



EMI FILTER PFL 4000

30 to 60 Watts Input Filter
Meets CE101, CE102 limits

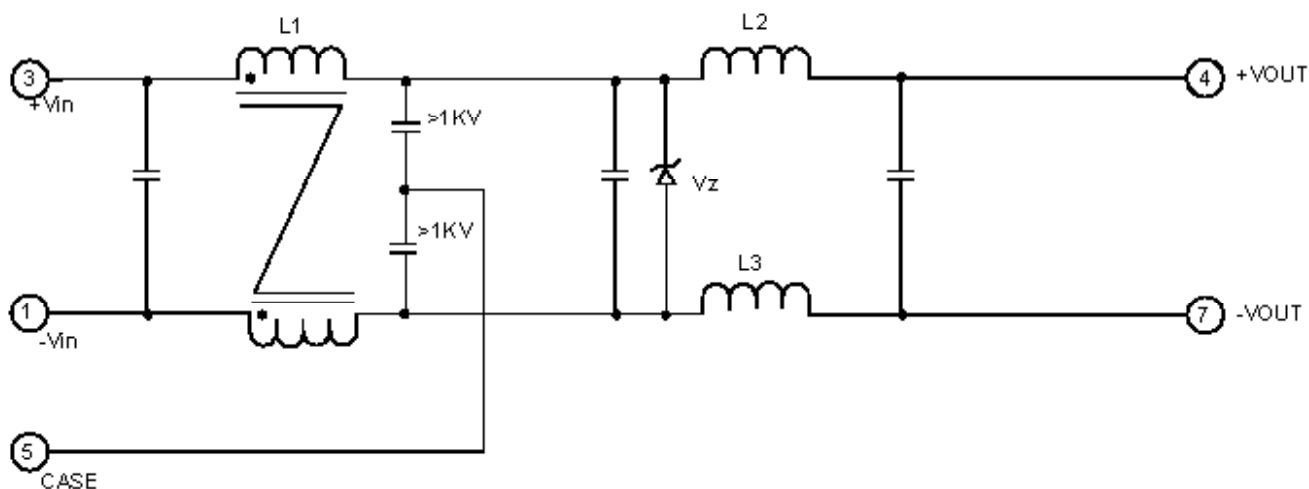
Key Features

- Wide input voltage range 15 to 100 V
- Up to 4 Amps current
- 60 dB minimum attenuation at 300kHz
- High input transient response
- Six-sided shielding
- 1.01×10^6 MTBF @ Ground Mobile, +50C



Functional Description

The PFL4000 is an EMI filter designed to meet conducted and radiated emissions per MIL-STD-461-E and FCC class A and B. The PFL4000 is packed in 1 x 2 x .5" metal case and operates from -40° to 100° C without derating. The filter is designed to filter EMI emissions. For example, with two EBL30Sxx/xx (30W) or two EAL50Sxx/xx (50W) converters to offer an inexpensive solution compared to hybrids.



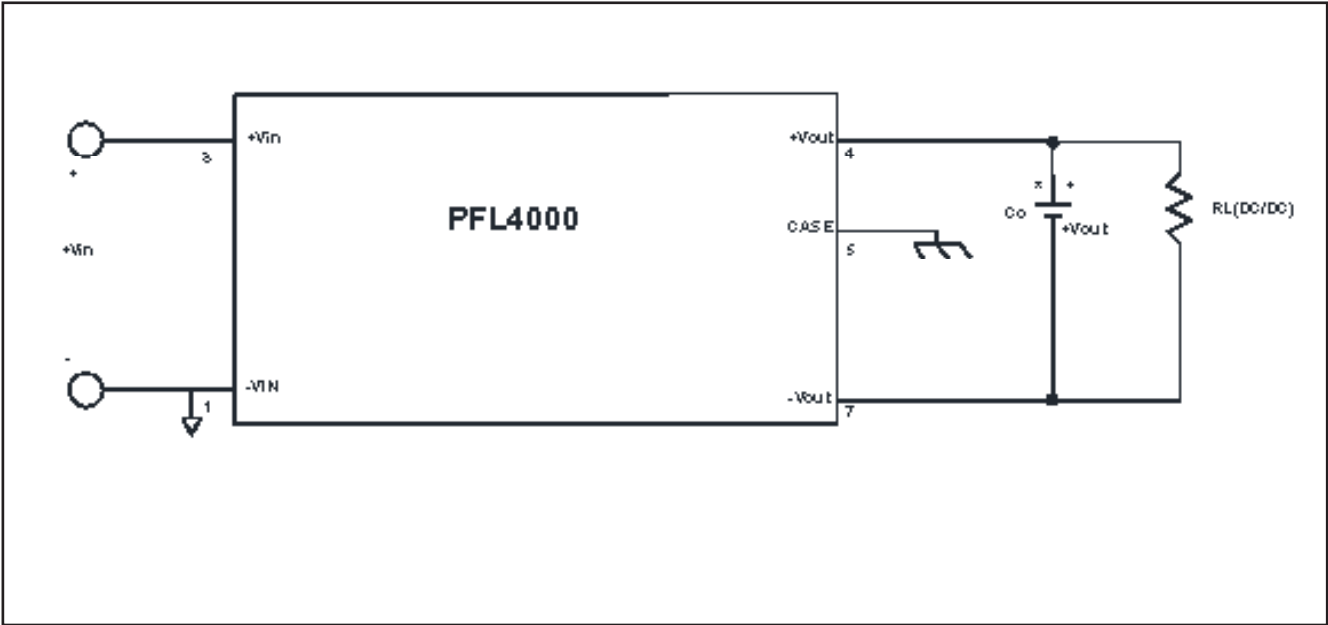
Typical Block Diagram

ABSOLUTE MAXIMUM RATINGS

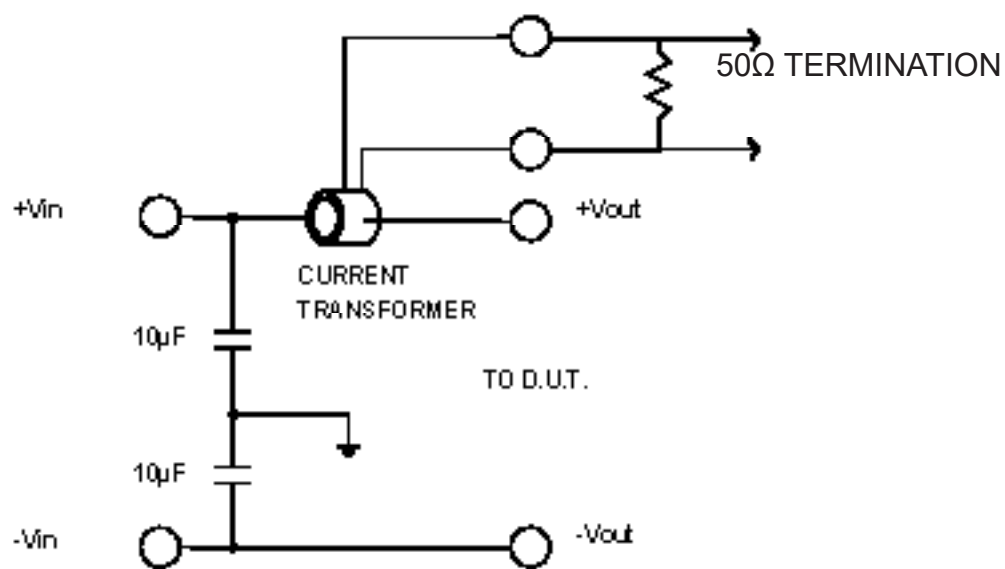
PARAMETER	MIN	TYP	MAX	UNIT
Input voltage (continuous)			100	V
Input Voltage transient 1 sec.			100	V
Output current			4	A
Power Dissipation (Full load 100°C)			.5	W
Operating Temperature	-40		+100	°C
Storage Temperature	-65		+125	°C

Electrical Specifications
INPUT SPECIFICATIONS

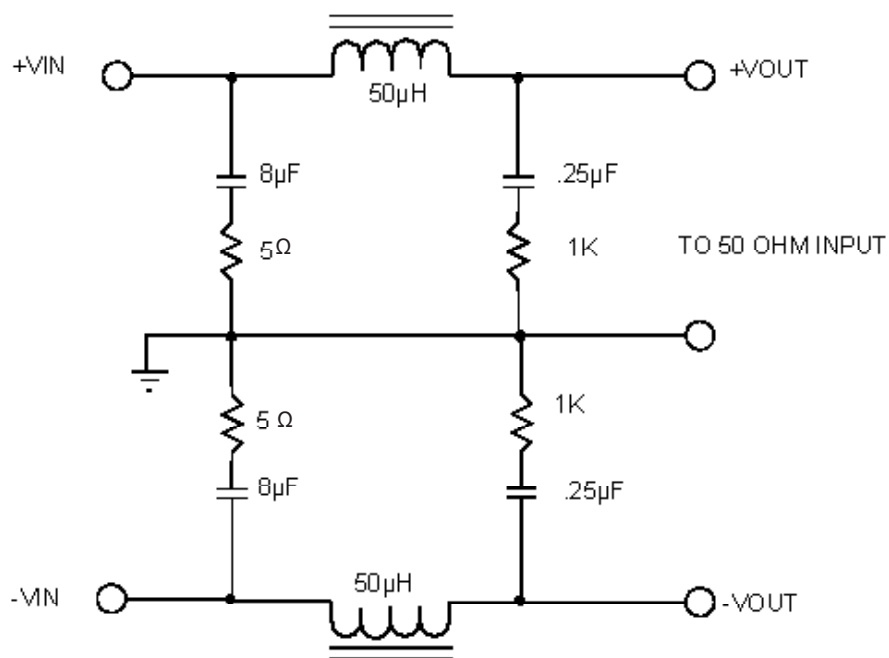
PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Input Voltage Range	Continuous	15	28	100	Vdc
	Transient 1 sec.			100	Vdc
Input Current				4	Adc
Output Voltage (2)	Continuous		Vout=Vin-Iin Rdc		
Output Current	Continuous			4	Adc
DC Resistance	Positive Rail @ 100 °C		40	50	mΩ
	Negative Rail @100 °C		40	50	mΩ
Efficiency	Vin=28V, Iout=4A		99.5		%
Vz	Voltage Suppresor Breakdown	100	110	120	V
Noise Rejection	F= 300 KHZ See figure 5 through 12	60	66		dB
Capacitance	Pin to Case		2.0		nF
Isolation	Any Pin to Case 500 V	100			MΩ
MTBF	per MIL-HNBK-217F(Ground benign, +25 °C)		47.6x10 ⁶		hours
	per MIL-HNBK-217F(Ground benign, +50 °C)		17.8x10 ⁶		hours
	per MIL-HNBK-217F(Ground mobile, +50 °C)		1.01x10 ⁶		hours
Weight	1.4 oz(40g)				



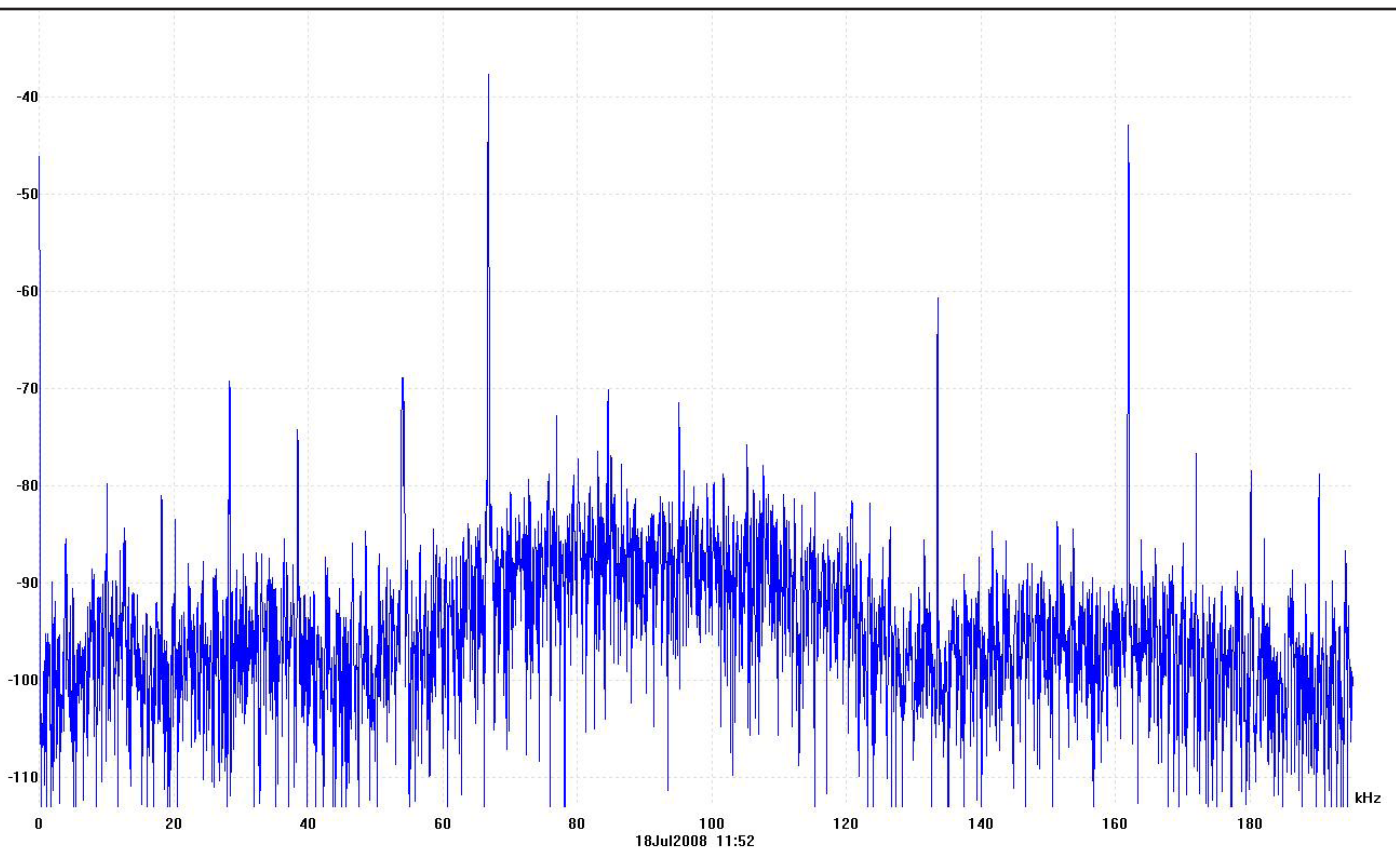
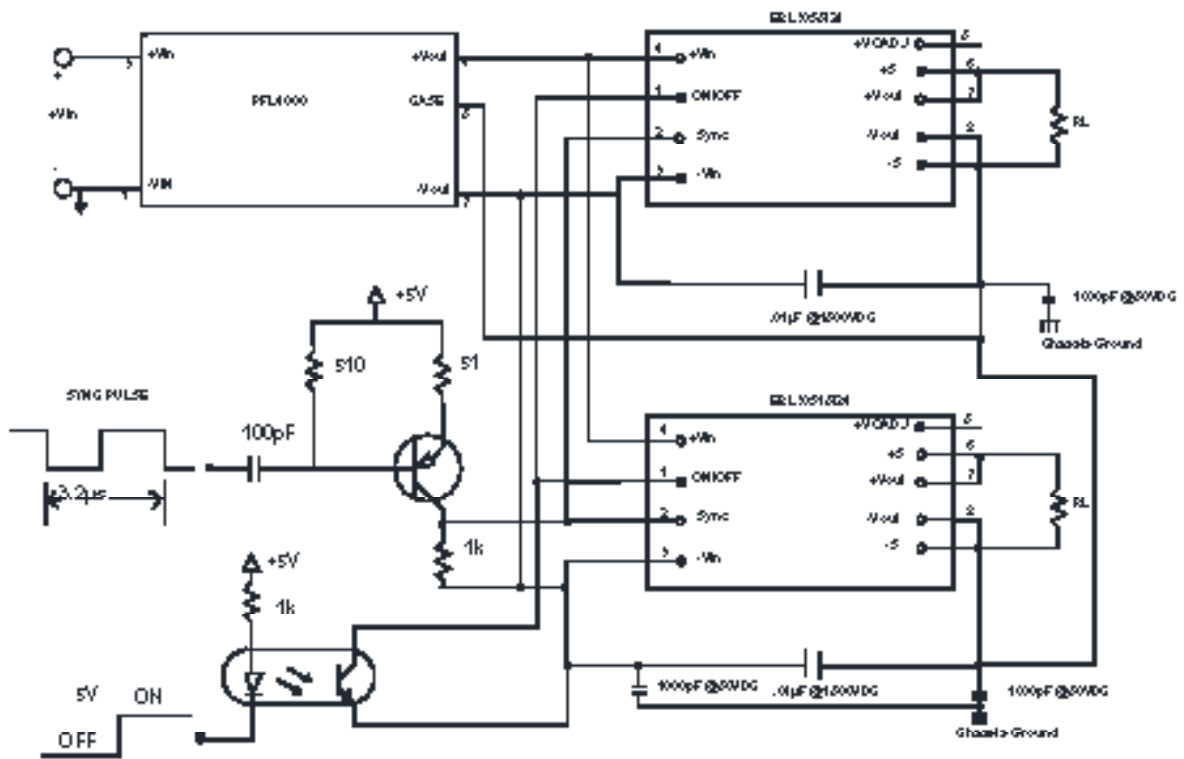
FIG#1 TYPICAL CONNECTION DIAGRAM OF PFL4000
Co is Optional For Higher Attenuation Of Noise



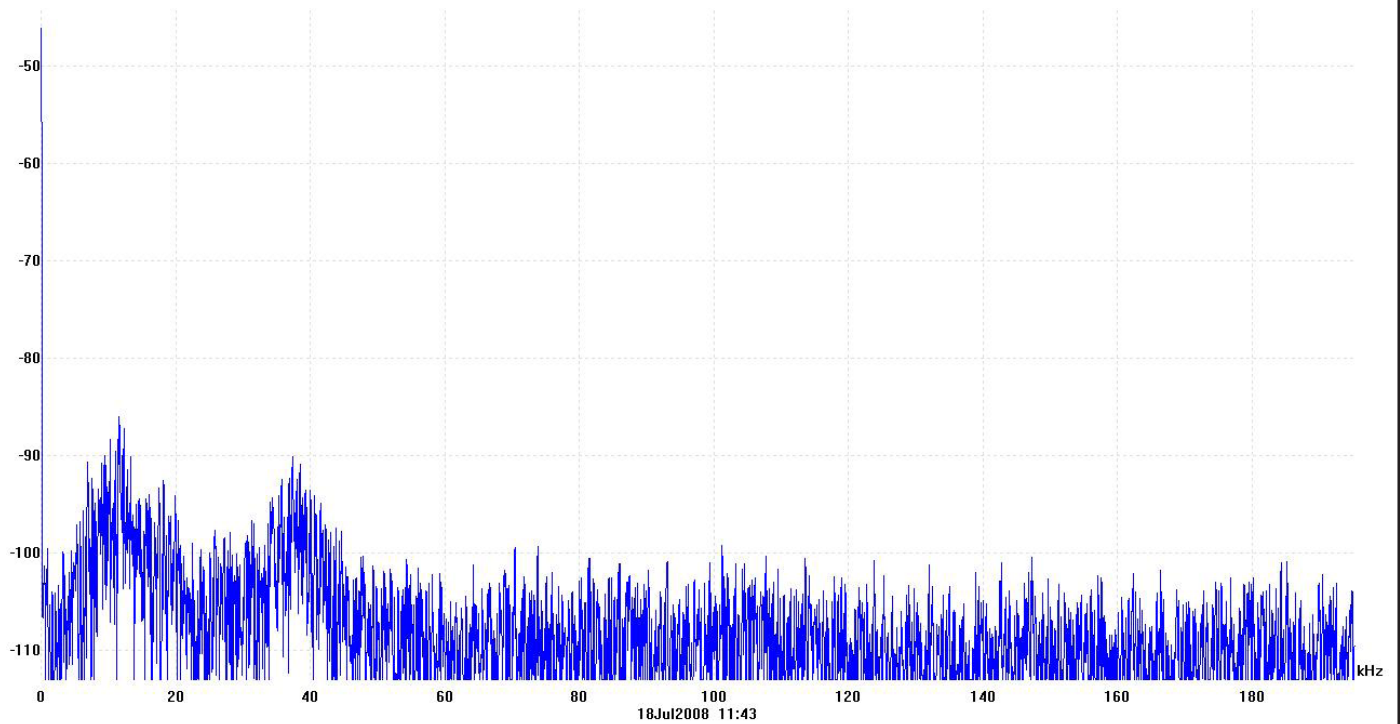
FIG#2 MIL-STD-461 E Measurement Method



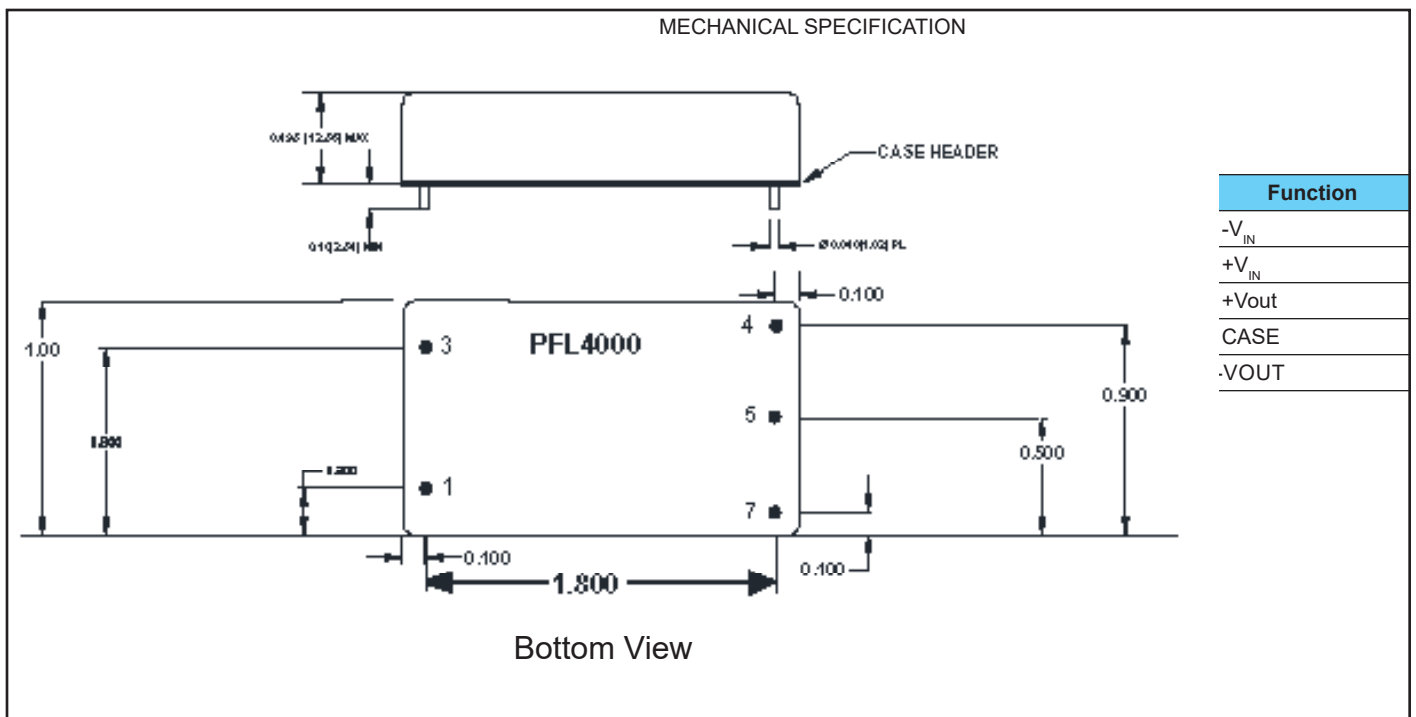
FIG#3 MIL-STD-461 E Measurement Method (LISN)

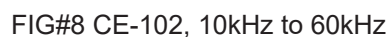


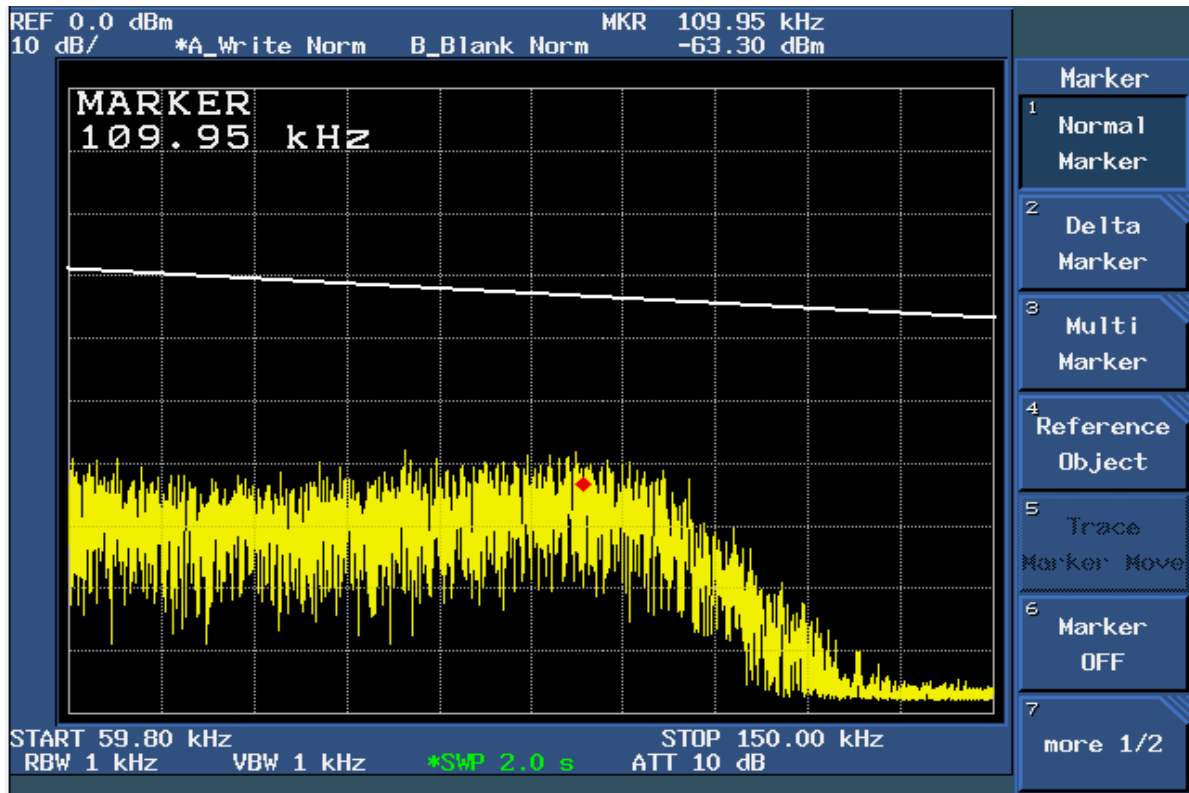
FIG#5 Reflected ripple spectrum of a single EBL30S5/24 without EMI Filter



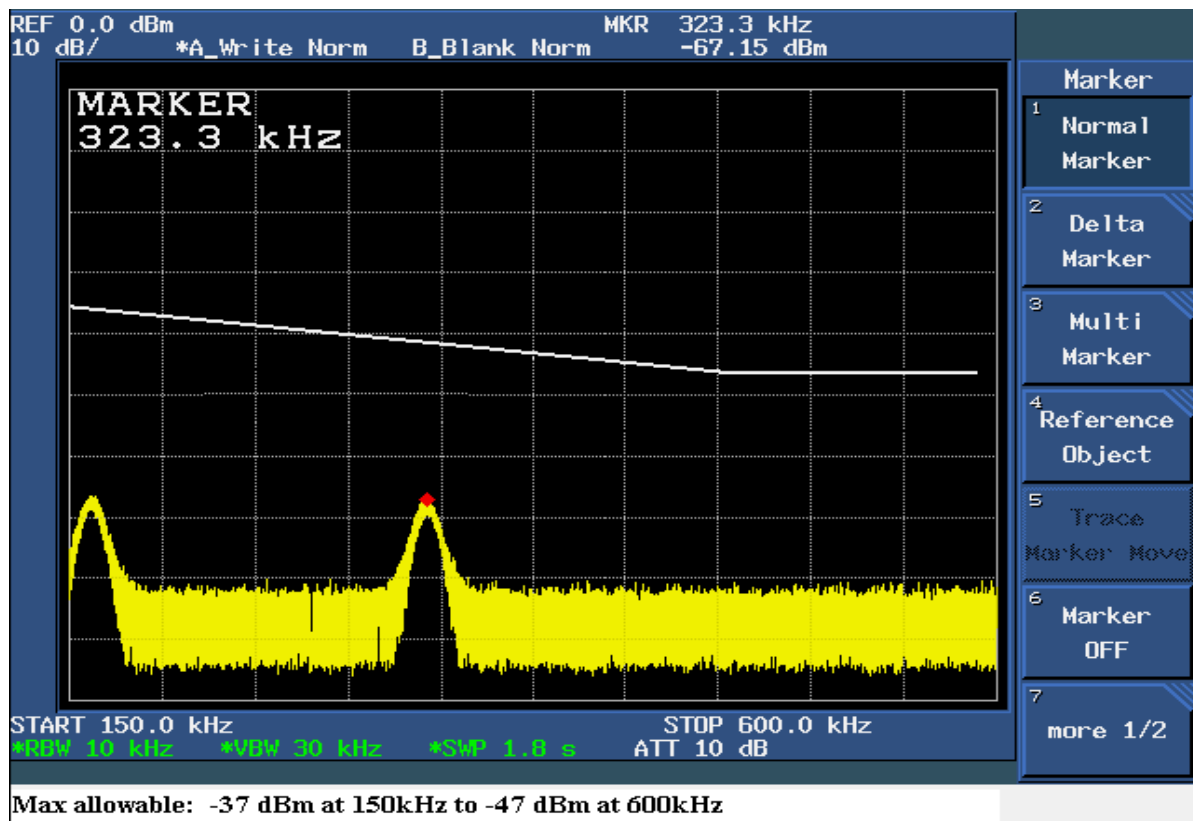
FIG#6 Reflected ripple spectrum of a single EBL30S5/24 with PFL4000





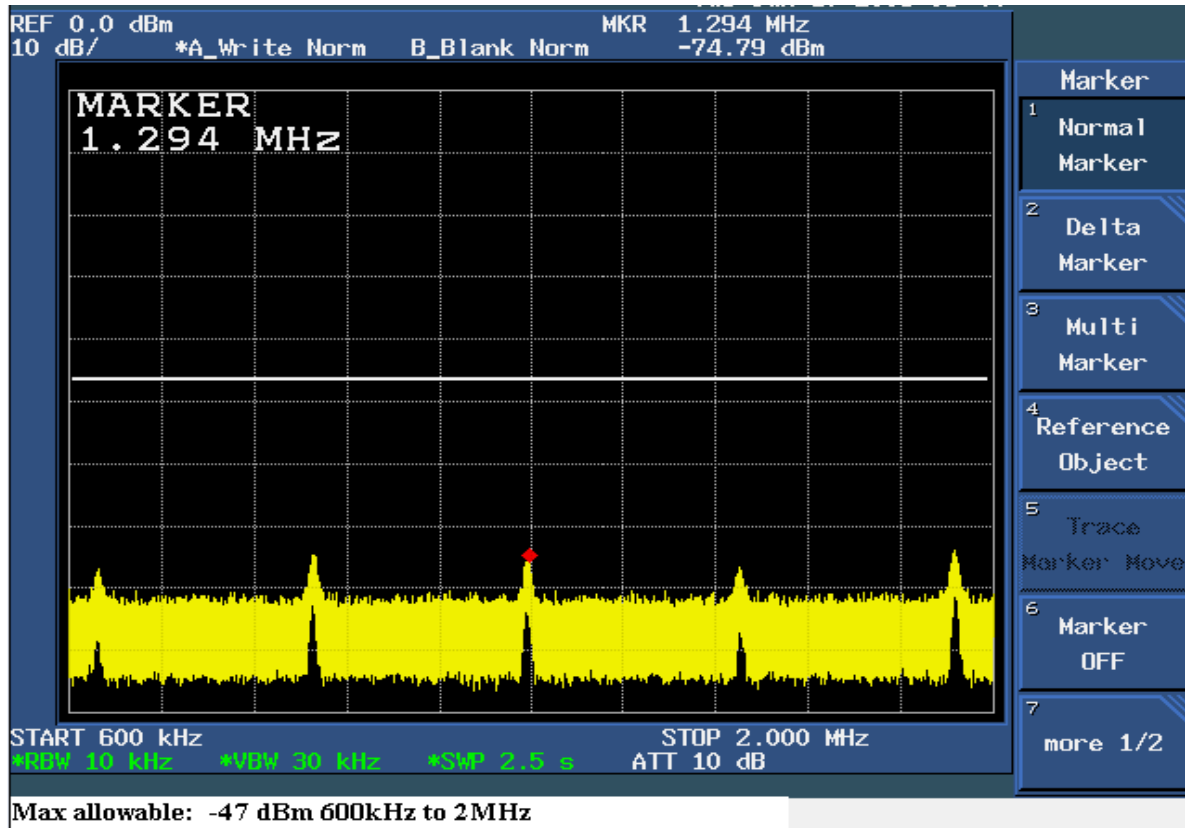


Max level: -29 dBm at 60kHz to -37 dBm at 150kHz
FIG#9 CE-102, 60kHz to 150kHz

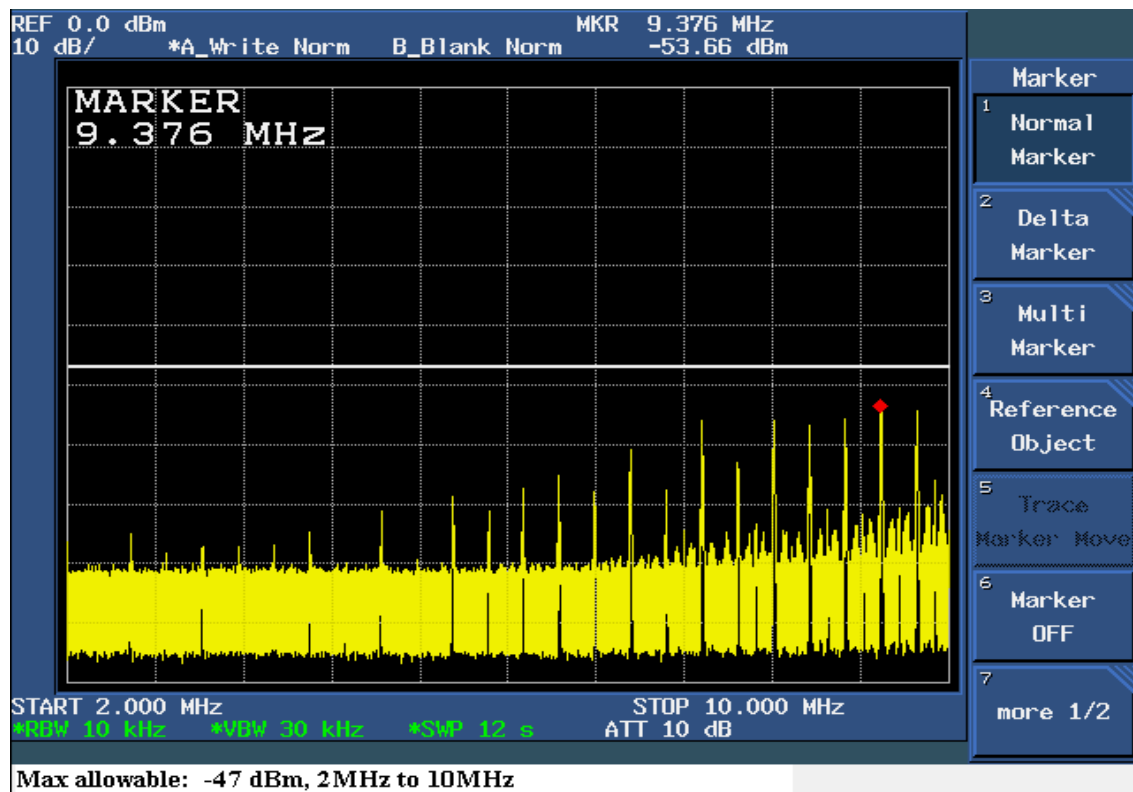


Max allowable: -37 dBm at 150kHz to -47 dBm at 600kHz

FIG#10 CE-102, 150kHz to 600kHz



FIG#11 CE-102,600kHz to 2MHz



FIG#12 CE-102, 2MHz to 10MHz