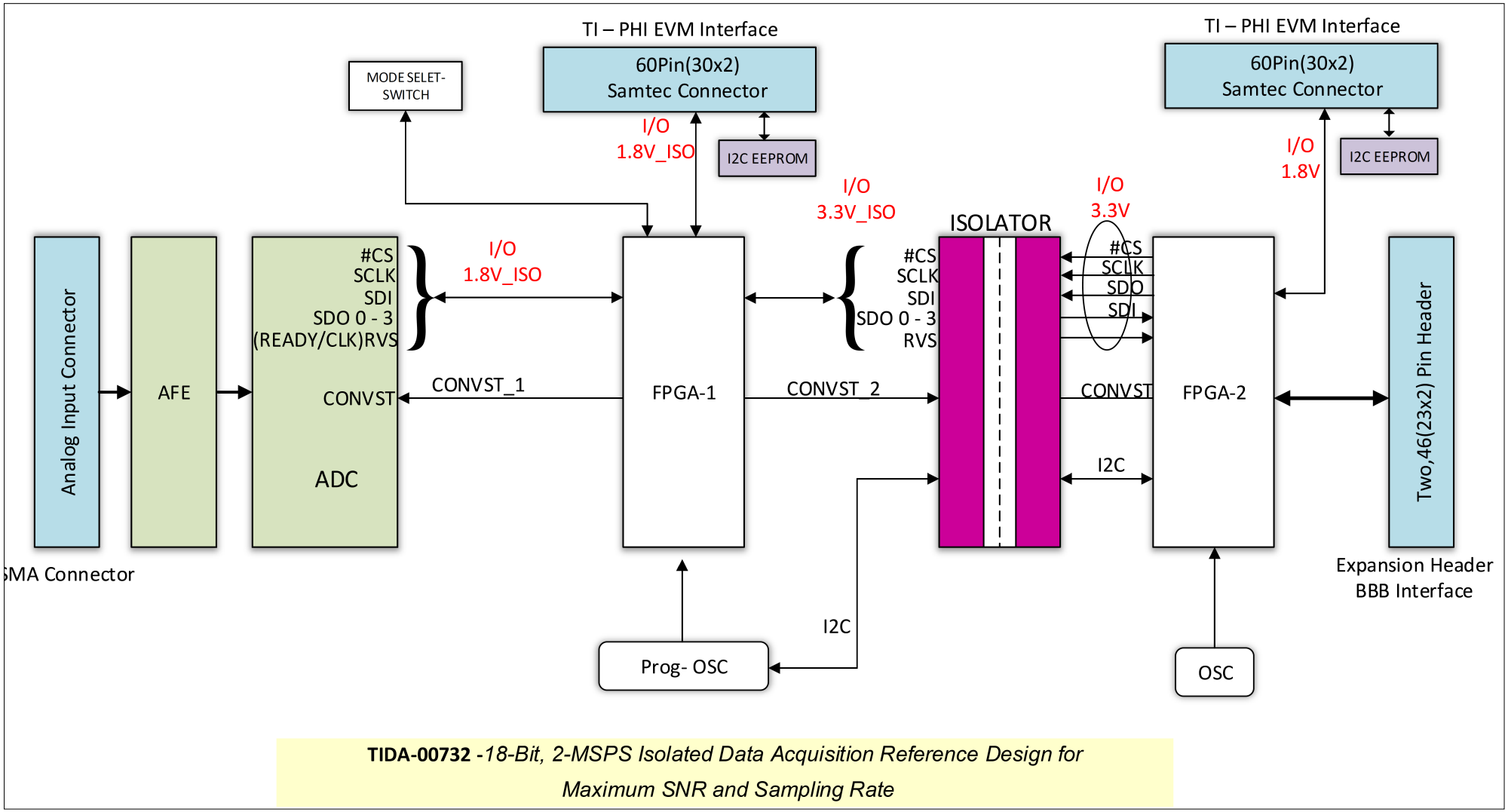
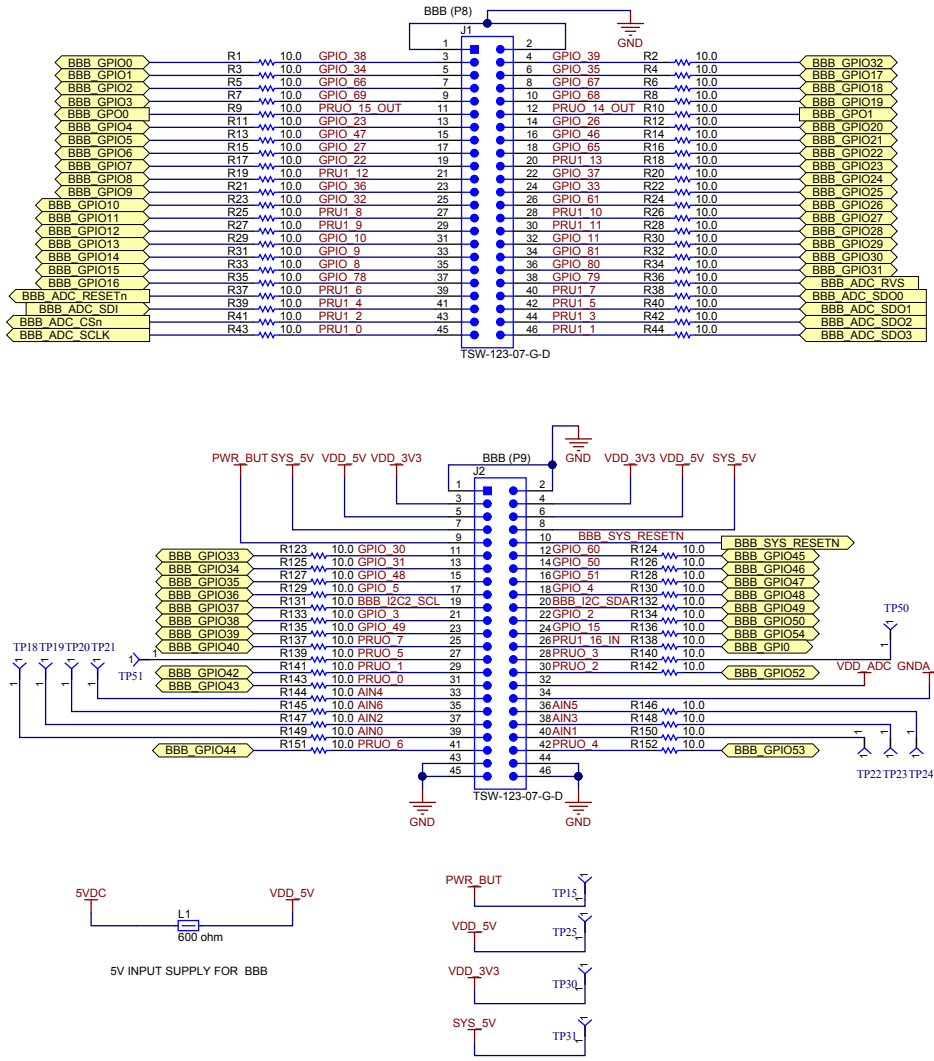
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



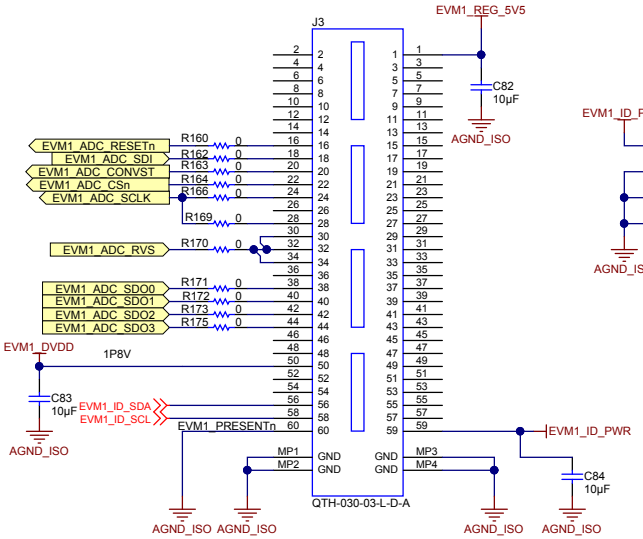
TIDA-00732 -*18-Bit, 2-MSPS Isolated Data Acquisition Reference Design for Maximum SNR and Sampling Rate*

Orderable: N/A	Designed for: Public Release	Mod. Date: 5/26/2016
TID #: TID-00732	Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732 Rev: E1	Sheet Title: Block Diagram	
SVN Rev: Version control disabled	Assembly Variant: ADS9110 w/REF5045	Sheet: 1 of 10
Drawn By: Anbu Mani	File: TIDA-00732_CoverSheet.SchDoc	Size: B
Engineer: Anbu Mani	Contact: http://www.ti.com/support	

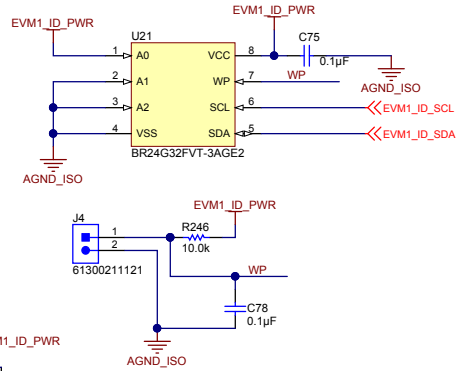
Texas Instruments
http://www.ti.com

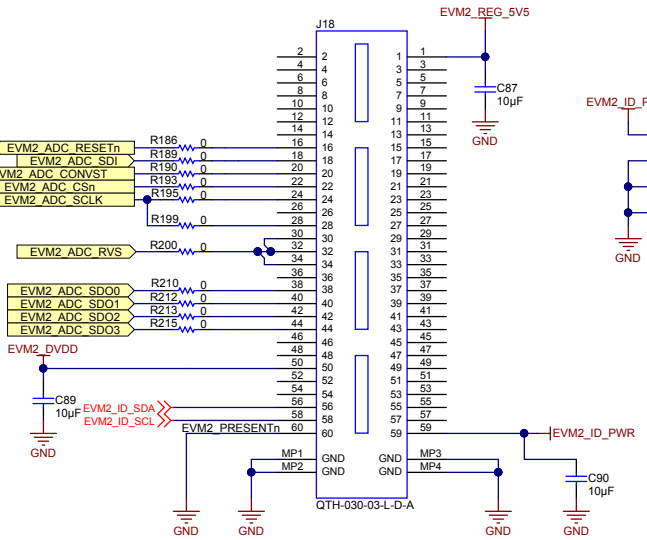


BEAGLE BONE BLACK INTERFACE WITH ISOLATION

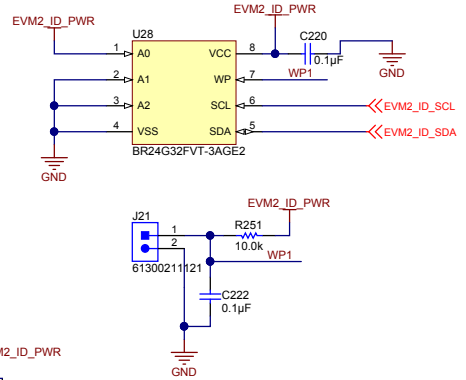


TI-PHI PLATFORM INTERFACE WITHOUT ISOLATION



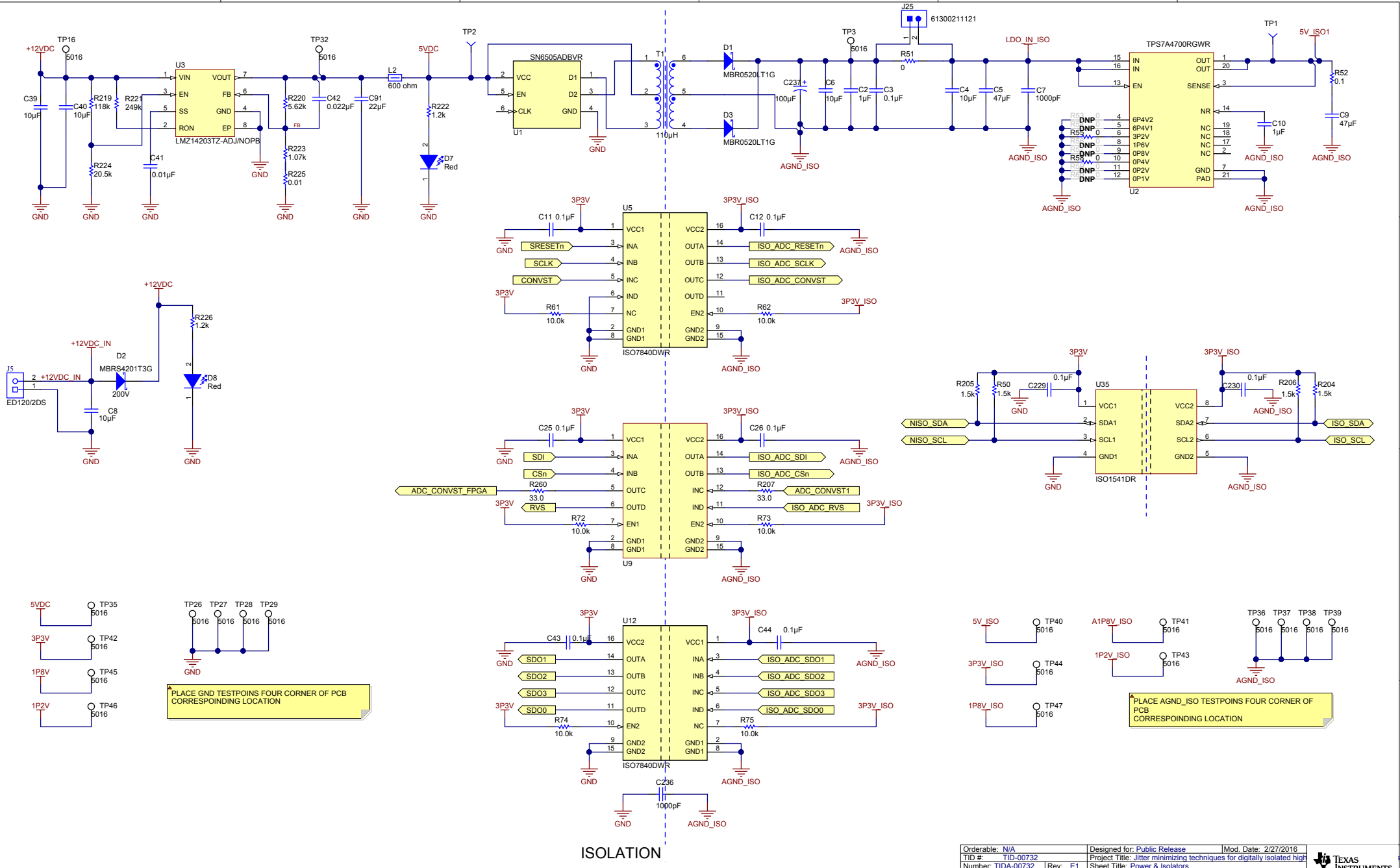


TI-PHI PLATFORM INTERFACE WITH ISOLATION



Orderable: N/A		Designed for: Public Release	Mod. Date: 2/27/2016
TID #: TID-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: Connector	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 2 of 10
Drawn By: Anbu Mani		File: TIDA-00732_Connector.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

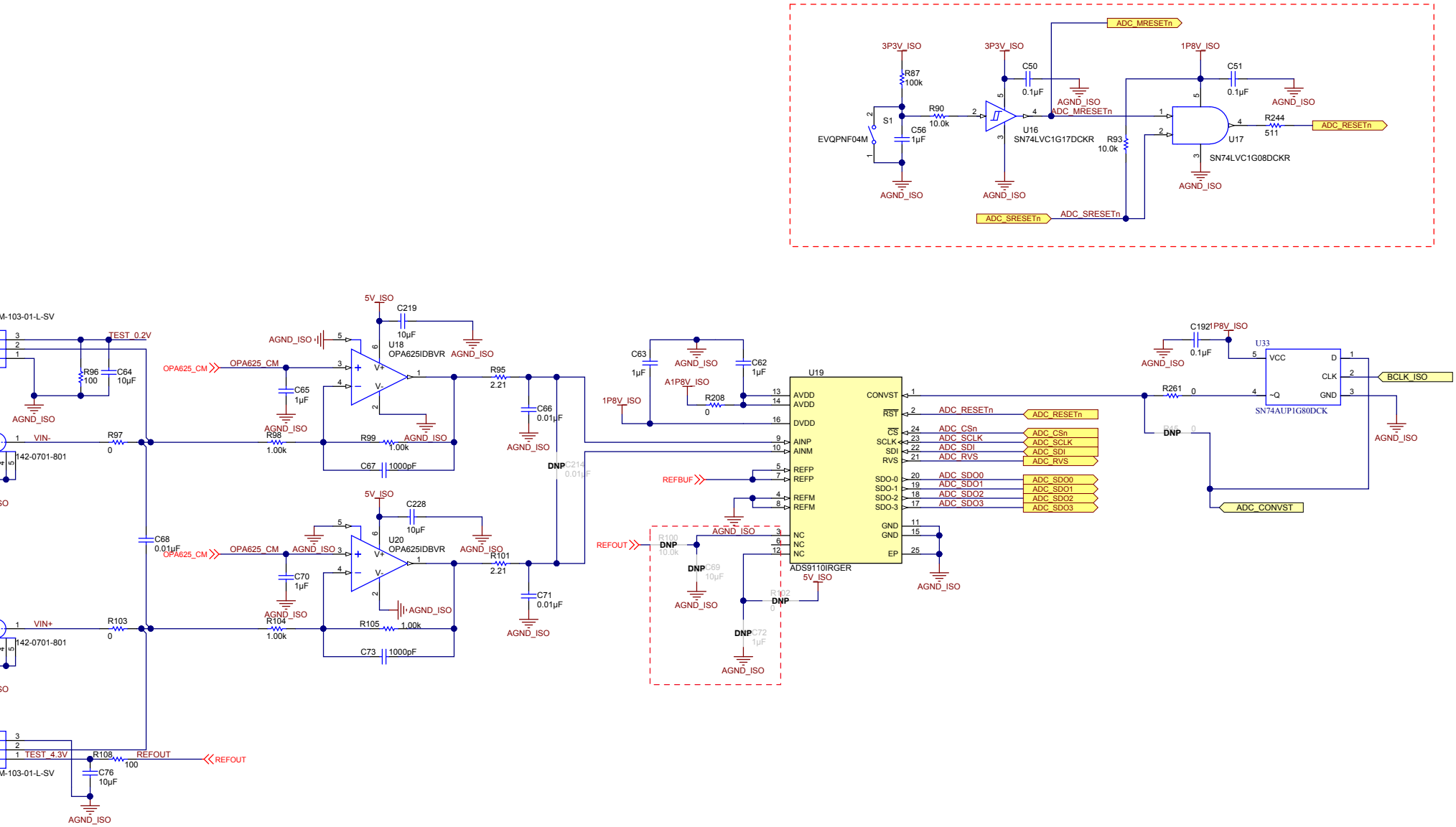
http://www.ti.com



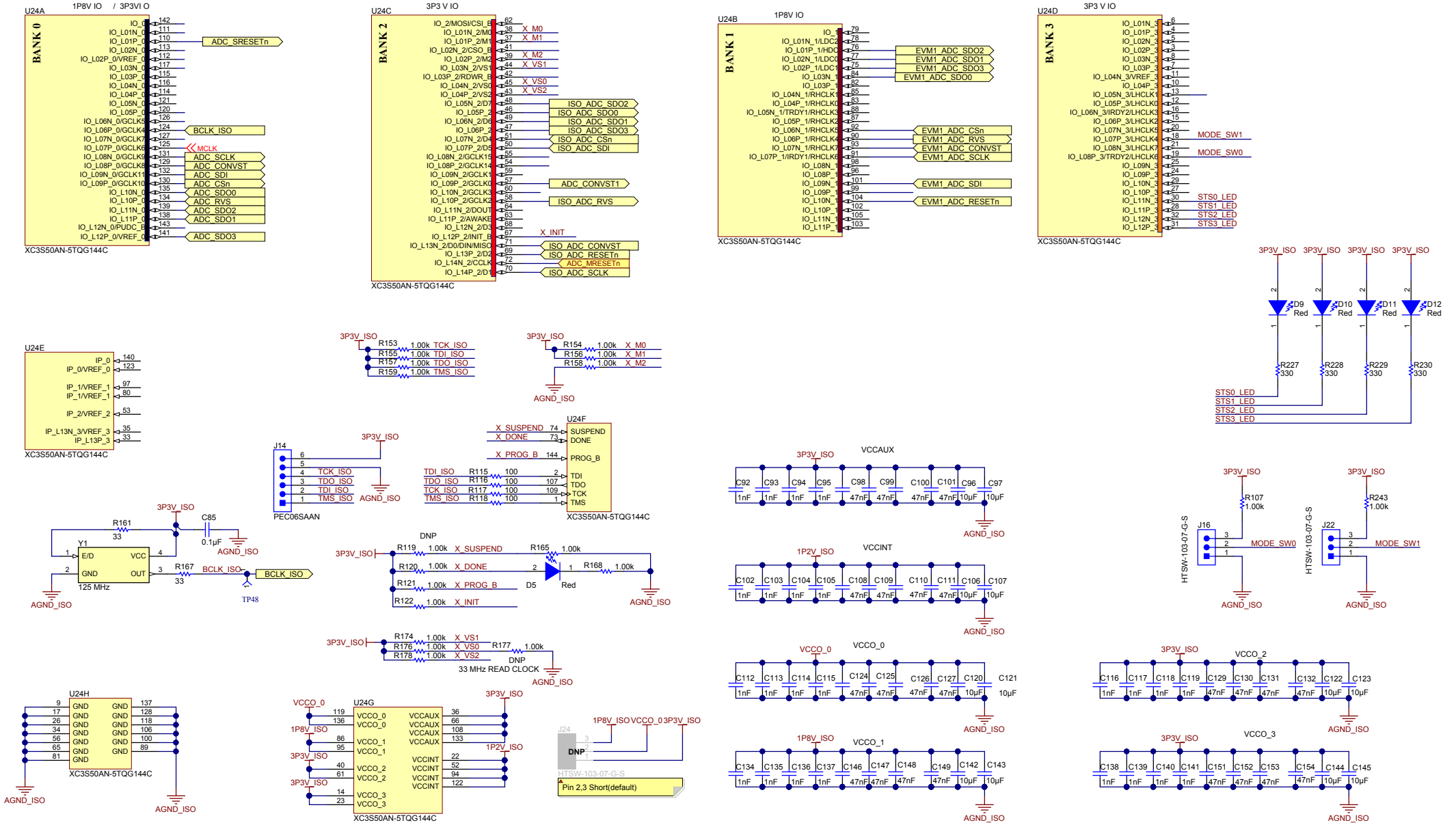
ISOLATION

Orderable: N/A		Designed for: Public Release	Mod. Date: 2/27/2016
TID #: TID-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: Power & Isolators	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 3 of 10
Drawn By: Anbu Mani		File: TIDA-00732_Isolator.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

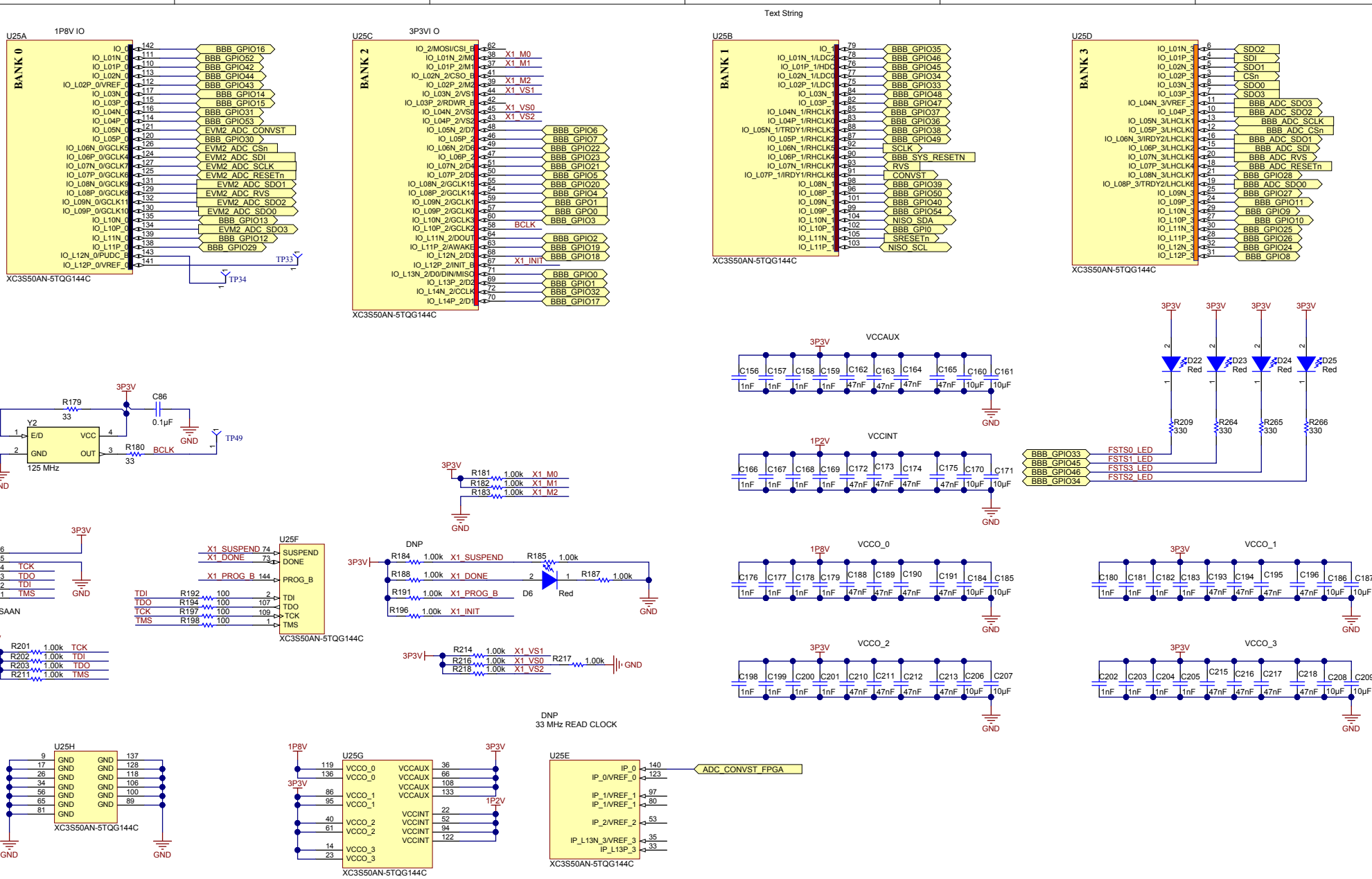
http://www.ti.com



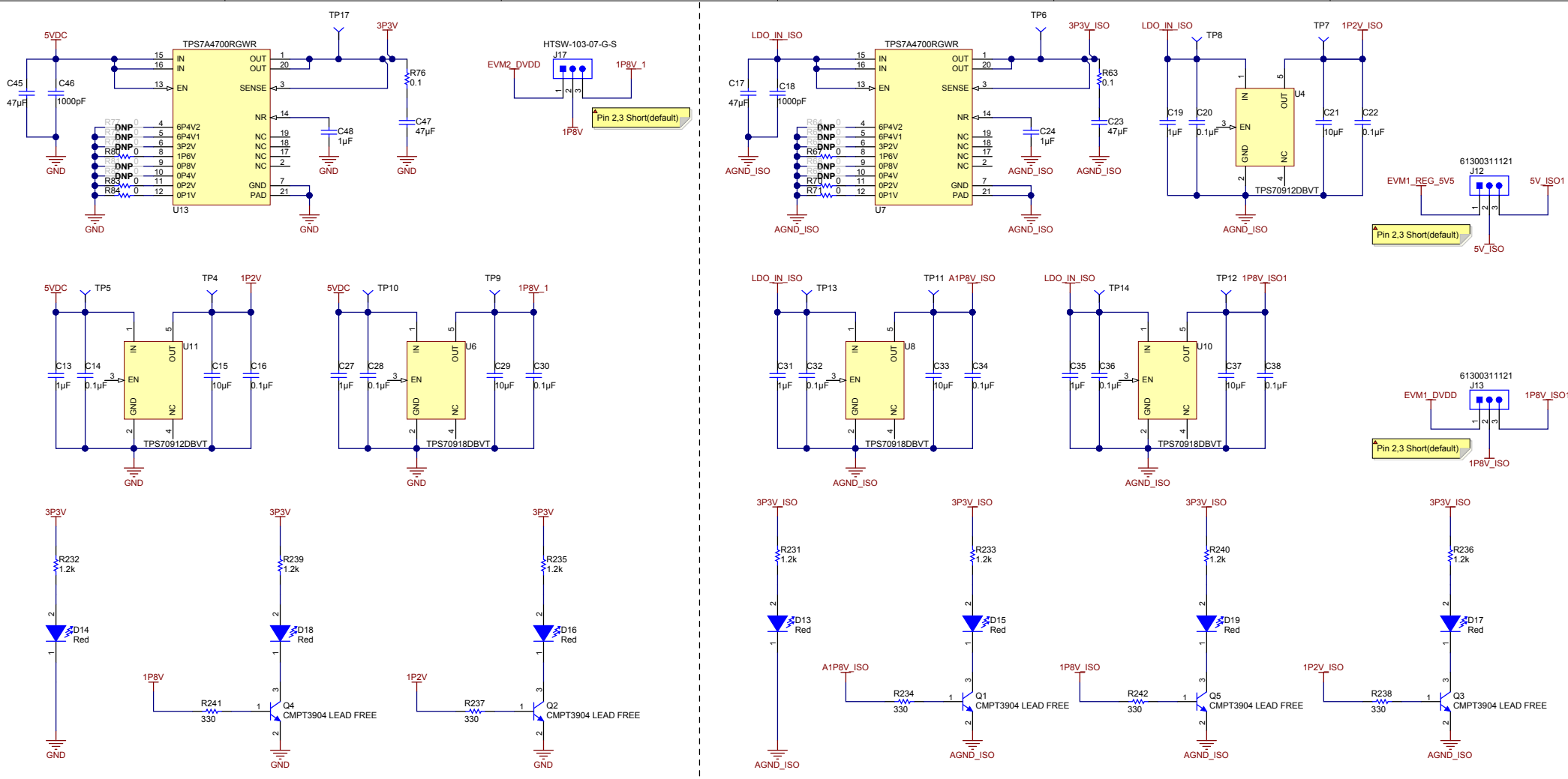
Orderable: N/A		Designed for: Public Release	Mod. Date: 2/27/2016
TID #: TID-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: Analog Front End & ADC	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 4 of 10
Drawn By: Anbu Mani		File: TIDA-00732_ADC.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	



Orderable: N/A		Designed for: Public Release	Mod. Date: 2/26/2016
TID #: TID-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: FPGA 1 - Isolated End	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 5 of 10
Drawn By: Anbu Mani		File: TIDA-00732_FPGA_1.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	



Orderable: N/A		Designed for: Public Release	Mod. Date: 2/26/2016
TID #: TID-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: FPGA 2- Non-Isolated End	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 6 of 10
Drawn By: Anbu Mani		File: TIDA-00732_FPGA_2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

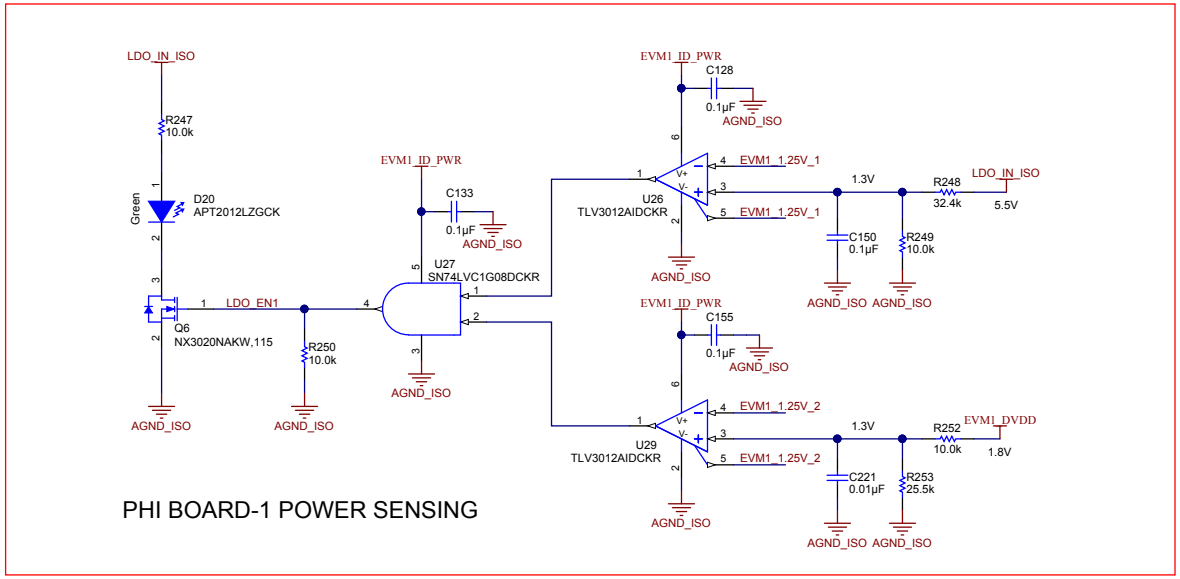


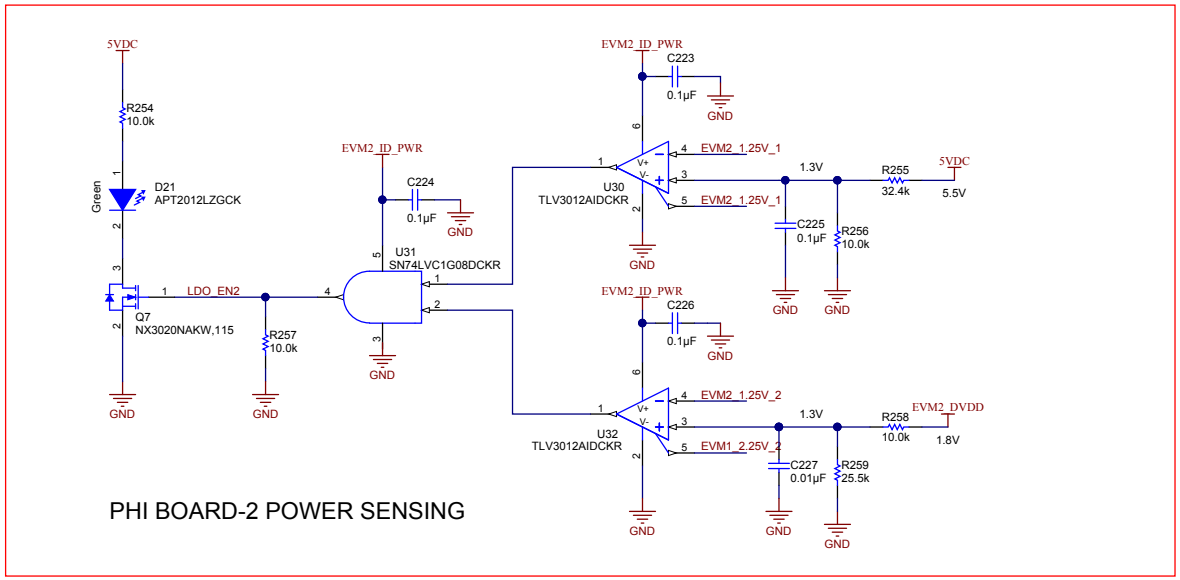
NON-ISOLATED POWER RAIL

ISOLATED POWER RAIL

Orderable: N/A	Designed for: Public Release	Mod. Date: 2/26/2016
TID #: TID-00732	Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732 Rev: E1	Sheet Title: LDO's Isolated & Non Isolated	
SVN Rev: Version control disabled	Assembly Variant: ADS9110 w/REF5045	Sheet: 7 of 10
Drawn By: Anbu Mani	File: TIDA-00732_Pwr.SchDoc	Size: B
Engineer: Anbu Mani	Contact: http://www.ti.com/support	

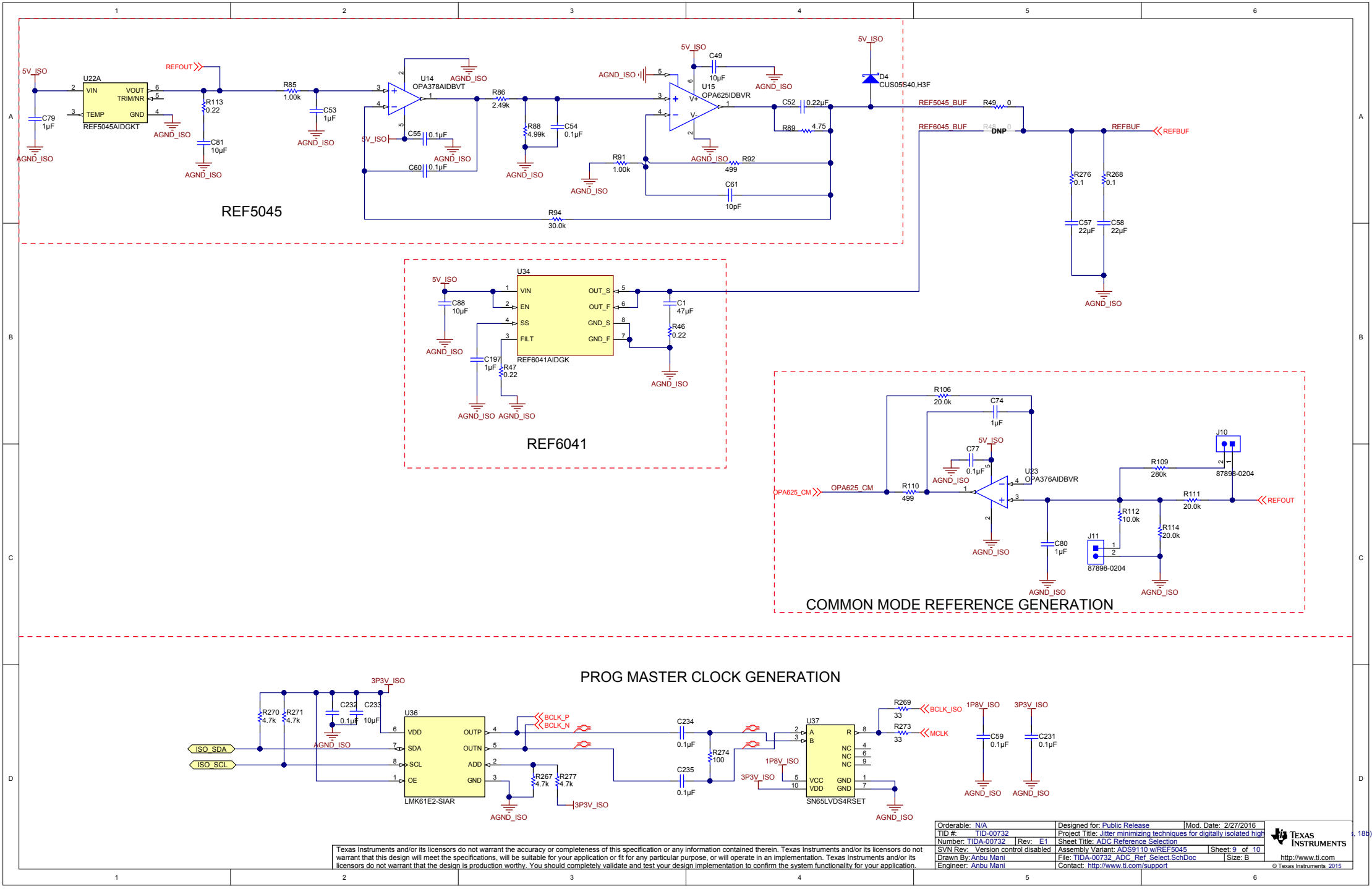
Texas Instruments
http://www.ti.com





Orderable: N/A	Designed for: Public Release	Mod. Date: 2/27/2016
TID #: TID-00732	Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732 Rev: E1	Sheet Title: Power Sense - PH1 & PH2_Interface	
SVN Rev: Version control disabled	Assembly Variant: ADS9110 w/REF5045	Sheet: 8 of 10
Drawn By: Anbu Mani	File: TIDA-00732_Pwr_Sense.SchDoc	Size: B
Engineer: Anbu Mani	Contact: http://www.ti.com/support	

Texas Instruments
http://www.ti.com



Orderable: N/A		Designed for: Public Release	Mod. Date: 2/27/2016
TID #: TIDA-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: ADC Reference Selection	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 9 of 10
Drawn By: Anbu Mani		File: TIDA-00732_ADC_Ref_Select.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

DNP FID1 DNP FID2 DNP FID3 FID4 FID5 FID6 FID7 FID8

PCB Number: TIDA-00732
PCB Rev: E1

PCB
LOGO
Texas Instruments

For Corner Mounting

H1 PMSSS 440 0025 PH
H2 PMSSS 440 0025 PH
H3 PMSSS 440 0025 PH
H4 PMSSS 440 0025 PH
H18 PMSSS 440 0025 PH
H17 PMSSS 440 0025 PH
H9 1902C
H10 1902C
H11 1902C
H12 1902C
H19 1902C
H20 1902C

For PHI1 Mounting

H5 9774050360R
H6 9774050360R
H7 9774050360R
H8 9774050360R
H29 PMSSS 440 0025 PH
H22 PMSSS 440 0025 PH
H23 PMSSS 440 0025 PH
H24 PMSSS 440 0025 PH

For Beagle Bone Block Mounting

H21 PMSSS 440 0025 PH
H30 1902C

For PHI2 Mounting

EVM2 mounting

H13 9774050360R
H14 9774050360R
H15 9774050360R
H16 9774050360R
H25 PMSSS 440 0025 PH
H26 PMSSS 440 0025 PH
H27 PMSSS 440 0025 PH
H28 PMSSS 440 0025 PH

Label Table	
Variant	Label Text

LBL1
PCB Label
Size: 0.65" x 0.20 "

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: N/A		Designed for: Public Release	Mod. Date: 2/27/2016
TID #: TID-00732		Project Title: Jitter minimizing techniques for digitally isolated high	
Number: TIDA-00732	Rev: E1	Sheet Title: Fastners	
SVN Rev: Version control disabled		Assembly Variant: ADS9110 w/REF5045	Sheet: 10 of 10
Drawn By: Anbu Mani		File: TIDA-00732_TID_Hardware.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

Texas Instruments
http://www.ti.com

IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated ('TI") reference designs are solely intended to assist designers ("Designer(s)") who are developing systems that incorporate TI products. TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.

TI's provision of reference designs and any other technical, applications or design advice, quality characterization, reliability data or other information or services does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such reference designs or other items.

TI reserves the right to make corrections, enhancements, improvements and other changes to its reference designs and other items.

Designer understands and agrees that Designer remains responsible for using its independent analysis, evaluation and judgment in designing Designer's systems and products, and has full and exclusive responsibility to assure the safety of its products and compliance of its products (and of all TI products used in or for such Designer's products) with all applicable regulations, laws and other applicable requirements. Designer represents that, with respect to its applications, it has all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. Designer agrees that prior to using or distributing any systems that include TI products, Designer will thoroughly test such systems and the functionality of such TI products as used in such systems. Designer may not use any TI products in life-critical medical equipment unless authorized officers of the parties have executed a special contract specifically governing such use. Life-critical medical equipment is medical equipment where failure of such equipment would cause serious bodily injury or death (e.g., life support, pacemakers, defibrillators, heart pumps, neurostimulators, and implantables). Such equipment includes, without limitation, all medical devices identified by the U.S. Food and Drug Administration as Class III devices and equivalent classifications outside the U.S.

Designers are authorized to use, copy and modify any individual TI reference design only in connection with the development of end products that include the TI product(s) identified in that reference design. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of the reference design or other items described above may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI REFERENCE DESIGNS AND OTHER ITEMS DESCRIBED ABOVE ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY DESIGNERS AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS AS DESCRIBED IN A TI REFERENCE DESIGN OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

TI's standard terms of sale for semiconductor products (http://www.ti.com/sc/docs/stdterms.htm) apply to the sale of packaged integrated circuit products. Additional terms may apply to the use or sale of other types of TI products and services.

Designer will fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of Designer's non-compliance with the terms and provisions of this Notice.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265