Product Brief 2024

PoDL Evaluation Boards

10BASE-T1L Single Pair Ethernet

IIoT requires total system integration ensuring connectivity from end devices to the control room in real time data transmission. SPE will simplify networks allowing transmission ranges up to 10 Mbps over distances up to 1000 m, while supplying power simultaneously. TDK offers an extensive line-up of various inductors for 10BASE-T1L applications including common-mode chokes (CMCs), isolation inductors (ICI) and differential mode inductors (DMIs) to support Power over Data Line applications.

TDK presents different 10BASE-T1L plug and play test boards for six different power classes developed to match the following evaluation boards from

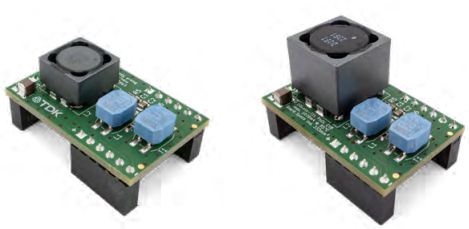
ANALOG DEVICES

- EVAL-ADIN1100EBZ
- EVAL-ADIN1110EBZ

and accelerate the design and test stage.

Features

- Boards specifically designed for different APL and IEEE 802.3cg-2019 Power Class requirements.
- Attenuation according to IEEE 802.3cg-2019
- LED functional monitoring
- Single source complete inductors range for 10BASE-T1L
- High reliability components
- High current capabilities
- Low stray capacitance
- RoHS-compatible



More information about
Single Pair Ethernet Inductors

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PoDL Evaluation Boards
EVB-DLA-00**X**

Power Class (PC) and ordering codes					
I_R, typ (mA) @ 25 °C	IEEE 802.3cg-2019 PC	APL PC	Featured TDK inductors	Evaluation board no.	Ordering code
270	10	A, C	ICI70CGI-222 RCM70CGI-471 PID75-251M	EVB-DLA-00**1**	B82010X1100A002
460	11, 13		ICI70CGI-222 RCM70CGI-471 PID100-251M	EVB-DLA-00**2**	B82010X1100A003
650	11, 13		ICI70CGI-222 RCM70CGI-471 PID120L-251M	EVB-DLA-00**3**	B82010X1100A004
820	12, 13, 14		ICI70CGI-222 RCM70CGI-471 PID120H-251M	EVB-DLA-00**4**	B82010X1100A005
1200	12, 14	3[1]	ICI70CGI-222 RCM70CGI-471 PID150H-251M	EVB-DLA-00**5**	B82010X1100A006
1810	15	4	ICI70CGI-222 RCM70CGI-471 PIS150H-471M	EVB-DLA-00**6**	B82010X1100A007

[1] APL power class 3 is only supported up to 1.2 A

TDK 10BASE-T1L evaluation boards have built in connectors at J1, J2 and J3 for easy plug into EVAL-ADIN1100EBZ or EVAL-ADIN1110EBZ motherboard jacks J4, J105, J106 as shown below:

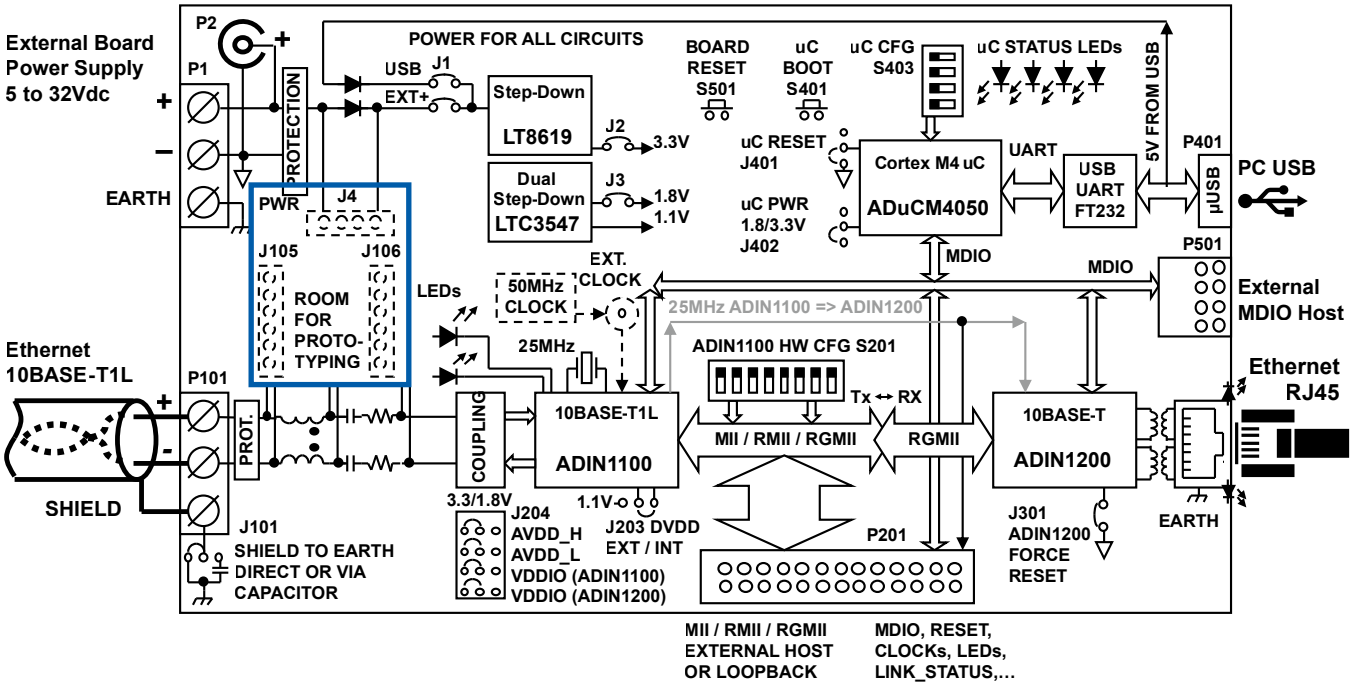


Figure 1: EVAL-ADIN1100EBZ simplified block diagram (courtesy of Analog Devices)

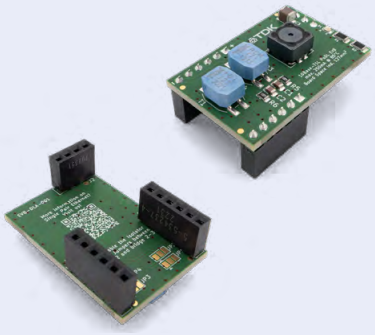
PoDL Evaluation Boards
EVB-DLA-00**X**

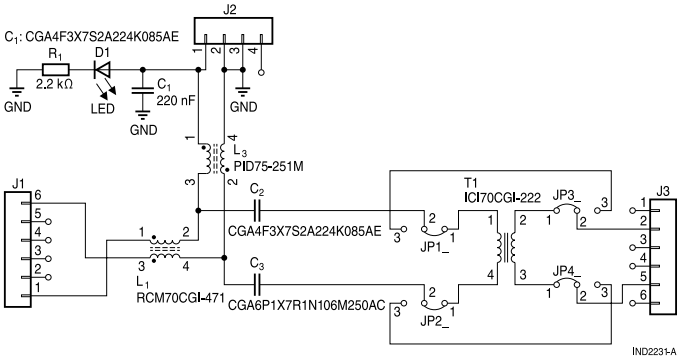
SPE evaluation boards overview

Important note:

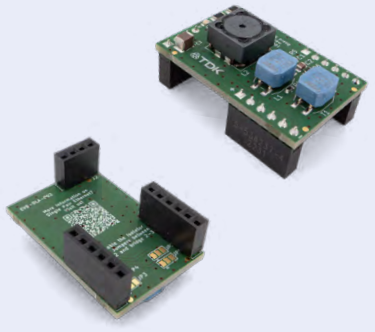
For SPoE power classification through SCCP (Serial Communication Classification Protocol) EVAL-ADIN1110EBZ component C1 in diagrams below should be replaced by a 47nF capacitor.

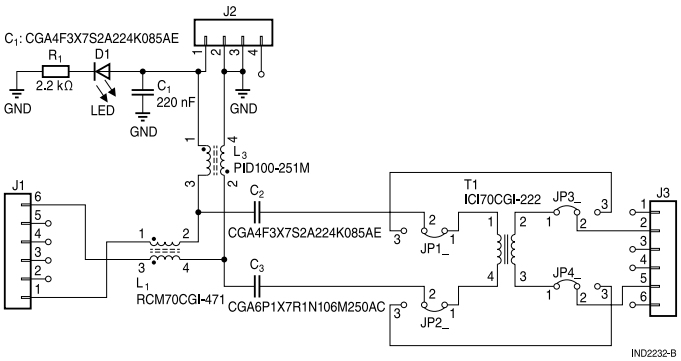
EVB-DLA-001, IEEE class 10, APL class A, C



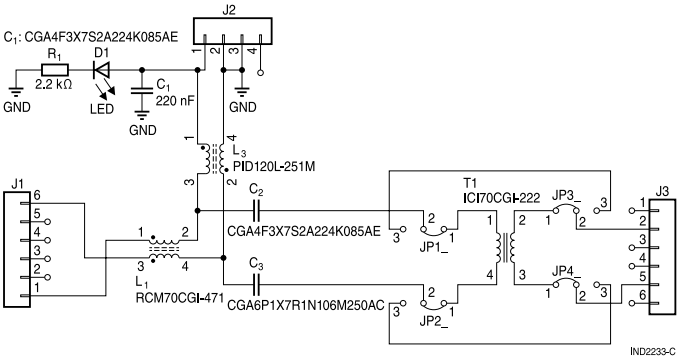


EVB-DLA-002, IEEE class 11, 13





EVB-DLA-003, IEEE class 11, 13



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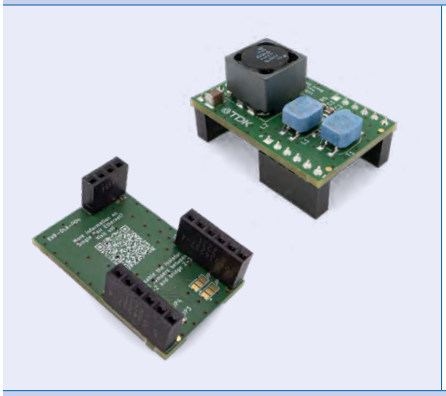
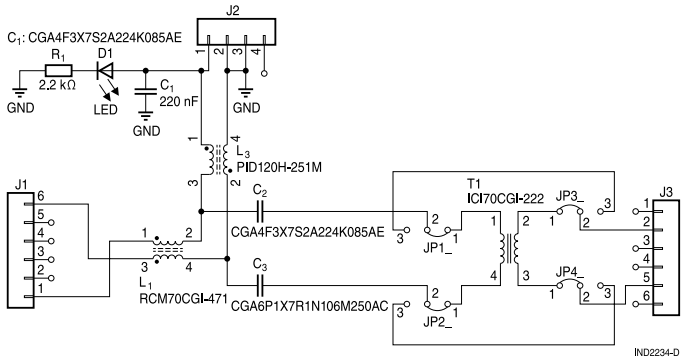
EVB-DLA-00**X**

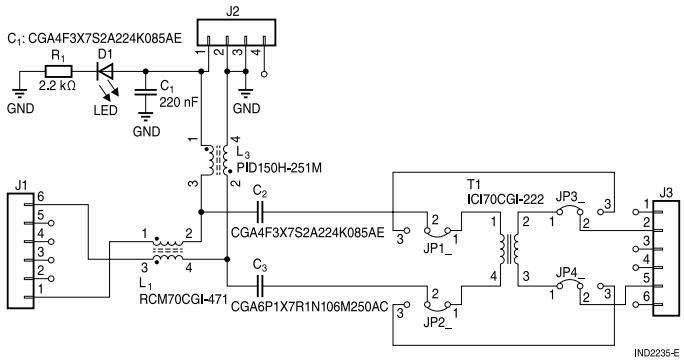
SPE evaluation boards overview

EVB-DLA-004, IEEE class 12, 13, 14

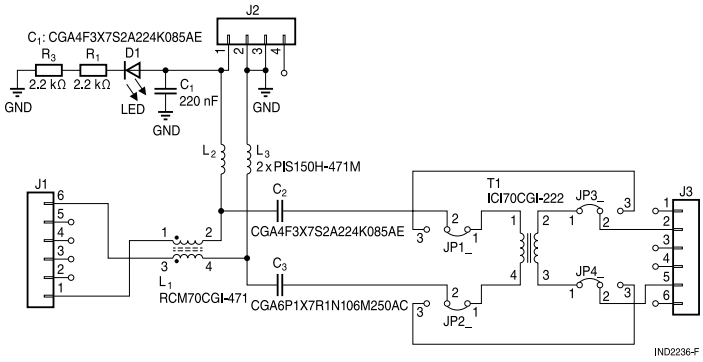




EVB-DLA-005, IEEE class 12, 14



EVB-DLA-006, IEEE class 15



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