# NUCLEO F767ZI

(MORPHO CN11)
J101
Conn_02x36_Odd_Even

| | | | | |
|---|---|---|---|---|
| (PC10) | 1 | 2 | (PC11) | |
| (PC12) | 3 | 4 | (PD2) | |
| (VDD) | 5 | 6 | | P5V0 |
| (BOOT0) | 7 | 8 | | |
| (PF6) | 9 | 10 | | |
| (PF7) | 11 | 12 | (IOREF) | |
| (PA13 *) | 13 | 14 | (NRST) | |
| (PA14) | 15 | 16 | (+3V3) | P3V3_CPU |
| (PA15 *) | 17 | 18 | (+5V) | |
| | 19 | 20 | | |
| (PB7 *) | 21 | 22 | | |
| (PC13 *) | 23 | 24 | (VIN) | |
| | 25 | 26 | | |
| | 27 | 28 | (PA0) | |
| | 29 | 30 | (PA1 *) | |
| | 31 | 32 | (PA4) | MF0_ADC |
| (VBAT) | 33 | 34 | (PB0 *) | |
| SPI2_MISO (PC2) | 35 | 36 | (PC1 *) | |
| SPI2_MOSI (PC3) | 37 | 38 | (PC0) | XPS_DATA |
| (PD4) | 39 | 40 | (PD3) | |
| (PD5) | 41 | 42 | (PG2) | ATTEN4 |
| XPS_RESET_R (PD6) | 43 | 44 | (PG3) | ATTEN5 |
| (PD7) | 45 | 46 | (PE2) | |
| SAI1_SD_B_R (PE3) | 47 | 48 | (PE4) | SAI1_FS_A_R |
| | 49 | 50 | (PE5) | SAI1_SCK_A_R |
| | 51 | 52 | (PF2) | ATTEN0 |
| | 53 | 54 | (PF8) | SAI1_SCK_B_R |
| (PD1) | 55 | 56 | (PF9) | SAI1_FS_B_R |
| (PD0) | 57 | 58 | (PG1) | DTMF_TOE1 |
| DTMF_TOE0 (PG0) | 59 | 60 | | |
| (PE1) | 61 | 62 | (PE6) | SAI1_SD_A_R |
| DTMF_1 (PG9) | 63 | 64 | (PG15) | DTMF_3 |
| DTMF_0 (PG12) | 65 | 66 | (PG10) | |
| (PH2) | 67 | 68 | (PG13 *) | |
| (PD9) | 69 | 70 | (PG11 *) | |
| | 71 | 72 | | |

(MORPHO CN12)
J102
Conn_02x36_Odd_Even

| | | | | |
|---|---|---|---|---|
| | (PC9) | 1 | 2 | (PC8) |
| I2C1_SCL | (PB8) | 3 | 4 | (PC6) |
| I2C1_SDA | (PB9) | 5 | 6 | (PC5 *) |
| | (AVDD) | 7 | 8 | (U5V) |
| | | 9 | 10 | (PD8) |
| | (PA5 *) | 11 | 12 | (PA12) |
| | (PA6 *) | 13 | 14 | (PA11) |
| | (PA7 *) | 15 | 16 | (PB12) SPI2_CS_N |
| UART5_TX | (PB6) | 17 | 18 | (PB11) |
| | (PC7) | 19 | 20 | |
| | (PA9) | 21 | 22 | (PB2) |
| | (PA8) | 23 | 24 | (PB1) |
| SPI2_SCK | (PB10) | 25 | 26 | (PB15) |
| I2C_EXP_RESET_N | (PB4) | 27 | 28 | (PB14 *) |
| UART5_RX | (PB5) | 29 | 30 | (PB13 *) |
| | (PB3) | 31 | 32 | (AGND) |
| | (PA10) | 33 | 34 | (PC4 *) |
| | (PA2 *) | 35 | 36 | (PF5) ATTEN3 |
| MF1_ADC | (PA3) | 37 | 38 | (PF4) ATTEN2 |
| | | 39 | 40 | (PE8) XPS_AY1 |
| | (PD13) | 41 | 42 | (PF10) XPS_STB_R |
| | (PD12 *) | 43 | 44 | (PE7) XPS_AY0 |
| | (PD11 *) | 45 | 46 | (PD14) |
| XPS_CSA | (PE10) | 47 | 48 | (PD15) |
| XPS_AX0 | (PE12) | 49 | 50 | (PF14) |
| XPS_AX2 | (PE14) | 51 | 52 | (PE9) XPS_AY2 |
| XPS_AX3 | (PE15) | 53 | 54 | |
| XPS_AX1 | (PE13) | 55 | 56 | (PE11) XPS_CSB |
| | (PF13) | 57 | 58 | (PF3) ATTEN1 |
| DTMF_STB1 | (PF12) | 59 | 60 | (PF15) |
| DTMF_2 | (PG14) | 61 | 62 | (PF11) DTMF_STB0 |
| | | 63 | 64 | (PE0) |
| | (PD10) | 65 | 66 | (PG8) |
| | (PG7) | 67 | 68 | (PG5) |
| ATTEN6 | (PG4) | 69 | 70 | (PG6) |
| | | 71 | 72 | |

* Pin used on Nucleo F767ZI. Not available as a GPIO.

R101 33 COAX
SAI1_FS_A_R — SAI1_FS_A
R102 33 COAX
SAI1_SCK_A_R — SAI1_SCK_A
R103 33 COAX
SAI1_SD_A_R — SAI1_SD_A
R133 33 COAX
XPS_STB_R — XPS_STB
R134 33 COAX
XPS_RESET_R — XPS_RESET

R104 33 COAX
SAI1_FS_B_R — SAI1_FS_B
R105 33 COAX
SAI1_SCK_B_R — SAI1_SCK_B
R106 33 COAX
SAI1_SD_B_R — SAI1_SD_B

R136 2.2K ATTEN6
R137 2.2K ATTEN5
R138 2.2K ATTEN4
R139 2.2K ATTEN3
R140 2.2K ATTEN2
R141 2.2K ATTEN1
R142 2.2K ATTEN0

# AUDIO PROCESSING BOARD

(J201)
J103
Conn_02x12_Odd_Even

| | | | | |
|---|---|---|---|---|
| DTMF_STB0 | 1 | 2 | | |
| DTMF_STB1 | 3 | 4 | | |
| DTMF_TOE0 | 5 | 6 | | |
| DTMF_TOE1 | 7 | 8 | | |
| DTMF_0 | 9 | 10 | | DTMF_1 |
| DTMF_2 | 11 | 12 | | DTMF_3 |
| SAI1_SD_A | 13 | 14 | | |
| SAI1_SD_B | 15 | 16 | | |
| SAI1_FS_A | 17 | 18 | | |
| SAI1_FS_B | 19 | 20 | | |
| SAI1_SCK_A | 21 | 22 | | |
| SAI1_SCK_B | 23 | 24 | | |

CONTROL

(J202)
J104
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| > XPS_X9B | 1 | 2 | | |
| > XPS_X11B | 3 | 4 | | |
| > XPS_X13B | 5 | 6 | | |
| > XPS_X15B | 7 | 8 | | |
| N5V0 | 9 | 10 | | P5V0 |
| < XPS_X8B | 11 | 12 | | XPS_X10B > |
| < XPS_X12B | 13 | 14 | | XPS_X14B > |
| < MF0_ADC | 15 | 16 | | MF1_ADC > |

AUDIO/POWER

Note: ODD NUMBERED XPS_X?A/B NETS ARE AUDIO TO BE TRANSMITTED TO THE DESTINATION

P3V3_CPU 1
SPI2_CS_N 2
SPI2_MOSI 3
SPI2_SCK 4
SPI2_MISO 5
6
U103 MOD_SD_SPIMODE
P3V3
CS_N
MOSI
SCK
MISO
GND

SD CARD

R135 470 UART5_RX
UART5_TX
J108 Conn_01x06

CONSOLE
FTDI CABLE

R123 33K XPS_Y7
R124 33K XPS_Y6
R125 33K XPS_Y5
R126 33K XPS_Y4
R127 33K XPS_Y3
R128 33K XPS_Y2
R129 33K XPS_Y1
R130 33K XPS_Y0

U102
MOD_TCA9548A

| | | | |
|---|---|---|---|
| P3V3_MCU | 1 | VIN | |
| I2C_EXP_RESET_N | 5 | RST | |
| I2C1_SCL | 4 | SCL | |
| I2C1_SDA | 3 | SDA | |
| | 8 | A2 | |
| | 7 | A1 | |
| | 6 | A0 | |
| | 2 | GND | |
| | SC7 | 24 | |
| | SD7 | 23 | |
| I2C1_SCL_6 | SC6 | 22 | |
| I2C1_SDA_6 | SD6 | 21 | |
| I2C1_SCL_5 | SC5 | 20 | |
| I2C1_SDA_5 | SD5 | 19 | |
| I2C1_SCL_4 | SC4 | 18 | |
| I2C1_SDA_4 | SD4 | 17 | |
| I2C1_SCL_3 | SC3 | 16 | |
| I2C1_SDA_3 | SD3 | 15 | |
| I2C1_SCL_2 | SC2 | 14 | |
| I2C1_SDA_2 | SD2 | 13 | |
| I2C1_SCL_1 | SC1 | 12 | |
| I2C1_SDA_1 | SD1 | 11 | |
| I2C1_SCL_0 | SC0 | 10 | |
| I2C1_SDA_0 | SD0 | 9 | |

R107 2.2K
R108 2.2K
R109 2.2K
R110 2.2K
R111 2.2K
R112 2.2K
R113 2.2K
R114 2.2K
R131 2.2K
R132 2.2K
R115 2.2K
R116 2.2K
R117 2.2K
R118 2.2K
R119 2.2K
R120 2.2K
R121 2.2K
R122 2.2K

I2C EXPANDER

# CROSSPOINT SWITCH BOARD

(J201)
J106
Conn_02x17_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | N5V0 |
| | 3 | 4 | | |
| XPS_STB | 5 | 6 | | |
| | 7 | 8 | | XPS_DATA |
| XPS_RESET | 9 | 10 | | |
| | 11 | 12 | | XPS_AX0 |
| XPS_AY0 | 13 | 14 | | XPS_AX1 |
| XPS_AY1 | 15 | 16 | | XPS_AX2 |
| XPS_AY2 | 17 | 18 | | XPS_AX3 |
| | 19 | 20 | | |
| | 21 | 22 | | |
| XPS_CSB | 23 | 24 | | XPS_CSA |
| | 25 | 26 | | |
| XPS_Y1 | 27 | 28 | | XPS_Y0 |
| XPS_Y3 | 29 | 30 | | XPS_Y2 |
| XPS_Y5 | 31 | 32 | | XPS_Y4 |
| XPS_Y7 | 33 | 34 | | XPS_Y6 |

(J202)
J107
Conn_02x17_Odd_Even

| WHITE WIRES | | | | GREEN WIRES |
|---|---|---|---|---|
| < XPS_X1A | 1 | 2 | | XPS_X0A < |
| < XPS_X3A | 3 | 4 | | XPS_X2A < |
| < XPS_X5A | 5 | 6 | | XPS_X4A < |
| < XPS_X7A | 7 | 8 | | XPS_X6A < |
| < XPS_X9A | 9 | 10 | | XPS_X8A < |
| < XPS_X11A | 11 | 12 | | XPS_X10A < |
| < XPS_X13A | 13 | 14 | | XPS_X12A < |
| < XPS_X15A | 15 | 16 | | XPS_X14A < |
| | 17 | 18 | | |
| < XPS_X1B | 19 | 20 | | XPS_X0B < |
| < XPS_X3B | 21 | 22 | | XPS_X2B < |
| < XPS_X5B | 23 | 24 | | XPS_X4B < |
| < XPS_X7B | 25 | 26 | | XPS_X6B < |
| < XPS_X9B | 27 | 28 | | XPS_X8B < |
| < XPS_X11B | 29 | 30 | | XPS_X10B < |
| < XPS_X13B | 31 | 32 | | XPS_X12B < |
| < XPS_X15B | 33 | 34 | | XPS_X14B < |

## Line card connectors

LC1
J109
Conn_02x05_Odd_Even

| REF. TO LINE CARD | | | | |
|---|---|---|---|---|
| | 1 | 2 | | |
| TX> XPS_X3A | 3 | 4 | | |
| <RX XPS_X2A | 5 | 6 | | |
| TX> XPS_X1A | 7 | 8 | | |
| <RX XPS_X0A | 9 | 10 | | |

LC2
J110
Conn_02x05_Odd_Even

| | | | | |
|---|---|---|---|---|
| | 1 | 2 | | |
| XPS_X7A | 3 | 4 | | |
| XPS_X6A | 5 | 6 | | |
| XPS_X5A | 7 | 8 | | |
| XPS_X4A | 9 | 10 | | |

LC3
J111
Conn_02x05_Odd_Even

| | | | | |
|---|---|---|---|---|
| | 1 | 2 | | |
| XPS_X11A | 3 | 4 | | |
| XPS_X10A | 5 | 6 | | |
| XPS_X9A | 7 | 8 | | |
| XPS_X8A | 9 | 10 | | |

LC4
J112
Conn_02x05_Odd_Even

| | | | | |
|---|---|---|---|---|
| | 1 | 2 | | |
| XPS_X15A | 3 | 4 | | |
| XPS_X14A | 5 | 6 | | |
| XPS_X13A | 7 | 8 | | |
| XPS_X12A | 9 | 10 | | |

## Trunk card connectors

TC1
J113
Conn_02x03_Odd_Even

| | | | | |
|---|---|---|---|---|
| <RX XPS_X0B | 2 | 1 | | |
| TX> XPS_X1B | 4 | 3 | | |
| | 6 | 5 | | |

TC2
J114
Conn_02x03_Odd_Even

| | | | | |
|---|---|---|---|---|
| XPS_X2B | 2 | 1 | | |
| XPS_X3B | 4 | 3 | | |
| | 6 | 5 | | |

TC3
J115
Conn_02x03_Odd_Even

| | | | | |
|---|---|---|---|---|
| XPS_X4B | 2 | 1 | | |
| XPS_X5B | 4 | 3 | | |
| | 6 | 5 | | |

## Line card connectors

LC1
J116
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN0 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_0 |
| | 15 | 16 | | I2C1_SDA_0 |

LC2
J117
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN1 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_1 |
| | 15 | 16 | | I2C1_SDA_1 |

LC3
J118
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN2 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_2 |
| | 15 | 16 | | I2C1_SDA_2 |

LC4
J119
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN3 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_3 |
| | 15 | 16 | | I2C1_SDA_3 |

## Trunk card connectors

TC1
J120
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN4 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_4 |
| | 15 | 16 | | I2C1_SDA_4 |

TC2
J121
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN5 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_5 |
| | 15 | 16 | | I2C1_SDA_5 |

TC3
J122
Conn_02x08_Odd_Even

| | | | | |
|---|---|---|---|---|
| P5V0 | 1 | 2 | | P5V0 |
| N5V0 | 3 | 4 | | N5V0 |
| P3V3 | 5 | 6 | | P3V3 |
| P12V0 | 7 | 8 | | P12V0 |
| | 9 | 10 | | |
| ATTEN6 | 11 | 12 | | |
| | 13 | 14 | | I2C1_SCL_6 |
| | 15 | 16 | | I2C1_SDA_6 |

# ATX POWER SUPPLY

SW101
SW_SPDT_321
PS_ON_N — 2 — 3 — 1

J105
Conn_02x10_Top_Bottom

| | | | |
|---|---|---|---|
| | 1 | 11 | |
| | 2 | 12 | P3V3 |
| | 3 | 13 | |
| | 4 | 14 | N12V0 |
| | 5 | 15 | |
| | 6 | 16 | PS_ON_N |
| | 7 | 17 | |
| | 8 | 18 | |
| P5VSB | 9 | 19 | |
| P12V0 | 10 | 20 | P5V0 |

C101 1000u
C102 1500u
C103 220u
C104 470u

U101
LM7905_TO220
N12V0 — 2 VI — GND 1 — VO 3 — N5V0
C105 470u

NO PCB: POINT-TO-POINT on Vectorboard

| | |
|---|---|
| Sheet: / | |
| File: test_wire_backplane.kicad_sch | |
| **Title:** | |
| Size: C | Date: 2024-03-24 |
| KiCad E.D.A. 8.0.2 | **Rev: X1** |
| | Id: 1/1 |