

Kaonic 1S Tactical Mesh Radio

Interface & Pinout Reference

Version 1.0

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J1401 audio

connector type FPC flex
Model Molex 5051102291
Ref J1401
Mates with FPC cable 22 pins 0,5 mm pitch

Pin	Signal Name	Description	Voltage	Type	MCU(STM32MP1) Pin
1	I2S_EXT.SDO	I2S SDO for audio codec	+3,3V	O	PC3, I2S2_SDO
2	I2S_EXT.WS	I2S WS for audio codec	+3,3V	O	PB9, I2S2_WS
3	I2S_EXT.CK	I2S CK for audio codec	+3,3V	O	PD3, I2S2_CK
4	I2S_EXT.SDI	I2S SDI for audio codec	+3,3V	I	PB14, I2S2_SDI
5	GND	Signal/PWR ground	-	G	-
6	I2C_1.SCL	I2C bus clock signal	+3,3V	O	PB8, I2C1_SCL
7	I2C_1.SDA	I2C bus data signal	+3,3V	I/O	PB7, I2C1_SDA
8	GND	Signal/PWR ground	-	G	-
9	EXT.EN	Enable signal	+3,3V	O	PG11
10	EXT.BUTTON_1	Pushbutton or GPIO	+3,3V	I/O	PA13
11	EXT.BUTTON_2	Pushbutton or GPIO	+3,3V	I/O	PA14
12	EXT.BUTTON_3	Pushbutton or GPIO	+3,3V	I/O	PB10
13	SPI_EXT.SCK	SPI bus clock signal	+3,3V		PE12, SPI4_SCK
14	SPI_EXT.NSS	SPI bus chip select	+3,3V	O	PE4, SPI4_NSS
15	SPI_EXT.MOSI	SPI bus MOSI	+3,3V		PE14, SPI4_MOSI
16	SPI_EXT.MISO	SPI bus MISO	+3,3V		PE5, SPI4_MISO
17	GND	Signal/PWR ground	-	G	-
18	+5V	+5V power	+5V	P	-
19	+5V	+5V power	+5V	P	-
20	GND	Signal/PWR ground	-	G	-
21	+3,3V_PMIC	+3,3V power	+3,3V	P	-
22	+3,3V_PMIC	+3,3V power	+3,3V	P	-

J1403 UART

connector type Board to discrete wire cable
Model Hirose DF52-4S-0.8H(21)
Ref J1403
Mates with Hirose DF52-4P-0.8C

Pin	Signal Name	Description	Voltage	Type	MCU(STM32MP1) Pin
1	3.3 V / 5 V	3.3 V (default) or 5 V 1A power output	3.3 V / 5 V	P	-
2	EXT UART_TX	UART TX signal	3.3 V	Output	PA2. UART2_TX
3	Ground	Signal/PWR ground	3.3 V	Ground	-
4	EXT UART_RX	UART RX signal	3.3 V	Input	PD6. UART2_RX

J1102 DEBUG UART

connector type Board to discrete wire cable
Model Hirose DF52-4S-0.8H(21)
Ref J1102
Mates with Hirose DF52-4P-0.8C

Pin	Signal Name	Description	Voltage	Type	MCU(STM32MP1) Pin
1	DEBUG.UART_TX	UART TX signal	3.3 V	Output	PC6. UART6_TX
2	Ground	Signal/PWR ground	-	Ground	-
3	DEBUG.UART_RX	UART RX signal	3.3 V	Input	PC7. UART6_RX
4	Ground	Signal/PWR ground	-	Ground	-

J1402 USB2

connector type Board to discrete wire cable
Model Hirose DF52-4S-0.8H(21)
Ref J1402
Mates with Hirose DF52-4P-0.8C

Pin	Signal Name	Description	Voltage	Type	MCU(STM32MP1) Pin
1	5 V_USB_OUT	5 V 1A power output	5 V	P	-
2	USB_EXT_D-	USB 2 host data negative	-	Bidirectional	USBH_HS1_DM
3	USB_EXT_D+	USB 2 host data positive	-	Bidirectional	USBH_HS1_DP
4	Ground	Signal/PWR ground	-	Ground	-

J301 Battery main

connector type Board to discrete wire cable
Model Molex PICO-EZMATE HC1.8 2082940020
Ref J301
Mates with Molex PICO-EZMATE HC1.8 2082982021

Pin	Signal Name	Description	Voltage	Type	MCU(STM32MP1) Pin
1	+	2S (default) battery positive voltage	+7.4V to +8.4V	P	-
2	-	2S (default) battery negative voltage	-	Bidirectional	-

J302 Battery aux

connector type Board to discrete wire cable
Model Molex PICO-EZMATE PLUS1.0 2121340004
Ref J301
Mates with Molex PICO-EZMATE PLUS1.0 2121320004

Pin	Signal Name	Description	Voltage	Type	MCU(STM32MP1) Pin
1	I2C 4.SCL	I2C clock signal for smart battery BMS	3.3 V	Output	PE2. I2C4_SCL
2	I2C 4.SDA	I2C data signal for smart battery BMS	3.3 V	Bidirectional	PD13. I2C4_SDA
3	NTC	Battery NTC. default 103AT	-	Input	-
4	Ground	Battery negative terminal	-	Ground	-

SW1101 Boot sel

Type 2 position DIP switch
Ref SW1101

Boot Source	SW1	SW2
SD card (default)	ON	OFF
Serial NAND flash	ON	ON
UART and USB	OFF	ON

SW1001 WLANBT DISABLE

Type 2 position DIP switch
Ref SW1001

Function	SW1	SW2
BT OFF	ON	
BT ON	OFF	
WLAN OFF		ON
WLAN ON		OFF