

KITUSBSPIDGL Evaluation Board



Figure 1. KTUSBSPIDGL Board

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1 Kit Contents / Packing List

- 700-21857: PWA, KITUSBSPIDGLEVME
- 600-75489: Cable, 6ft. USB2.0 A-M To B-M
- 600-76375: Cable, Ribbon Flat 16 Pin Assy, 0.100" Pitch, 6" Length
- 920-90570-00: Technical Information Center Freescale Semiconductor , Inc.
- 920-75133: Warranty Card, Freescale
- 770-21857: Hardware Document CD,CDUSBSPIDGL

To lower radiated emissions, purchase the EMI/RFI Suppressors & Ferrites Flat 20 Wire Black Cable Clamp Filter (available at www.Mouser.com, Part Number: 810-ZCAT3618-2630DBK).

2 Important Notice

Freescall provides the enclosed product(s) under the following conditions:

This evaluation kit is intended for use of ENGINEERING DEVELOPMENT OR EVALUATION PURPOSES ONLY. It is provided as a sample IC pre-soldered to a printed circuit board to make it easier to access inputs, outputs, and supply terminals. This EVB may be used with any development system or other source of I/O signals by simply connecting it to the host MCU or computer board via off-the-shelf cables. This EVB is not a Reference Design and is not intended to represent a final design recommendation for any particular application. Final device in an application will be heavily dependent on proper printed circuit board layout and heat sinking design as well as attention to supply filtering, transient suppression, and I/O signal quality.

The goods provided may not be complete in terms of required design, marketing, and or manufacturing related protective considerations, including product safety measures typically found in the end product incorporating the goods. Due to the open construction of the product, it is the user's responsibility to take any and all appropriate precautions with regard to electrostatic discharge. In order to minimize risks associated with the customers applications, adequate design and operating safeguards must be provided by the customer to minimize inherent or procedural hazards. For any safety concerns, contact Freescale sales and technical support services.

Should this evaluation kit not meet the specifications indicated in the kit, it may be returned within 30 days from the date of delivery and will be replaced by a new kit.

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3 Schematic

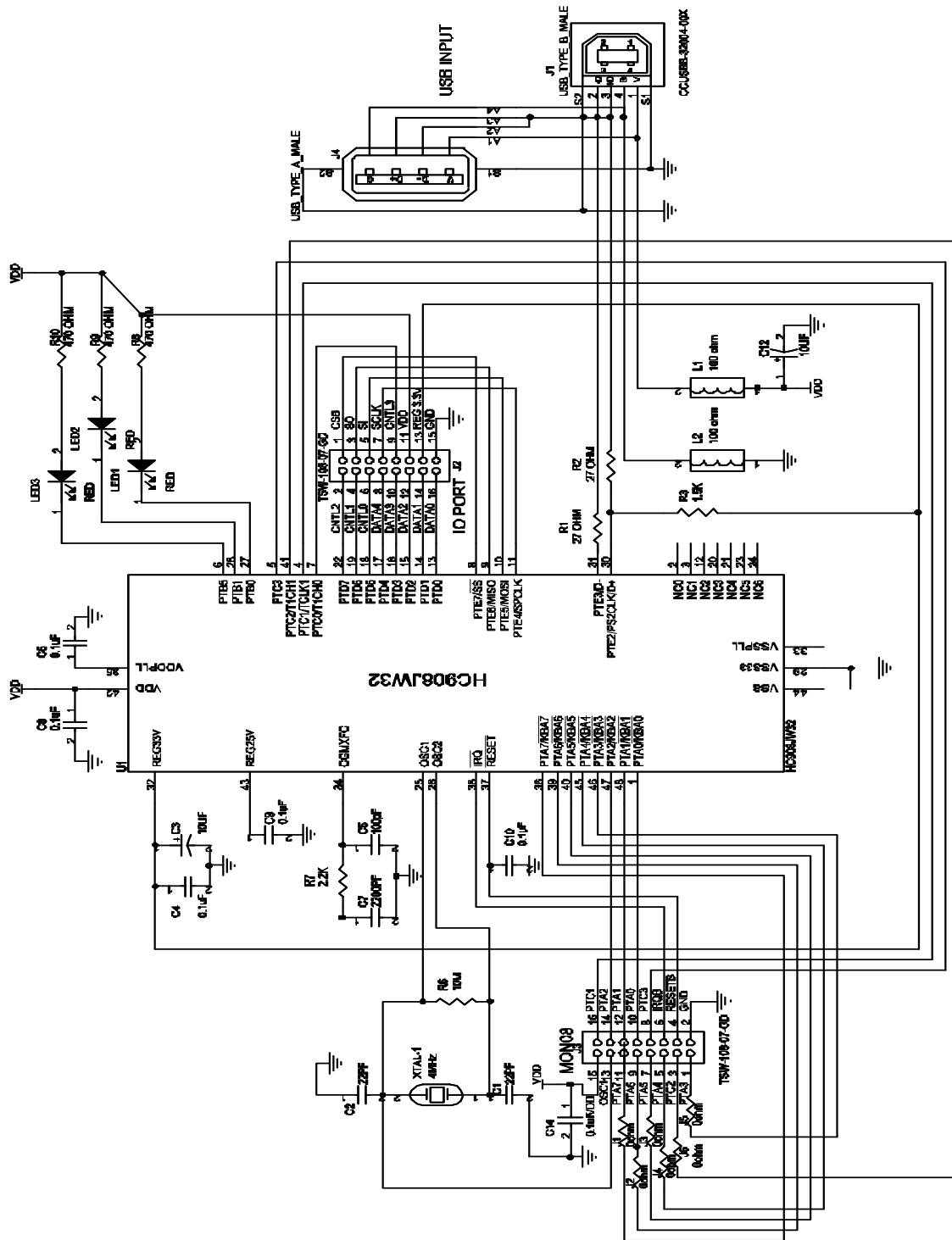


Figure 1. Schematic Drawing

4 Board Layout

4.1 Assembly Drawing

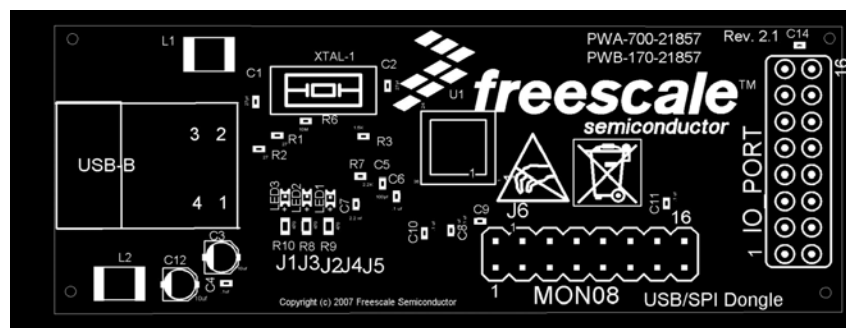


Figure 2. Assembly Drawing

4.2 Top Copper

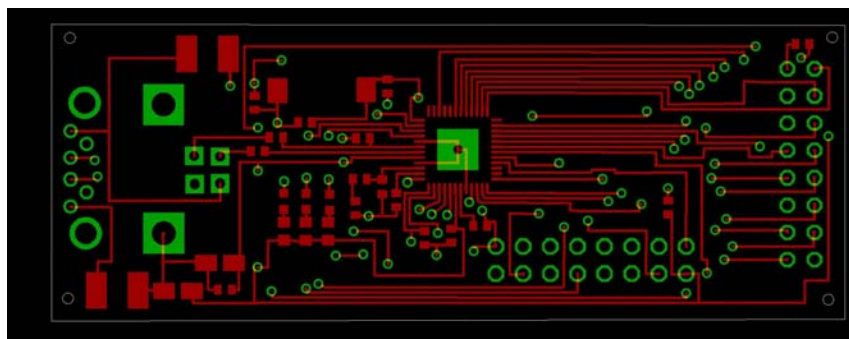


Figure 3. Top Copper

4.3 Bottom Copper

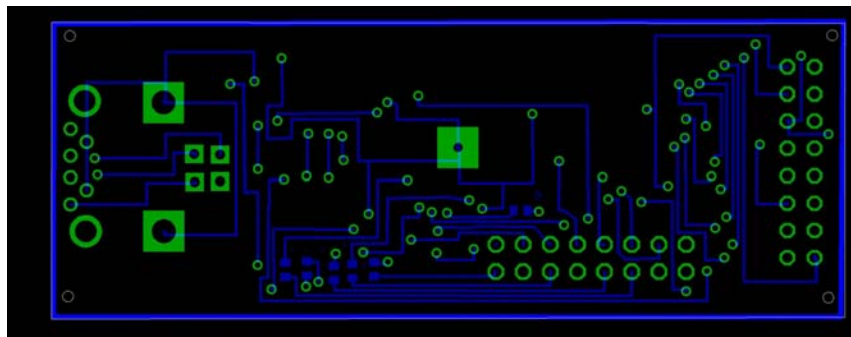


Figure 4. Bottom Copper

5 Bill of Material

Schematic Designation	Device or Signal Name	Description	Mfr. Name	Mfr. Part Number
C1	OSC2	CAP CER 22PF 50V 5% C0G CC0402	AVX	04025A220JAT2A
C2	OSC1	CAP CER 22PF 50V 5% C0G CC0402	AVX	04025A220JAT2A
C3	REG3.3V	CAP TANT 10UF 10V 10% -- --	VISHAY INTERTECHNOLOGY	293D106X9010A2TE3
C4	REG3.3V	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
C5	CGMXFC	CAP CERAMIC 100PF 50V NP0 0402	YAGEO CORP.	CC0402JRNPO9BN101
C6	VDD PLL	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
C7	CGMXFC	CAP CERM .022UF 10% 16V X7R 0402	AVX	0402YC223KAT2A
C8	VDD	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
C9	REG2.5V	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
C10	RESET	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
C11	VDD	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
C12	VDD	CAP TANT 10UF 10V 10% -- --	VISHAY INTERTECHNOLOGY	293D106X9010A2TE3
C14	VDD	CAP CER 0.1UF 10V 20% Y5V 0402	AVX	CM05Y5V104Z16AH
R1	D+	RES 27 OHM 1/16W 5% 0402 SMD	PANASONIC ECG	ERJ-2GEJ270X
R2	D-	RES 27 OHM 1/16W 5% 0402 SMD	PANASONIC ECG	ERJ-2GEJ270X
R3	D+	RES TF 1.5K 1/16W 1% RC0402 ROHS	BOURNS	CR0402FX1501GLF
R6	OSC1 OSC2	RESISTOR 10M OHM 1/16W 5% 0402	PANASONIC ECG	ERJ-2GEJ106X
R7	CGMXFC	RES 2.2K OHM 1/16W 5% 0402 SMD	YAGEO CORP.	RC0402JR-072K2L
R8	LED1	RES 470 OHM 1/10W 5% 0603 SMD	YAGEO CORP.	RC0603JR-07470RL
R9	LED2	RES 470 OHM 1/10W 5% 0603 SMD	YAGEO CORP.	RC0603JR-07470RL
R10	LED3	RES 470 OHM 1/10W 5% 0603 SMD	YAGEO CORP.	RC0603JR-07470RL
L1	+5V	FERRITE 8A 125 OHMS 1812 SMD	STEWART	HI1812V101R-10
L2	GND	FERRITE 8A 125 OHMS 1812 SMD	STEWART	HI1812V101R-10
J1	PTA7	JUMPER TO CONNECT PTA7 to Pin 11 of MON08 connector	Wire jumper	
J2	PTA6	JUMPER TO CONNECT PTA6 to Pin 9 of MON08 connector	Wire jumper	
J3	PTA5	JUMPER TO CONNECT PTA5 to Pin 7 of MON08 connector	Wire jumper	
J4	PTA4	JUMPER TO CONNECT PTA4 to Pin 5 of MON08 connector	Wire jumper	
J5	PTA3	JUMPER TO CONNECT PTA3 to Pin 1 of MON08 connector	Wire jumper	
J6	PTC2	JUMPER TO CONNECT PTC2 to Pin 3 of MON08 connector	Wire jumper	
U1	MICRO	MCHC908JW32FC 8 bit USB/SPI microcontroller ROHS COMPLIANT	FREESCALE SEMICONDUCTOR	MC68HC908JW32
LED1	LED1	LED 660NM RED DIFF 0603 SMD	AVAGO TECHNOLOGIES US INC.	HSMH-C190
LED2	LED2	LED 660NM RED DIFF 0603 SMD	AVAGO TECHNOLOGIES US INC.	HSMH-C190
LED3	LED3	LED 660NM RED DIFF 0603 SMD	AVAGO TECHNOLOGIES US INC.	HSMH-C190
IO PORT	MA08-2	CONN HEADER .100 DUAL STR 16POS	3M CORP	929665-02-08-I
MON08	MA08-2	CONN HEADER .100 DUAL STR 16POS	3M CORP	929665-02-08-I

Schematic Designation	Device or Signal Name	Description	Mfr. Name	Mfr. Part Number
XTAL-1	OSC1 OSC2	CRYSTAL 4.0 MHZ 20PF SMD	FOX ELECTRONICS	FQ1045A-4
USB-A	USB-A Input	USB-A Male PC Board mount	SPARK FUN ELECTRONICS	PType-USB-A
USB-B	USB-B Input	CONN USB RT ANG RECPT TYPE B BLK	MOLEX/WALDOM ELECTRONICS CORP	67068-8000

6 References

Following are URLs where you can obtain information on other Freescale products and application solutions:

Description	URL
Reference Web Sites	Reference URL Locations
Freescale Web Site	http://www.freescale.com/
KITUSBSPIDNGLEVME Summary Page	http://www.freescale.com/webapp/sps/site/prod_summary.jsp?code=KITUSBSPIDGLEVME

7 Revision History

Revision	Date	Description of Changes
1.0	8/2010	Initial Release

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USA/Europe or Locations Not Listed:

Freescale Semiconductor, Inc.
Technical Information Center, EL516
2100 East Elliot Road
Tempe, Arizona 85284
1-800-521-6274 or +1-480-768-2130
www.freescale.com/support

Europe, Middle East, and Africa:

Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
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www.freescale.com/support

Japan:

Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku,
Tokyo 153-0064
Japan
0120 191014 or +81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:

Freescale Semiconductor China Ltd.
Exchange Building 23F
No. 118 Jianguo Road
Chaoyang District
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China
+86 10 5879 8000
support.asia@freescale.com

For Literature Requests Only:

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KTUSBSPIDGLUG
Rev. 1.0
10/2010

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9