

# PMP41114\_C2000DC REV A Bill of Materials

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N/A

Designator	Quantity	Value	PartNumber	Manufacturer	Alternative PartNumber	Manufacturer	Description	PackageReference
C1, C24	2	2.2uF	C0603C225K8PACTU	Kemet	885012206027	Würth Elektronik	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X5R, 0603	0603
C2, C3, C4, C5, C71, C73, C74, C75, C76, C77, C79	11	470pF	CGA2B2X7R1H471K050BA	TDK	885012205059	Würth Elektronik	CAP, CERM, 470 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C6, C9, C14, C15	4	0.1uF	GRM155R60J104KA01D	MuRata	885012105001	Würth Elektronik	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X5R, 0402	0402
C7	1	0.047uF	C1005X5R1A473K050BA	TDK	885012205016	Würth Elektronik	CAP, CERM, 0.047 uF, 10 V, +/- 10%, X5R, 0402	0402
C8	1	10pF	04025U100CAT2A	AVX	885012005055	Würth Elektronik	CAP, CERM, 10 pF, 50 V, +/- 2.5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
C10, C12, C17	3	1000pF	GRM155R61A102KA01D	MuRata	885012205006	Würth Elektronik	CAP, CERM, 1000 pF, 10 V, +/- 10%, X5R, 0402	0402
C11, C20, C21, C25, C26, C27, C28, C100	8	0.1uF	GRM155R71A104KA01D	MuRata	885012205018	Würth Elektronik	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0402	0402
C13	1	0.1uF	GCM155R71C104KA55D	MuRata	885012205037	Würth Elektronik	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402
C16	1	0.47uF	GCM155C71A474KE36D	MuRata		Würth Elektronik	CAP, CERM, 0.47 uF, 10 V, +/- 10%, X7S, 0402	0402
C18, C19, C38, C43	4	10uF	GRM188R61A106ME69D	MuRata	885012106031	Würth Elektronik	CAP, CERM, 10 uF, 10 V, +/- 20%, X5R, 0603	0603
C22	1	0.1uF	GRM155R70J104KA01D	MuRata	885012105001	Würth Elektronik	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X7R, 0402	0402
C23, C63	2	0.1uF	GRM155R71C104KA88D	MuRata	885012105016	Würth Elektronik	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402
C29, C37	2	470pF	GRM155R71H471KA01D	MuRata	885012205059	Würth Elektronik	CAP, CERM, 470 pF, 50 V, +/- 10%, X7R, 0402	0402
C30, C48, C49, C50, C51, C52, C53, C54, C55, C70	10	0.1uF	885012105010	Würth Elektronik	885012205018	Würth Elektronik	CAP, CERM, 0.1 uF, 10 V, +/- 20%, X5R, 0402	0402
C31	1	1000pF	GRM155R72A102KA01D	MuRata	885012205080	Würth Elektronik	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0402	0402
C32, C66, C69	3	0.1uF	GRM188R71E104KA01D	MuRata	885012206071R	Würth Elektronik	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	0603
C33, C36, CC1, CC2	4	15pF	885012005056	Würth Elektronik	885012005056	Würth Elektronik	CAP, CERM, 15 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C34	1	0.33uF	C1608X7R1H334K080AC	TDK	885012206121	Würth Elektronik	CAP, CERM, 0.33 uF, 50 V, +/- 10%, X7R, 0603	0603
C39, C46, C72	3	1uF	885012206076	Würth Elektronik	885012206076	Würth Elektronik	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C41, C44, C47	3	0.1uF	CC0402KRX7R8BB104	Yageo	885012205085	Würth Elektronik	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0402	0402
C42, CP1, CP2	3	10uF	LMK212ABJ106KG-T	Taiyo Yuden	885012207026	Würth Elektronik	CAP, CERM, 10 uF, 10 V, +/- 10%, X5R, 0805	0805
C45	1	0.01uF	GRM155R71E103KA01D	MuRata	885012205050	Würth Elektronik	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402
C56, C58, C59, CP3, CP4	5	2.2uF	CGA3E3X5R1A225K080AB	TDK	885012206027	Würth Elektronik	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X5R, AEC-Q200 Grade 3, 0603	0603
C57, C64, C65, C67	4	100pF	0402YC101KAT2A	AVX	885012205019	Würth Elektronik	CAP, CERM, 100 pF, 16 V, +/- 10%, X7R, 0402	0402
C60, C61	2	0.01uF	GCM155R71E103KA37D	MuRata	885012205050	Würth Elektronik	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402
C62	1	2.2uF	GRM188Z71C225KE43	MuRata	885012106029	Würth Elektronik	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	0603
C68	1	3.3nF	8.85012E+11	Würth Electronics	885012205064	Würth Electronics	Cap Cer 3300pF 50V X7R 0402	0402
D1, D2, DC1, DC2, DC3, DC4	6	40V	SDMK0340L-7-F	Diodes Inc.	SDMK0340L-7-F	Diodes Inc.	Diode, Schottky, 40 V, 0.03 A, SOD-323	SOD-323
D3, D4, D5, D6	4	100V	BAS316,115	Nexperia	BAS316,115	Nexperia	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
D8, D13	2	Red	150080SS75000	Würth Elektronik	150080SS75000	Würth Elektronik	LED, Red, SMD	LED_0805
D9, D10	2	100V	BAS516,115	Nexperia	BAS516,115	Nexperia	Diode, Switching, 100 V, 0.25 A, SOD-523	SOD-523
D11, D12	2	100V	BAV99W,115	Nexperia	BAV99W,115	Nexperia	Diode, Switching, 100 V, 0.15 A, SOT-323	SOT-323
J3, J7	2		GRPBO42MWCN-RC	Sullins Connector Solutions	62200821121	Würth Elektronik	Header, 1.27mm, 4x2, Gold, R/A, TH	Header, 1.27mm, 4x2, R/A, TH
J4, J6, J21, J22	4		M50-3901042	Harwin	M50-3901042	Harwin	Connector Header Through Hole, Right Angle 20 position 0.050" (1.27mm)	HDR20
J5	1		S4B-PH-SM4-TB	JST	S4B-PH-SM4-TB	JST	Connector Header, PH Series, 4 Position, Side Entry, 2.00mm, Solder, Surface Mount, Natural.	CONN_HDR4
L1, LP1	2	220 ohm	BLM21PG221SN1D	MuRata	782853231	Würth Elektronik	Ferrite Bead, 220 ohm @ 100 MHz, 2 A, 0805	0805
L2, LP2	2	60 ohm	742792063	Würth Elektronik	742792063	Würth Elektronik	Ferrite Bead, 60 ohm @ 100 MHz, 3 A, 0805	0805
Q5, Q6	2	60V	2N7002DW	Fairchild Semiconductor	2N7002DW	Fairchild Semiconductor	MOSFET, 2-CH, N-CH, 60 V, 0.115 A, SOT-363	SOT-363
Q7, Q8, Q10, Q12	4	40 V	MMBT4401-7-F	Diodes Inc.	MMBT4401-7-F	Diodes Inc.	Transistor, NPN, 40 V, 0.15 A, SOT-23	SOT-23
Q9	1	40 V	MMBT4403	Fairchild Semiconductor	MMBT4403	Fairchild Semiconductor	Transistor, PNP, 40 V, 0.6 A, SOT-23	SOT-23
Q11	1	60V	2N7002W-7-F	Diodes Inc.	2N7002W-7-F	Diodes Inc.	MOSFET, N-CH, 60 V, 0.115 A, SOT-323	SOT-323
R1, R2, R3, R4, R40, R49, R62, R63, R68, R70, R76, R78, R95, R113	14	10.0k	CRCW040210K0FKED	Vishay-Dale	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

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R5, R6, R7, R8, R10, R11, R31, R32, R66, R67, R77, R101, R102, R103, R104	15	0	CRCW04020000Z0ED	Vishay-Dale	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R9	1	200	CRCW0402200RJNED	Vishay-Dale	CRCW0402200RJNED	Vishay-Dale	RES, 200, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R12	1	4.87k	ERA-2AEB4871X	Panasonic	ERA-2AEB4871X	Panasonic	RES, 4.87 k, 0.1%, 0.062 W, AEC-Q200 Grade 0, 0402	0402
R13, R14	2	10.2k	CRCW040210K2FKED	Vishay-Dale	CRCW040210K2FKED	Vishay-Dale	RES, 10.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R15, R16, R17, R18, R19, R23, R24, R29, R30, R38, R73, R74, R90, R91, R92, R93, R98	17	10k	CRCW040210K0JNED	Vishay-Dale	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R20, R26, R42	3	22.6k	CRCW040222K6FKED	Vishay-Dale	CRCW040222K6FKED	Vishay-Dale	RES, 22.6 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R21, R25, R33	3	5.6k	CRCW04025K60JNED	Vishay-Dale	CRCW04025K60JNED	Vishay-Dale	RES, 5.6 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R22, R27, R34	3	7.50k	CRCW04027K50FKED	Vishay-Dale	CRCW04027K50FKED	Vishay-Dale	RES, 7.50 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R28, R36	2	8.66k	CRCW04028K66FKED	Vishay-Dale	CRCW04028K66FKED	Vishay-Dale	RES, 8.66 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R35, R37, R61, R65	4	2.2k	CRCW04022K20JNED	Vishay-Dale	CRCW04022K20JNED	Vishay-Dale	RES, 2.2 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R39, R69, R106, R110	4	5.11k	CRCW04025K11FKED	Vishay-Dale	CRCW04025K11FKED	Vishay-Dale	RES, 5.11 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R41	1	27.4k	CRCW040227K4FKED	Vishay-Dale	CRCW040227K4FKED	Vishay-Dale	RES, 27.4 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R43, R82, R88, R105	4	100k	RC1005F104CS	Samsung Electro-Mechanics	RC1005F104CS	Samsung Electro-Mechanics	RES, 100 k, 1%, 0.063 W, 0402	0402
R44	1	200k	ERJ-2RKF2003X	Panasonic	ERJ-2RKF2003X	Panasonic	RES, 200 k, 1%, 0.1 W, 0402	0402
R45, R54	2	820	CRCW0402820RJNED	Vishay-Dale	CRCW0402820RJNED	Vishay-Dale	RES, 820, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R47, R59	2	2.67k	CRCW04022K67FKED	Vishay-Dale	CRCW04022K67FKED	Vishay-Dale	RES, 2.67 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R50, R64, R75, R80, R81, R83, R114, R116, R117	9	100	RC0402FR-07100RL	Yageo America	RC0402FR-07100RL	Yageo America	RES, 100, 1%, 0.063 W, 0402	0402
R51, R57	2	51.1k	CRCW040251K1FKED	Vishay-Dale	CRCW040251K1FKED	Vishay-Dale	RES, 51.1 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R53, R108, R109, R112	4	1.00k	ERJ-2RKF1001X	Panasonic	ERJ-2RKF1001X	Panasonic	RES, 1.00 k, 1%, 0.1 W, 0402	0402
R55, R56	2	1.5Meg	CRCW04021M50JNED	Vishay-Dale	CRCW04021M50JNED	Vishay-Dale	RES, 1.5 M, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R58, R60	2	56k	CRCW040256K0JNED	Vishay-Dale	CRCW040256K0JNED	Vishay-Dale	RES, 56 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R71, R111	2	1.00k	RC0402FR-071KL	Yageo America	RC0402FR-071KL	Yageo America	RES, 1.00 k, 1%, 0.0625 W, 0402	0402
R72	1	510k	CRCW0402510KJNED	Vishay-Dale	CRCW0402510KJNED	Vishay-Dale	RES, 510 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R85	1	120k	ERJ-2RKF1203X	Panasonic	ERJ-2RKF1203X	Panasonic	RES, 120 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R87	1	10	MCR01MZPF10R0	Rohm	MCR01MZPF10R0	Rohm	RES, 10.0, 1%, 0.063 W, 0402	0402
R89	1	20	CRCW040220R0FKED	Vishay-Dale	CRCW040220R0FKED	Vishay-Dale	RES, 20.0, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R94	1	820	RC0402FR-07820RL	Yageo America	RC0402FR-07820RL	Yageo America	RES, 820, 1%, 0.063 W, 0402	0402
R96, R99	2	22.1k	CRCW040222K1FKED	Vishay-Dale	CRCW040222K1FKED	Vishay-Dale	RES, 22.1 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R97	1	2.00k	CRCW04022K00FKED	Vishay-Dale	CRCW04022K00FKED	Vishay-Dale	RES, 2.00 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R100	1	56	CRCW040256R0JNED	Vishay-Dale	CRCW040256R0JNED	Vishay-Dale	RES, 56, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R107	1	8.25k	CRCW04028K25FKED	Vishay-Dale	CRCW04028K25FKED	Vishay-Dale	RES, 8.25 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
U1	1		F280023PTSR	Texas Instruments	F280023PTSR	Texas Instruments	TMS320F28002x Microcontrollers	LQFP48
U2	1		OPA2991IDSGR	Texas Instruments	OPA2991IDSGR	Texas Instruments	40-V, dual 4.5MHz, rail-to-rail input/output, low-offset-voltage, low-noise op amp 8-WSON -40 to 125	WSO8
U3	1		SN74LVC1G3157DRYR	Texas Instruments	SN74LVC1G3157DRYR	Texas Instruments	1-Channel, 2:1 Analog Switch, DRY0006A (USON-6)	DRY0006A
U4	1		OPA991IDCKR	Texas Instruments	OPA991IDCKR	Texas Instruments	General Purpose Amplifier Circuit Rail-to-Rail SC-70-5	SC70-5
U5	1		REF3030AIDBZR	Texas Instruments	REF3030AIDBZR	Texas Instruments	3.0 V, 50 ppm / degC, 50 uA Series (Bandgap) Voltage Reference, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U6	1		TLV71333PDBVR	Texas Instruments	TLV71333PDBVR	Texas Instruments	150-mA, Low-Dropout Regulator with Foldback Current Limit for Portable Devices, DBV0005A (SOT-23-5)	DBV0005A
U7	1		ISO7762FDWR	Texas Instruments	ISO7762FDWR	Texas Instruments	General Purpose Digital Isolator 5000Vrms 6 Channel 100Mbps 85kV/µs CMTI 16-SOIC (0.295", 7.50mm Width)	SOIC16
U8, U15	2		ESDS314DBVR	Texas Instruments	ESDS314DBVR	Texas Instruments	Data-Line Surge and ESD Protection Diode Array, DBV0005A (SOT-23-5)	DBV0005A
U9	1		TLV376IDBVR	Texas Instruments	TLV376IDBVR	Texas Instruments	TLVx376, 5.5 MHz, Low-Noise, Low Quiescent Current, Precision Operational Amplifiers, DBV0005A (SOT-23-5)	DBV0005A
U10	1		SN74LVC2G07DBVR	Texas Instruments	SN74LVC2G07DBVR	Texas Instruments	Dual Buffer/Driver with Open-Drain Output, DBV0006A, LARGE T&R	DBV0006A
U11	1		OPA365	Texas Instruments	OPA365	Texas Instruments	50-MHz, Low-Power, Gain of 6-V/V Stable, Rail-to-Rail Output CMOS Operational Amplifier, DBV0005A (SOT-23-5)	DBV0005A
U12	1		F280039CPN	Texas Instruments	F280039CPN	Texas Instruments	C2000™ 32-bit MCU 120-MHz 384-KB flash, FPU, TMU with CLA, CLB, AES and CAN-FD 80-LQFP -40 to 125	LQFP80
U13	1		TLVH431BQDBZR	Texas Instruments	TLVH431BQDBZR	Texas Instruments	Low-Voltage Adjustable Precision Shunt Regulator, 80 mA, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U16	1		LM20BIM7X/NOPB	Texas Instruments	LM20BIM7X/NOPB	Texas Instruments	2.4V, 10µA Temperature Sensor, 5-pin SC-70 Micro SMD, Pb-Free	DCK0005A

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U17	1		OPA2991IDGKR	Texas Instruments	OPA2991IDGKR	Texas Instruments	40-V, dual-channel, 4.5-MHz, rail-to-rail input/output, low-offset-voltage, low-noise op amp 8-VSSOP -40 to 125	VSSOP8
Y1, Y2	2		ECS-200-18-30B-AGN-TR	ECS Inc.	830056808	Würth Elektronik	Crystal, 20 MHz, 25 ppm, 18 pF, SMD	5x3.2mm