

**Innovations
Embedded**

Board No:BM2P094FEVK-002

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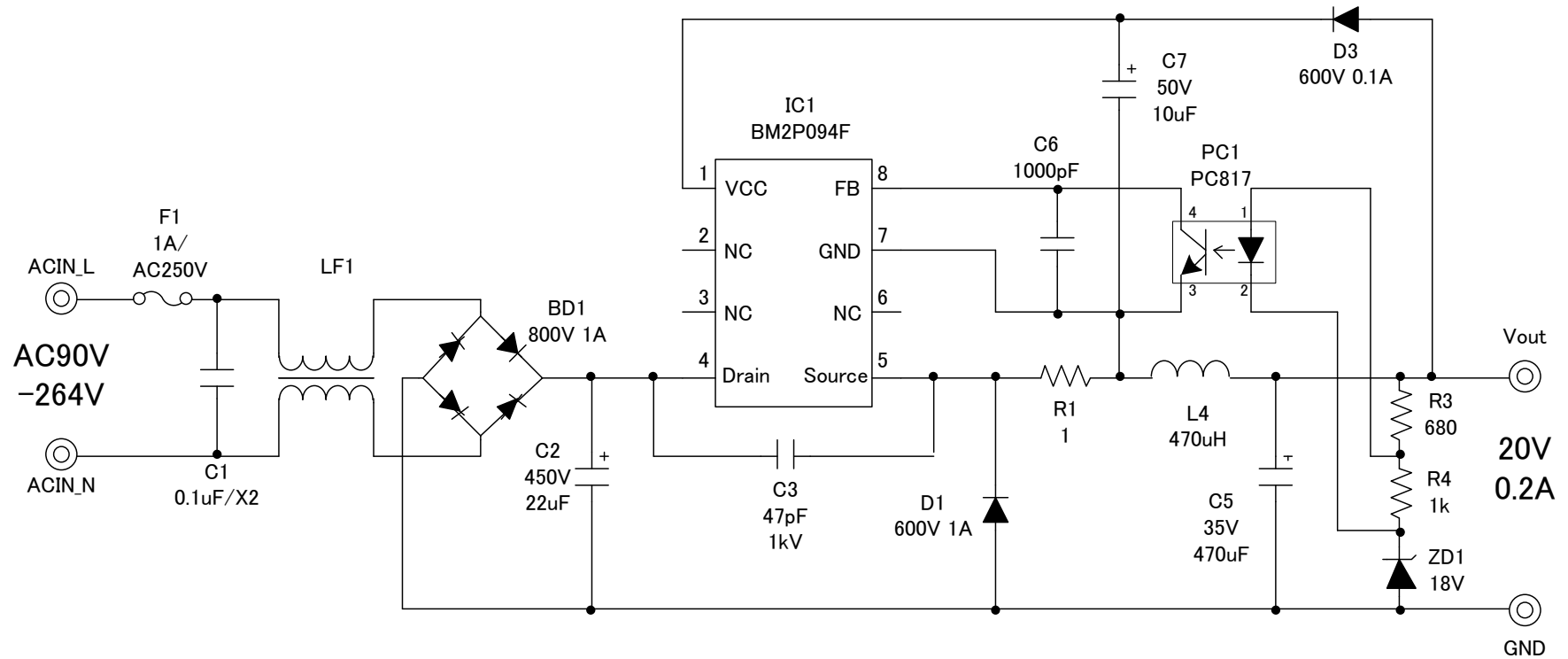
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Reference Board Specification

Description		Symbol	Min	Typ	Max	Unit	Condition
Input	Voltage	Vin	90		264	Vac	
	Frequency	fac	47	50/60	63	Hz	
	No Load Input Power				100	mW	Vin: AC100V/230V
Output	Voltage	Vout	19	20	21	V	
	Current	Iout	0.2			A	
	Ripple Voltage	Vripple			100	mV	20MHz Bandwidth
	Efficiency		75			%	Output: 20V 0.2A



Application Schematic



Component List

Item	Spec	Parts name	Maker
C1	0.1uF/X2	LE104	Okaya
C2	10uF/400V	22uF/450V	
C3	47pF/1kV	CC45SL3AD470	TDK
C5	Low-Z 470uF/35V	Low-Z 470uF/35V	
C6	1000pF/16V	1000pF/16V 1608	
C7	10uF/50V	10uF/50V	
BD1	800V/1A	D1UBA80	Shindengen
D1	FRD 600V 0.8A	RFN1L6S	Rohm
D3	600V/0.1A	1SR154-600	Rohm
ZD1	18V	UDZSTE-1718B	Rohm
F1	1A/AC250V	3691100***	Littlefuse
LF1		SU9VF-02100	NEC Tokin
L4	470uH/0.8A	744 7480 471	Würth
IC1		BM2P094F	Rohm
R1	1 Ω /0.5W	MCR25JZHJ1R0	Rohm
R3	680 Ω	MCR10EZPJ681	Rohm
R4	1k Ω	MCR10EZPJ102	Rohm
PC1		PC817	

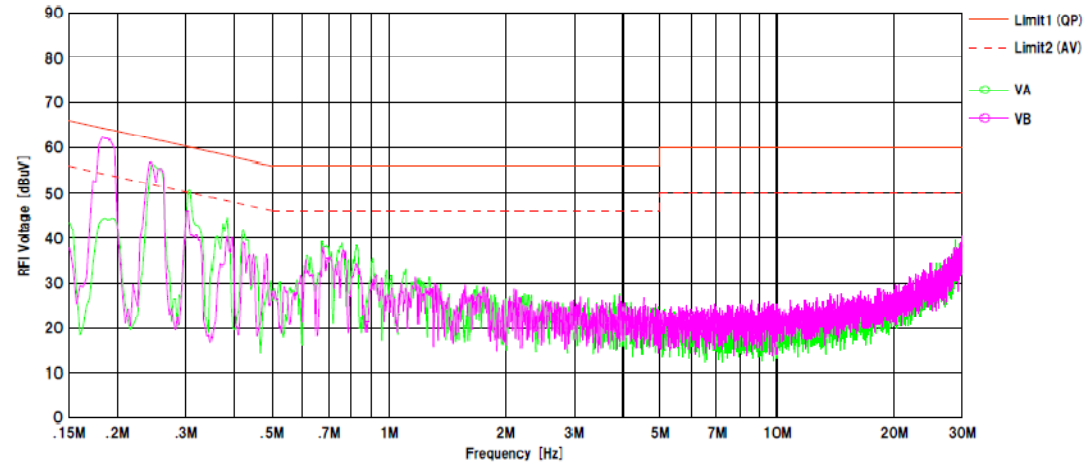
Measurement Data

Vin(V)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	η (%)
90	0.046	19.90	0	0	-
	0.271	19.98	0.01	0.200	73.7
	1.199	19.92	0.05	0.996	83.1
	2.369	19.91	0.1	1.991	84.0
	3.518	19.90	0.15	2.985	84.8
	4.703	19.88	0.2	3.976	84.5
100	0.046	19.91	0	0	-
	0.273	19.92	0.01	0.199	72.9
	1.205	19.93	0.05	0.997	82.7
	2.376	19.92	0.1	1.992	83.9
	3.527	19.92	0.15	2.988	84.7
	4.702	19.91	0.2	3.982	84.7
230	0.056	19.96	0	0	-
	0.294	19.97	0.01	0.200	67.9
	1.272	19.98	0.05	0.999	78.6
	2.449	19.99	0.1	1.999	81.6
	3.651	20.00	0.15	3.000	82.2
	4.945	19.99	0.2	3.998	80.9
264	0.058	19.94	0	0	-
	0.301	19.95	0.01	0.199	66.3
	1.261	19.96	0.05	0.998	79.1
	2.472	19.98	0.1	1.998	80.8
	3.680	19.98	0.15	2.997	81.4
	4.934	19.97	0.2	3.994	80.9

Conduction EMI

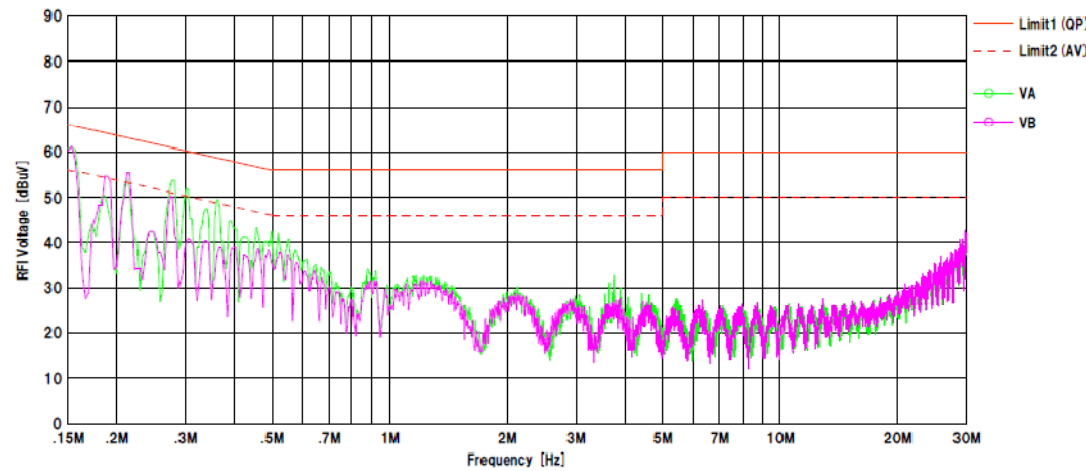
Vin: AC100V/50Hz
Vout: 20V 0.2A

Limit1 : CISPR Pub 22 Class B
Limit2 : CISPR Pub 22 Class B (AV)



Vin: AC230V/50Hz
Vout: 20V 0.2A

Limit1 : CISPR Pub 22 Class B
Limit2 : CISPR Pub 22 Class B (AV)



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