Board: BIM BMI Backplane
Drawn by Aaron Bonnell-Kangas
Revision date: v1.0 - 2016-04-11
Last modified date: 4/11/16 1:40 AM

This header allows user to select which BIM is programmed by
backplane JTAG port. Short one JTAG_EN_BIMn line to VTREF
to select that BIM.

Warning: do not enable more than one BIM at a time. The backplane
and/or BIMs may be damaged.

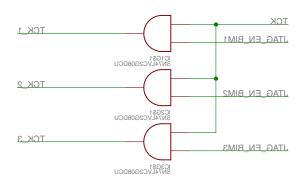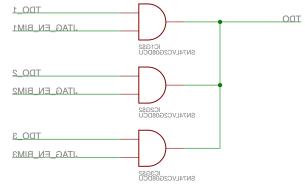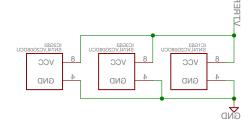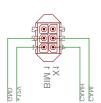JTAG programmer needs to see +3.3V on VTREF
to program. Using a diode OR to provide this from
the connected BIMs. BAT54C Vf ~= 0.24 V, so
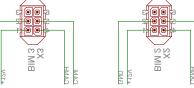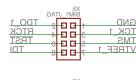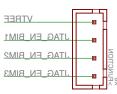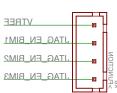VTREF should still be above logic level.

X3 BIM 3
X2 BIM 2
X1 BIM 1
+12V  CANH  CANL  GND

X4
CANL  CANH  +12V  GND

X9
e.g. Amphenol 71918-114LF
mates w Amphenol 71600-014LF
EMU1  EMU0
GND   TCK
GND   RTCK
GND   TDO
VTREF
TDIS  TDI
TRST  TMS

X5 BIM1_JTAG
GND    TDO_1
TCK_1  RTCK
TMS    TRST
VTREF_1  TDI

X6 BIM2_JTAG
GND    TDO_2
TCK_2  RTCK
TMS    TRST
VTREF_2  TDI

X7 BIM3_JTAG
GND    TDO_3
TCK_3  RTCK
TMS    TRST
VTREF_3  TDI

X8 FUNCTION
VTREF
JTAG_EN_BIM1
JTAG_EN_BIM2
JTAG_EN_BIM3

VTREF_1  VTREF  VTREF_2  VTREF_3
D1 BAT54C
D2 BAT54C

TCK_1
JTAG_EN_BIM1
IC1G51 SN74LVC2G08DCU
TCK

TCK_2
JTAG_EN_BIM2
IC2G51 SN74LVC2G08DCU

TCK_3
JTAG_EN_BIM3
IC3G51 SN74LVC2G08DCU

TDO_1
JTAG_EN_BIM1
IC1G52 SN74LVC2G08DCU
TDO

TDO_2
JTAG_EN_BIM2
IC2G52 SN74LVC2G08DCU

TDO_3
JTAG_EN_BIM3
IC3G52 SN74LVC2G08DCU

VTREF
IC1G53 SN74LVC2G08DCU  VCC  GND
IC2G53 SN74LVC2G08DCU  VCC  GND
IC3G53 SN74LVC2G08DCU  VCC  GND
GND