

Attracting Tomorrow



TDK-Lambda Americas

Evaluation Kit

**FQx-HQA-EVK-D0**

**TDK-Lambda Americas**  
A TDK Group Company  
Power Systems Business Group  
San Diego, CA US  
Last Update: [October 2019](#)

## Evaluation Kit

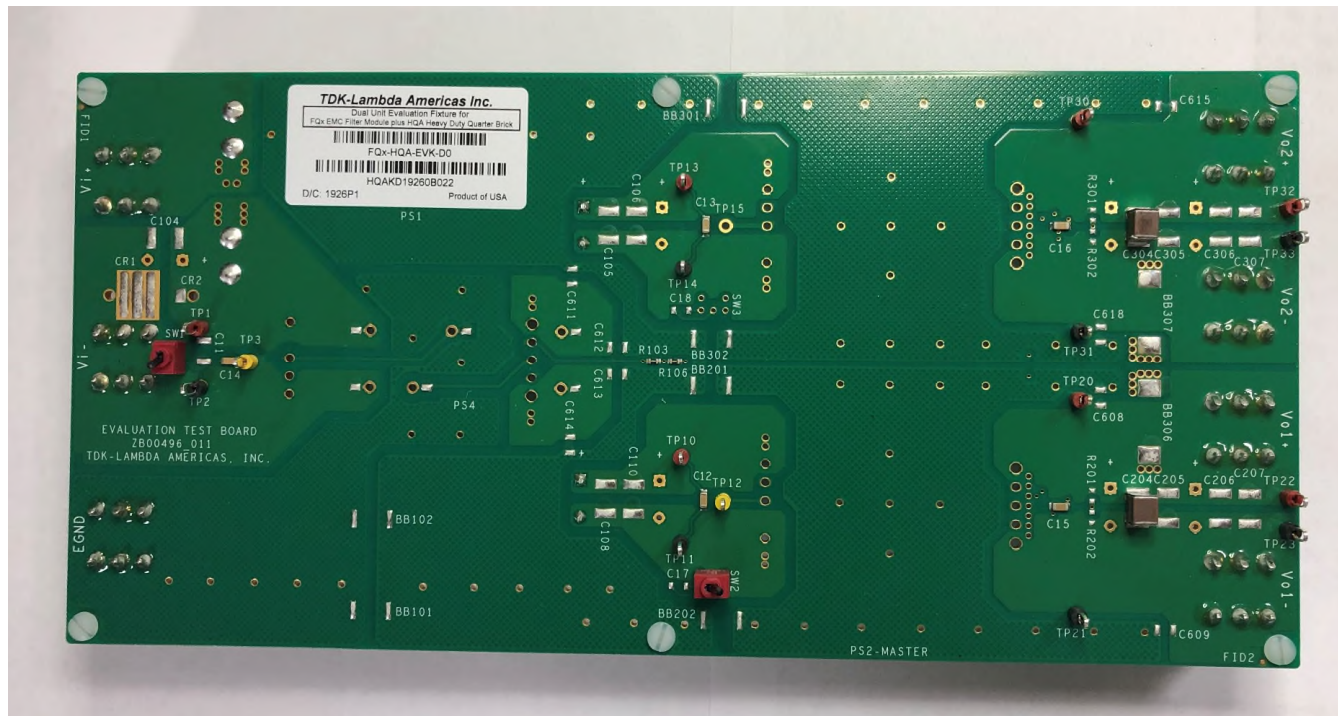
# FQx-HQA-EVK-D0

- The FQx-HQA-EVK-D0 is a highly flexible carrier board for evaluating many of TDK-Lambda America's power modules.
- The 4.75" x 10" pcb accommodates either an iDQ, FQA, or FQB series filter module and one or two standard 1/4 brick or 1/8 brick power modules (*Note: Filter and Power modules are not included and needs to be ordered separately*).
- Selected supporting external input and output components are pre-installed. The pcb allows for a wide variety of modification options – including jumper locations to test various grounding options, numerous capacitor locations, test points, paralleling, and more.
- Care should be taken to ensure the pre-installed capacitors are suitable for the unit being tested. Some power modules may require additional external input or output capacitors to function properly.
- With the COTs configuration shown, the board and modules have been subjected to a wide variety of qualification testing, including MIL-STD-810G. Additional details are available upon request.
- The standard EV board includes plated thru-holes for soldering modules securely in place. If a socket is desired for temporary use / easy module replacement, please request option FQX-HQA-EVK-D0-SKT.

# Evaluation Kit

## FQx-HQA-EVK-D0

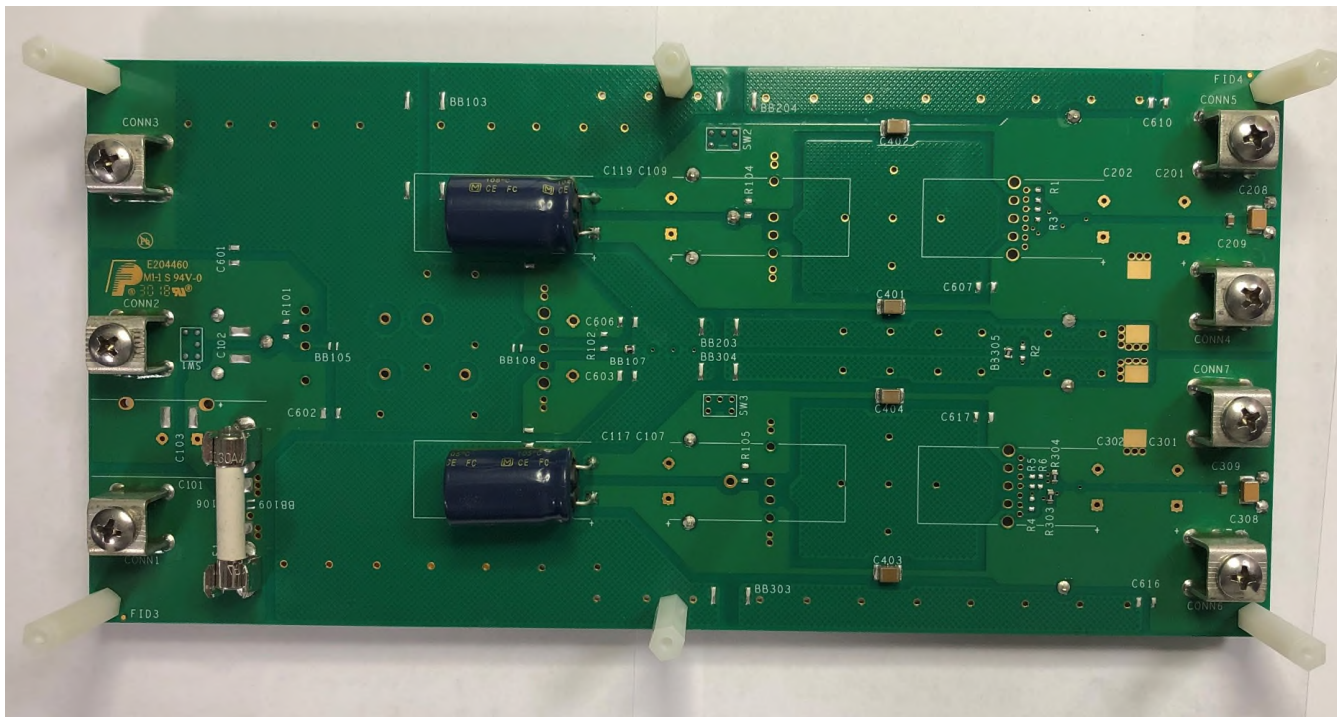
Top View



# Evaluation Kit

## FQx-HQA-EVK-D0

Bottom View

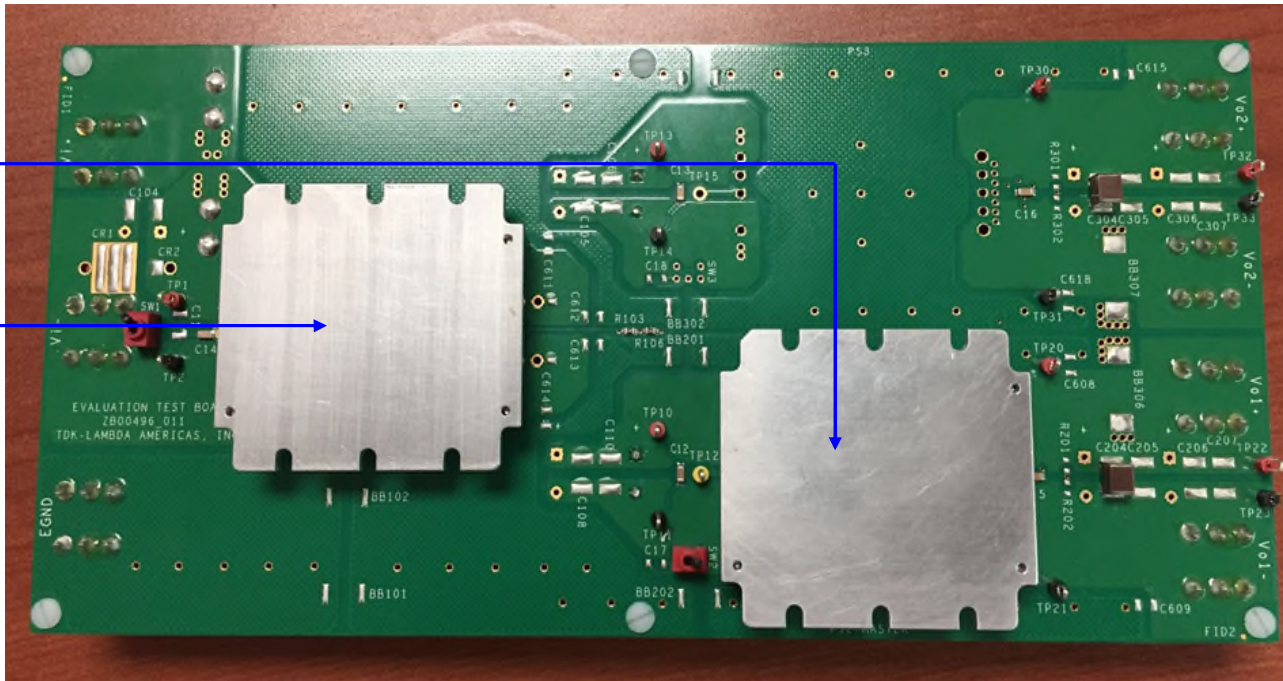


# Evaluation Kit

## FQx-HQA-EVK-D0

Evaluation Kit FQx-HQA-EVK-D0 populated with:

- 1 FQB EMI Filter with Surge Protection COTS module
- 2 HQA COTS Power Modules



## HQA120 Series



<https://www.us.tdk-lambda.com/lp/products/hqa-series.htm>

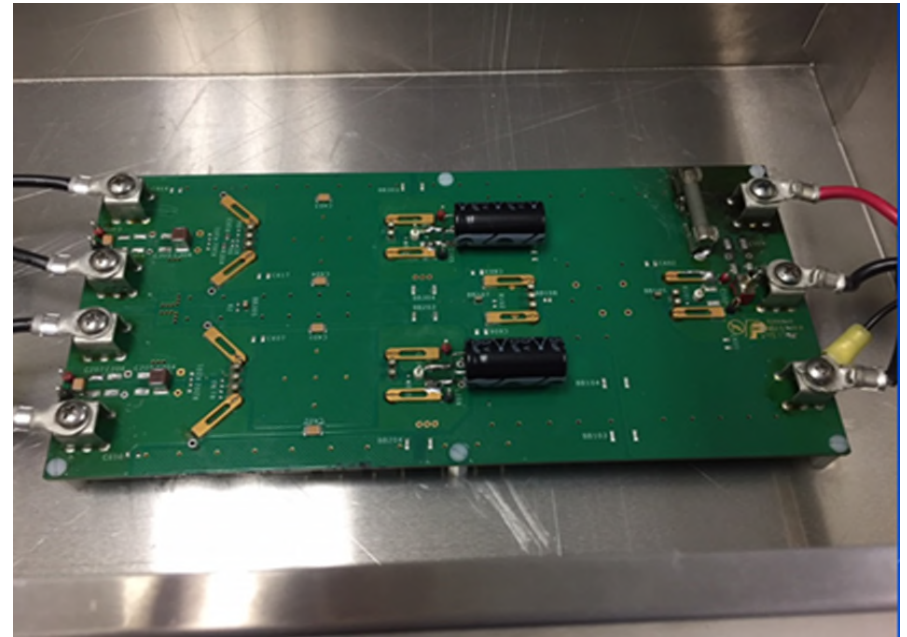
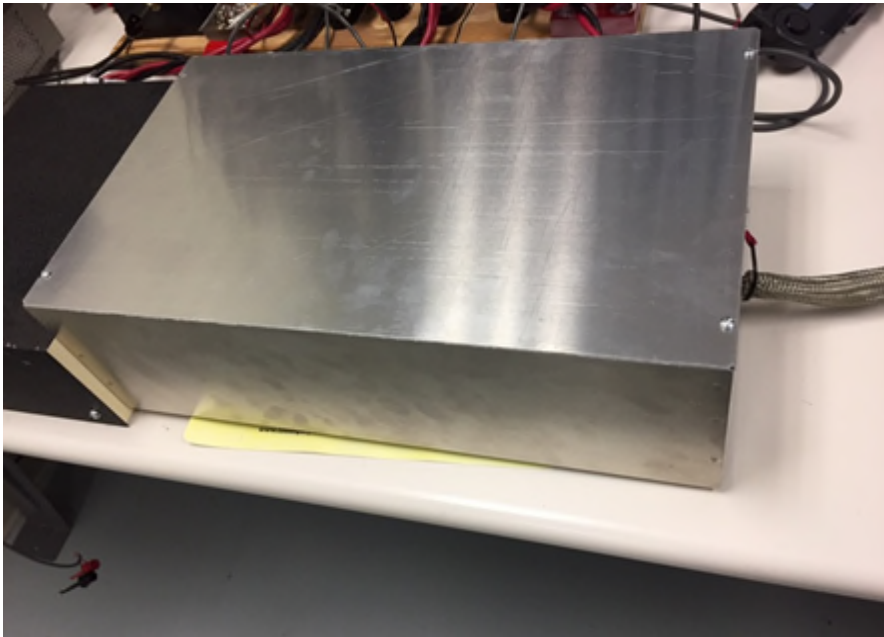
## FQB Series



<https://www.us.tdk-lambda.com/lp/products/fq-series.htm>

# Evaluation Kit FQx-HQA-EVK-D0

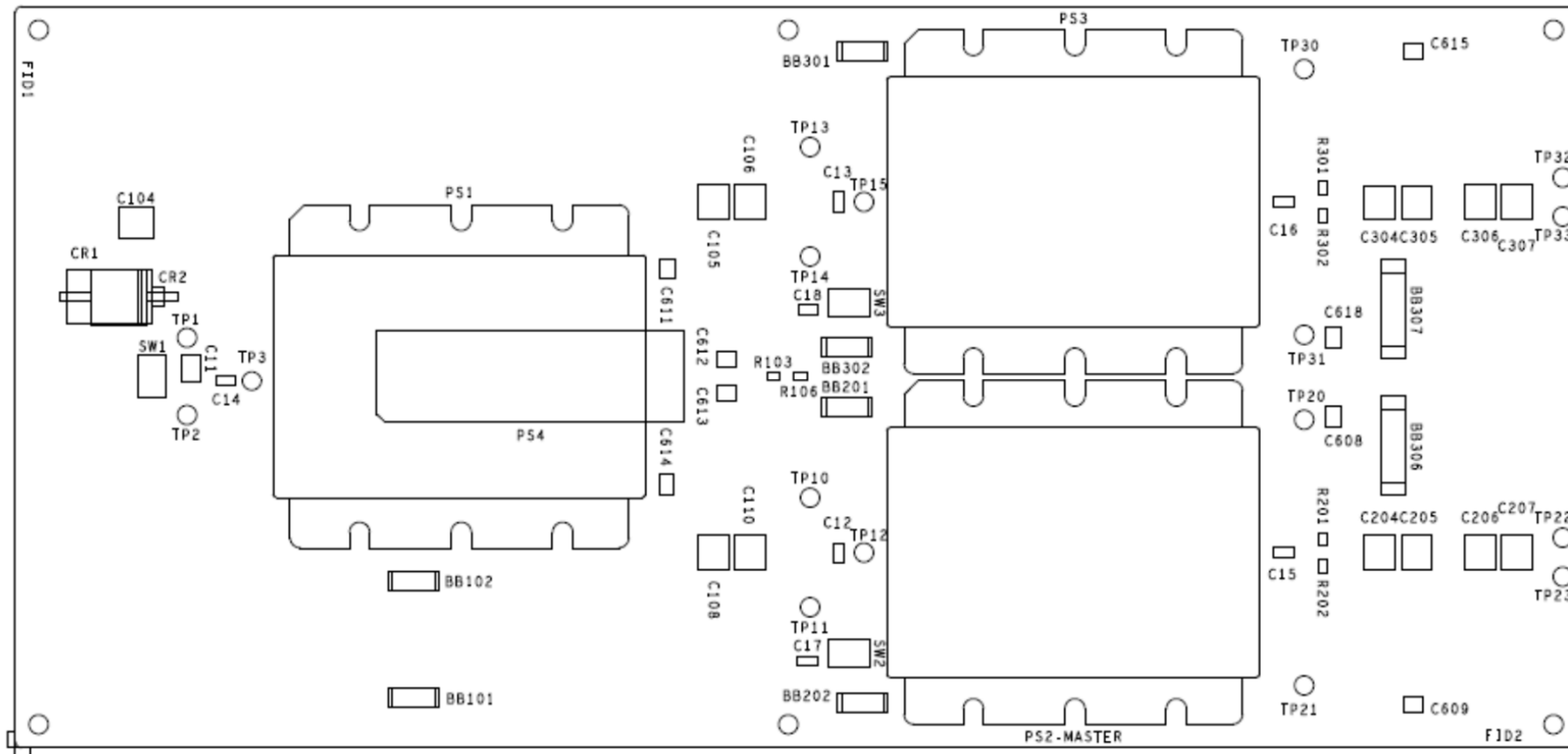
Evaluation Kit FQx-HQA-EVK-D0 installed in conduction cooling configuration



# Evaluation Kit

## FQx-HQA-EVK-D0

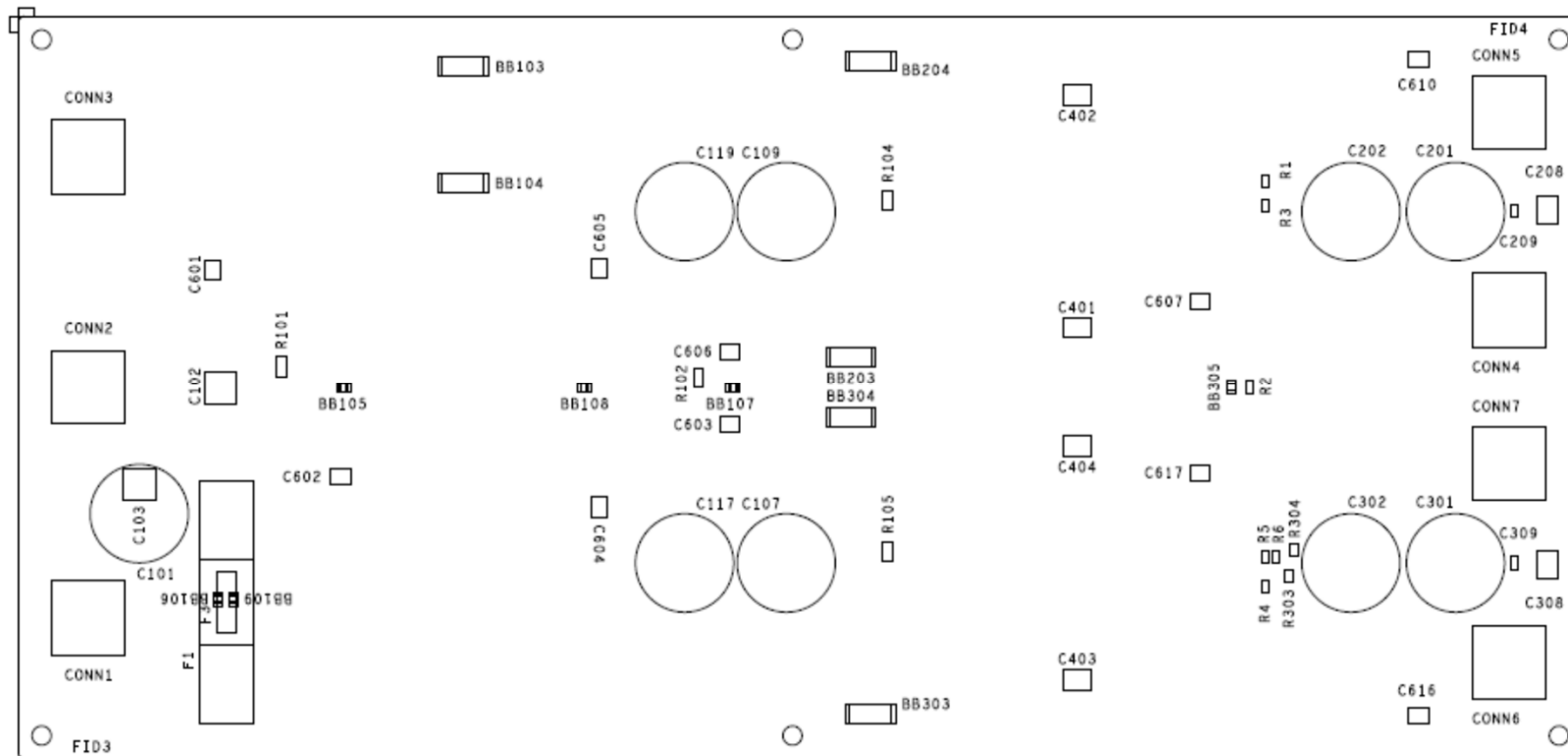
Top View



# Evaluation Kit

## FQx-HQA-EVK-D0

### Bottom View

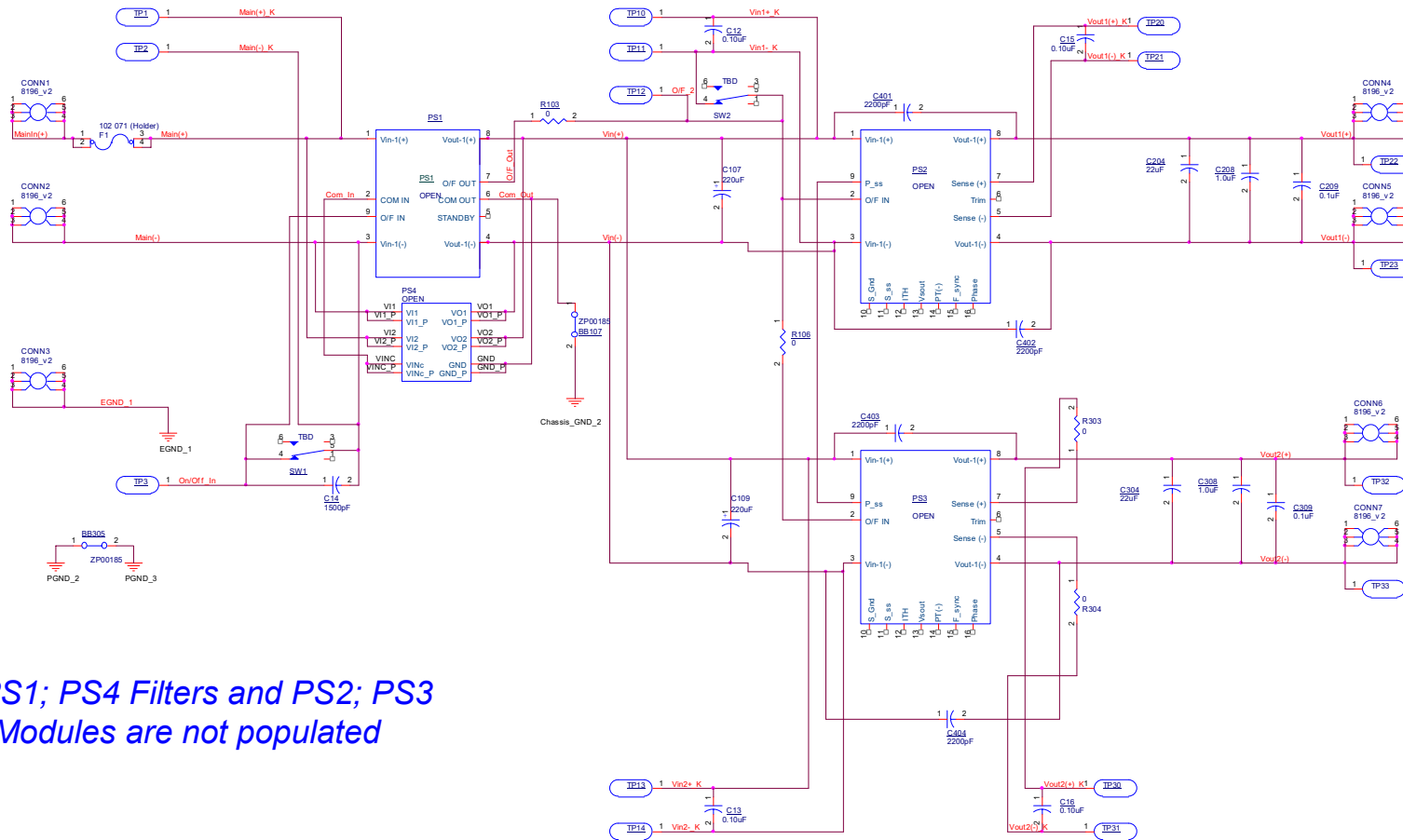




# Evaluation Kit

## FQx-HQA-EVK-D0

Schematic as shipped



*Note: PS1; PS4 Filters and PS2; PS3 Power Modules are not populated*

# Evaluation Kit

# FQx-HQA-EVK-D0

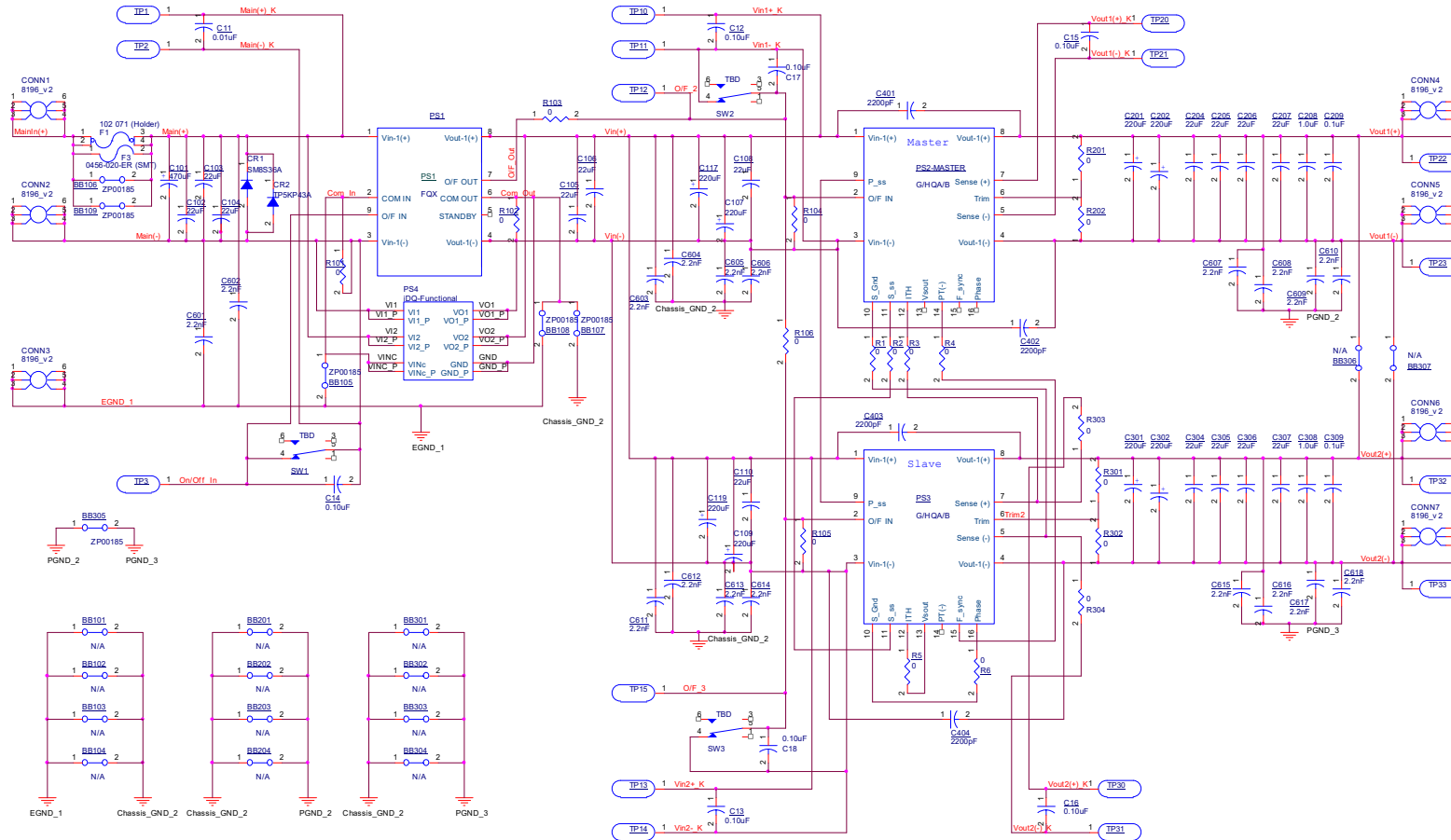
## Bill of Materials

Description	BOM.Ref Des	BOM.PKG	BOM.Value	BOM.Voltage	Manufacturers.Mfr. Name	Manufacturers.Mfr. Part Number
.060" X .090" X .100" SURFACE MOUNT COPPER	BB107					
.060" X .090" X .100" SURFACE MOUNT COPPER	BB305					
ELECTROLYTIC CAPACITOR, 100V, 16X25	C107	N/A	220uF	100V	PANASONIC	EEUFC2A221
ELECTROLYTIC CAPACITOR, 100V, 16X25	C109	N/A	220uF	100V	PANASONIC	EEUFC2A221
CAP,MLC,X7R,1206,100V,0.10UF,10%	C12	1206	0.10uF	100V	TDK	C3216X7R2A104KT
CAP,MLC,X7R,1206,100V,0.10UF,10%	C13	1206	0.10uF	100V	TDK	C3216X7R2A104KT
CAP,MLC,X7R,1206,630V,1500PF,10%	C14	1206	1500pF	630V	TDK	C3216X7R2J152KT
CAP,MLC,X7R,1206,100V,0.10UF,10%	C15	1206	0.10uF	100V	TDK	C3216X7R2A104KT
CAP,MLC,X7R,1206,100V,0.10UF,10%	C16	1206	0.10uF	100V	TDK	C3216X7R2A104KT
22uF, 100V Ceramic Mega-Capacitor	C204	2520	22uF	100V	TDK	CKG57NX7S2A226M500JJ
CERAMIC CAPACITOR, 100V, 1812	C208	1812	1.0uF	100V	TDK	C4532X7R2A105KT5
CERAMIC CAPACITOR, 50V, 0805	C209	0805	0.1uF	50V	TDK	C2012X7R1H104K125AM
22uF, 100V Ceramic Mega-Capacitor	C304	2520	22uF	100V	TDK	CKG57NX7S2A226M500JJ
CERAMIC CAPACITOR, 100V, 1812	C308	1812	1.0uF	100V	TDK	C4532X7R2A105KT5
CERAMIC CAPACITOR, 50V, 0805	C309	0805	0.1uF	50V	TDK	C2012X7R1H104K125AM
CAP,MLC,X7R,1812,2000V,0.01uF,10%	C401	1812	0.01uF	2000V	KEMET	C1812C103KGRACTU
CAP,MLC,X7R,1812,2000V,0.01uF,10%	C402	1812	0.01uF	2000V	KEMET	C1812C103KGRACTU
CAP,MLC,X7R,1812,2000V,0.01uF,10%	C403	1812	0.01uF	2000V	KEMET	C1812C103KGRACTU
CAP,MLC,X7R,1812,2000V,0.01uF,10%	C404	1812	0.01uF	2000V	KEMET	C1812C103KGRACTU
FUSE, 30A FUSE, FAST-BLOW	F2	N/A	314030		LITTLEFUSE	314030
RES,0,2.0A,70C,0805	R103	0805	0		KOA SPEER	RK73Z2ATTE
RES,0,2.0A,70C,0805	R106	0805	0		KOA SPEER	RK73Z2ATTE
RES,0,2.0A,70C,0805	R303	0805	0		KOA SPEER	RK73Z2ATTE
RES,0,2.0A,70C,0805	R304	0805	0		KOA SPEER	RK73Z2ATTE
100mA SPDT ULTRA-MINIATURE SWITCH	SW1		2US Series		MULTICOMP	2US1T1A1M2RE
100mA SPDT ULTRA-MINIATURE SWITCH	SW2		2US Series		MULTICOMP	2US1T1A1M2RE

# Evaluation Kit

## FQX-HQA-EVK-D0

### Complete Schematic



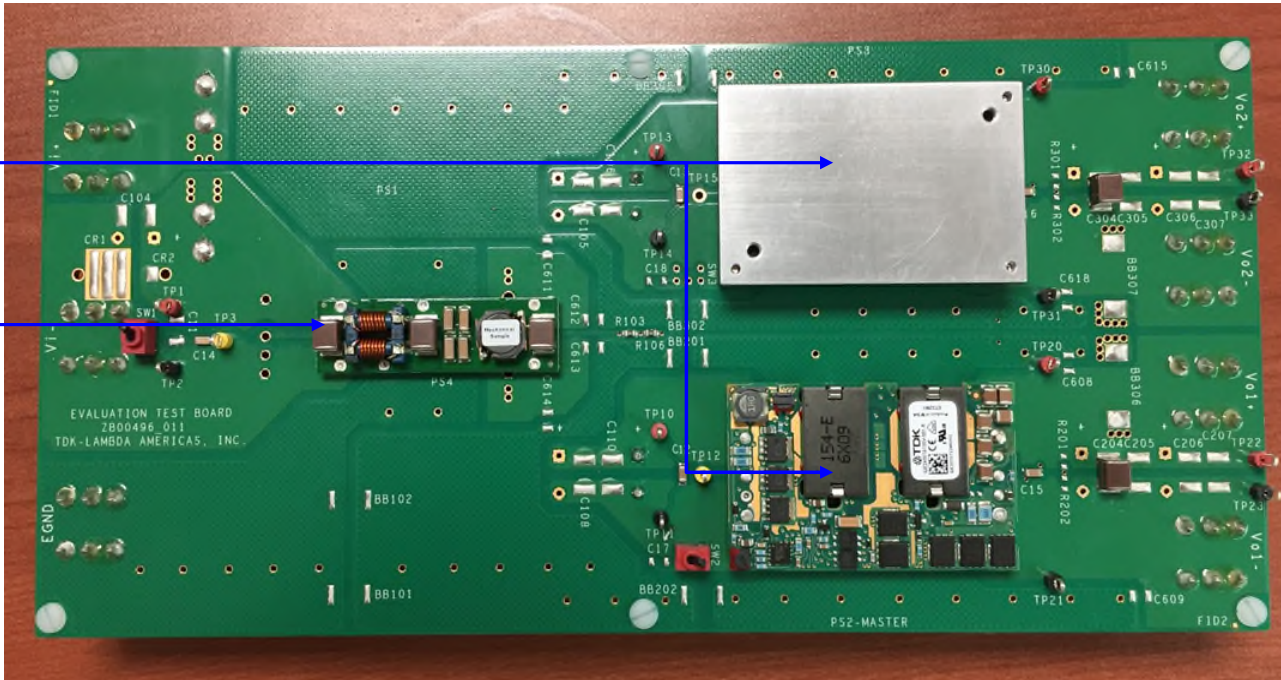
# Evaluation Kit

## FQx-HQA-EVK-D0

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Evaluation Kit FQx-HQA-EVK-D0 populated with

- 1 iDQ EMI Filter module
- 2 Two (2) Industry Standard Isolated Quarter-Brick power modules



## iDQ Series



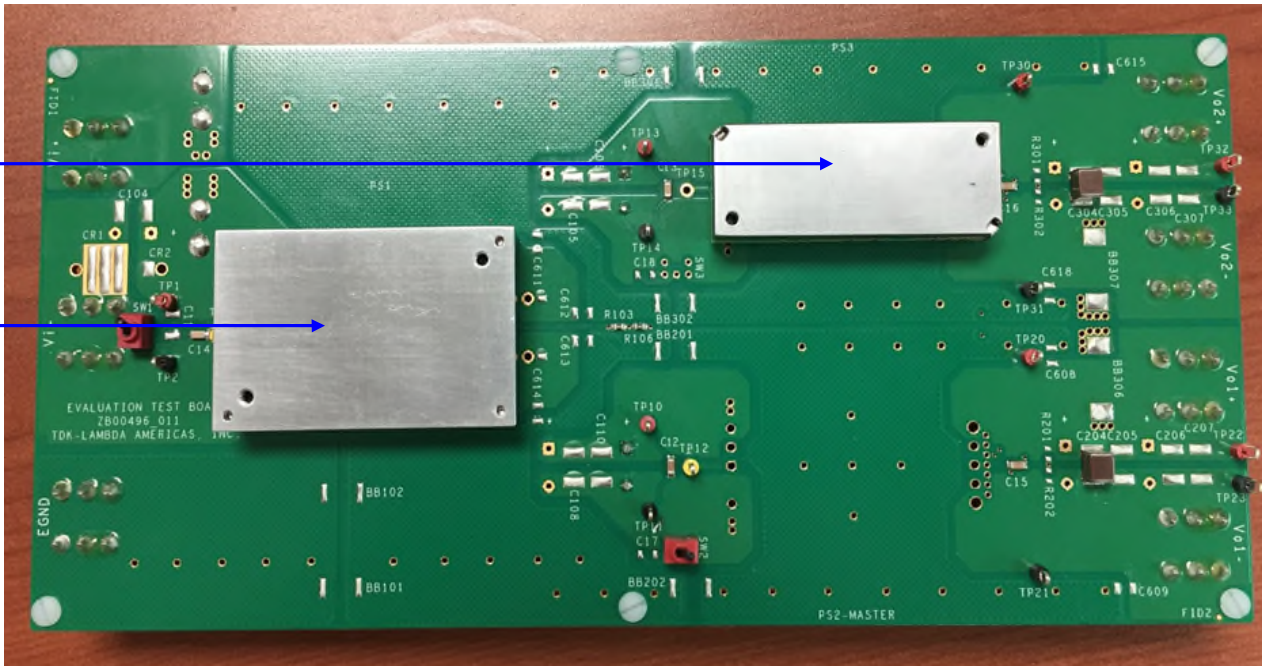
<https://www.us.tdk-lambda.com/lp/products/idq-series-products-idq-series/>

# Evaluation Kit

## FQx-HQA-EVK-D0

Evaluation Kit FQx-HQA-EVK-D0 populated with

- 1 FQA EMI Filter COTS module
- 2 Industry Standard Isolated Eighth-Brick power module



## FQA Series



<https://www.us.tdk-lambda.com/lp/products/fq-series.htm>



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