SG923-0004 Kraken Eval Board

Overview

SG923-0004 Kraken Eval Board provides an easy way for customers to evaluate and develop applications with Kraken Wi-Fi modules. The eval board provides power to the module and brings communications interfaces to standard connectors.

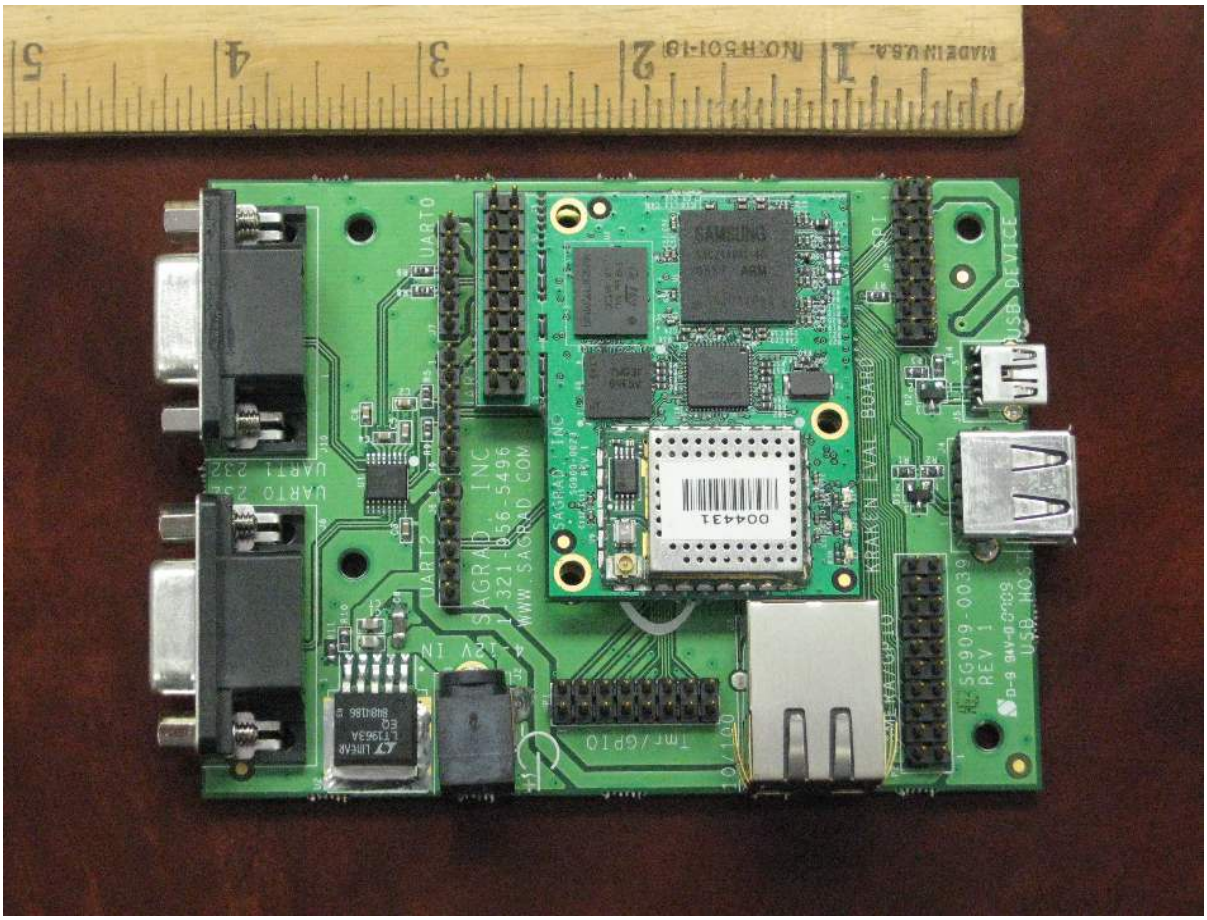
Most signals can also be used as general-purpose IO, and are available at standard 0.1" pitch headers.

Features

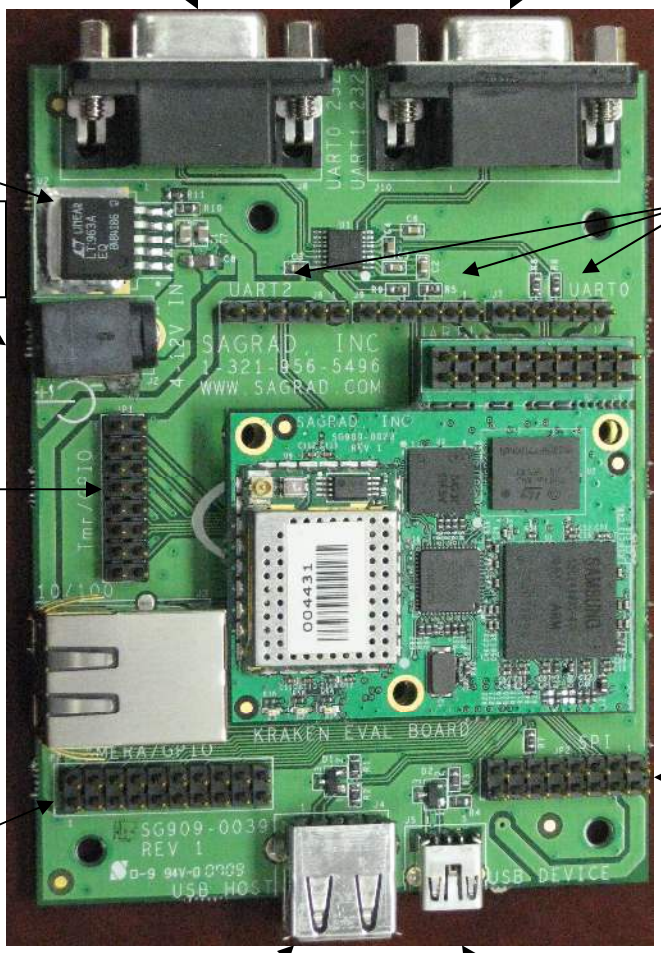
- Variety of Standard Communications Interfaces
  - 10/100Base-T (RJ45)
  - 3 UART ports (2 DB9)
  - 2 USB ports – Type A host, Mini-B Device
  - 1 SPI port (Header)
- GPIO and Peripherals
  - I2S Digital Audio interface (Header)
  - 8-bit camera interface (Header)
  - Timer I/O (Header
- On board regulator accepts 4-12V (5V optimal)

Ordering Information

Packaging	Order Number
Eval Kit	SG923-0004



Eval Board Components



Connector Pinouts and Descriptions

UART Connectors

SIGNAL NAME	PIN NUMBER	DESCRIPTION	NOTES
UART 0 DB9 (J8)			
RXD0_232	2	UART0 Receive Data (input)	RS232 Level
TXD0_232	3	UART0 Transmit Data (output)	RS232 Level
GND	5	Signal Ground	
UART 0 Header (J7) (Remove resistor R8 to use J7)			
3.3V	1	Power to RS232 driver	
GND	2	Signal/Power Ground	
RXD0	3	UART0 Receive Data (input)	3.3V CMOS level – Also GPIO
TXD0	4	UART0 Transmit Data (output)	3.3V CMOS level – Also GPIO
-	5	Handshaking loopback to 6	
-	6	Handshaking loopback to 5	
UART 1 DB9 (J10)			
RXD1_232	2	UART1 Receive Data (input)	RS232 Level
TXD1_232	3	UART1 Transmit Data (output)	RS232 Level
GND	5	Signal Ground	
UART 1 Header (J9) (Remove resistor R9 to use J9)			
3.3V	1	Power to RS232 driver	
GND	2	Signal/Power Ground	
RXD1	3	UART1 Receive Data (input)	3.3V CMOS level – Also GPIO
TXD1	4	UART1 Transmit Data (output)	3.3V CMOS level – Also GPIO
-	5	Handshaking loopback to 6	
-	6	Handshaking loopback to 5	
UART 2 Header (J6)			
3.3V	1	Power to RS232 driver	
GND	2	Signal/Power Ground	
RXD2	3	UART2 Receive Data (input)	3.3V CMOS level – Also GPIO
TXD2	4	UART2 Transmit Data (output)	3.3V CMOS level – Also GPIO
-	5	Handshaking loopback to 6	
-	6	Handshaking loopback to 5	

Connector Pinouts and Descriptions

P2 Camera/GPIO Connector

SIGNAL NAME	PIN NUMBER	DESCRIPTION	NOTES
3.3V	1	3.3V Power	
CAMCLKOUT	2	Camera master clock output	GPIO GPJ11
GND	3	Ground	
CAMRESET	4	Camera reset output	GPIO GPJ12
CAMPCLK	5	Camer pixel clock input	GPIO GPJ8
CAMD0	6	Camera data bit 0	GPIO GPJ0
GND	7	Ground	
CAMD1	8	Camera data bit 1	GPIO GPJ1
CAMVSYNC	9	Camera vertical sync input	GPIO GPJ9
CAMD2	10	Camera data bit 2	GPIO GPJ2
GND	11	Ground	
CAMD3	12	Camera data bit 3	GPIO GPJ3
CAMHREF	13	Camera horizontal sync input	GPIO GPJ10
CAMD4	14	Camera data bit 4	GPIO GPJ4
GND	15	Ground	
CAMD5	16	Camera data bit 5	GPIO GPJ5
GND	17	Ground	
CAMD6	18	Camera data bit 6	GPIO GPJ6
GND	19	Ground	
CAMD7	20	Camera data bit 7	GPIO GPJ7

JP2 SPI/GPIO Connector

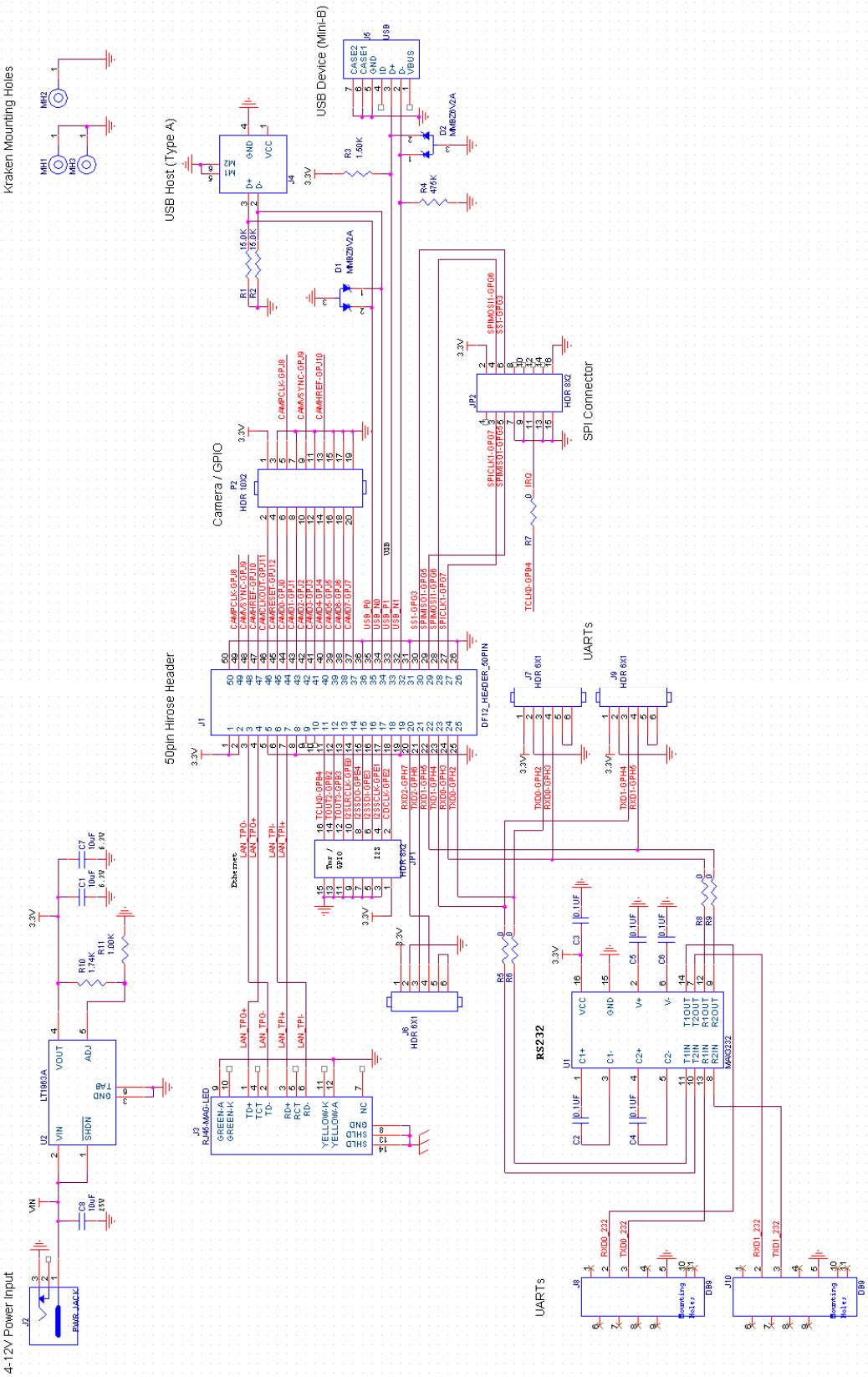
SIGNAL NAME	PIN NUMBER	DESCRIPTION	NOTES
-	1	-	
3.3V	2	3.3V Power	
SPICLK1	3	SPI Clock	GPIO GPG7
SPIMOSI1	4	SPI Master Output Slave Input	GPIO GPG6
SPIMISO1	5	SPI Master Input Slave Output	GPIO GPG5
SS1	6	SPI Slave Select	GPIO GPG3
GND	7	Ground	
-	8	-	
GND	9	Ground	
-	10	-	
TCLK0	11	SPI Interrupt	TCLK0 timer clk – GPIO GPB4
-	12	-	
GND	13	Ground	
-	14	-	
GND	15	Ground	
GND	16	Ground	

Connector Pinouts and Descriptions

JP1 I2S, AC97, Timer, GPIO

SIGNAL NAME	PIN NUMBER	DESCRIPTION	NOTES
3.3V	1	3.3V Power	
CDCLK	2	I2S master clock output, AC97 RST	GPIO GPE2
GND	3	Ground	
I2S_SCLK	4	I2S/AC97 serial clock input/output	GPIO GPE1
GND	5	Ground	
I2S_SDI	6	I2S/AC97 serial data input	GPIO GPE3
GND	7	Ground	
I2S_SDO	8	I2S/AC97 serial data output	GPIO GPE4
GND	9	Ground	
I2S_LRCK	10	I2S frame output, AC97 SYNC,	GPIO GPE0
GND	11	Ground	
TOUT3	12	Timer 3 output	GPIO GPB3
GND	13	Ground	
TOUT2	14	Timer 2 output	GPIO GPB2
GND	15	Ground	
TCLK0	16	Timer 0 clock input	GPIO GPB4

Schematic


Kraken Mounting Holes
MH1
MH2
MH3
USB Host (Type A)
USB Device (Mini-B)
J4
J5
D1
D2
R1
R2
R3
R4
Camera / GPIO
P2
HDR 10X2
SPI Connector
JP2
HDR 8X2
50pin Hirose Header
J1
DF12_HEADER_50PIN
UARTs
J7
J9
HDR 6X1
JP1
HDR 8X2
J6
HDR 6X1
RS232
U1
MAX3232
J3
RJ45-MAG-LED
U2
LT1963A
4-12V Power Input
J2
PWR_JACK2
J8
J10
DB9