5) via R22 and a 10K resistor R57 to +3V3.
- Power and Grounding:**
  - +3V3 supply connected to various pins and components.
  - Ground connections for IC23, LEDs, and capacitors.
- Connectors:**
  - GPIO3\_6\_7 CONNECTOR: Connects IC23 pins 3, 2, 1 to MCU pins 3, 2, 1.
  - GPIO2\_4\_5 CONNECTOR: Connects IC23 pins 2, 4, 5 to MCU pins 2, 4, 5.

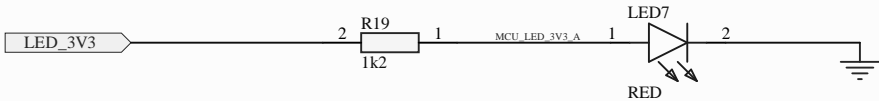
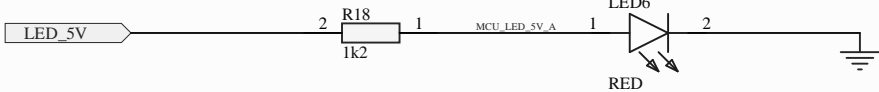
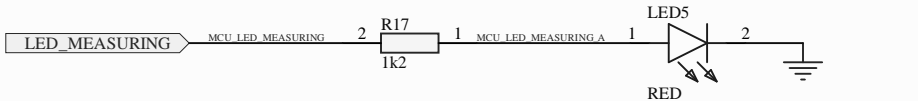
A



B



C



D

Title		
Size	Number	Revision
A4		
Date:	12/25/2023	Sheet of
File:	C:\Users\...\LED_STATUS.SchDoc	Drawn By:

A

B

C

D