

**Pathfinder Open Array Radar : Modulator**

**Revised: April 27th**

**1999**

**Revision: F**

**4357-024 (PCB 3015-185)**

**Bill Of Materials**

Item	Quantity	Reference	Value	4357-013 Part No. 4kW Open Array	Foot-print	Rating/Tolerance
1	1	Brkt1	H/S_Bracket	3036-199-A	-	
2	1	CH1	CH1	-	HOLE_3.4_PTH	
3	1	CH2	CH2	-	HOLE_3.4_PTH	
4	1	CH3	CH3	-	HOLE_3.4_PTH	
5	1	CH4	CH4	-	HOLE_3.4_PTH	
6	1	CH5	CH5	-	HOLE_3.4_PTH	
7	1	CH6	CH6	-	HOLE_3.4_PTH	
8	1	CH7	CH7	-	HOLE_3.4_PTH	
9	1	CH8	CH8	-	HOLE_3.4_PTH	
10	1	CH9	CH9	-	HOLE_3.4_PTH	
11	1	CH11	CH11	-	HOLE_3.4_PTH	
12	2	CLIP1,CLIP2	H/S-CLIP	15096	-	
13	1	CN1	Wago-257-454	NF	WAGO_4WAY_UPRIGHT	
14	1	CN2	PicoFlex2x9	07299	PFLX_9X2	
15	1	CN3	Molex-39-30-1080	07371	MOLEX_MINIFITJR_4X2_R/ A	
16	1	CN5	Molex_KK_1x4_RA	07349	MOLEX_KK_1X4_LATCH_R A	
17	1	CN6	CON2	07307	MOLEX_MINIFITJR_1X2	
18	1	CN7	PicoFlex2x5	07370	PFLX_5X2	
19	1	CN8	Wago-733-368	07369	WAGO_MULTI_MICRO_1X8 _R/A	

20	1	CN9	Molex_KK_1x3_RA	07368	MOLEX_KK_1X3_LATCH_R A	
21	1	CN10	Wago-256-404/406	-	WAGO_6WAY_45	
22	2	CT2,CT1	3030-214	NF	TX_20.32_5.08_22.86_10.16	
23	23	C1,C2,C3,C4,C5,C6,C7,C8, C9,C10,C11,C12,C13,C14, C15,C16,C102,C140,C141, C159,C210,C215,C252	1n	93041000P	C0805	
24	6	C17,C18,C19,C20,C21,C22	100p	9302100P	C0805	
25	5	C23,C24,C27,C129,C130	4n7	93BDHXXX4N7	C0805	
26	53	C25,C26,C28,C32,C41,C66, C69,C70,C71,C72,C73,C74, C76,C77,C81,C82,C83,C96, C101,C104,C105,C106,C107, C108,C116,C117,C118,C124, C135,C137,C145,C158,C160, C191,C192,C193,C195,C206, C216,C217,C218,C219,C226, C227,C235,C237,C238,C239, C241,C242,C243,C246,C251	100n	93070U1	C1206	
27	7	C34,C35,C36,C37,C38,C196, C209	470p	9301470P	C0805	100V
28	3	C39,C40,C103	2n2	03083	CRECT_5.08_2.5_9.0_8.0	1KV
29	16	C42,C45,C48,C54,C55,C56, C57,C75,C84,C85,C87,C100, C122,C132,C203,C204	10n	93040U01	C0805	
30	7	C43,C46,C49,C109,C112, C138,C229	2n2	93BDHXXX2N2	C0805	
31	4	C44,C47,C133,C172	680u	03132	CPRAD_7.50_16.0_20.0	50V
32	1	C50	680u	NF	CPRAD_7.50_16.0_20.0	50V
33	5	C51,C52,C53,C146,C154	47n	03151	CRECT_10.0_5.0_11.0_13.0	250V

34	2	C58,C59	470p	NF	C0805		
35	1	C60	10u	932410U	CPRAD_SM_B_D4.0_H5.5	25V	
36	2	C65,C61	100u	9324100U	CPRAD_SM_D_D6.3_H5.5		
37	10	C62,C63,C64,C114,C115, C143,C144,C214,C245,C249	1u	9306105X7R	C1206	16V	
38	1	C67	4n7	03122	CRECT_5.00_2.00_6.50_7.5 0	400V	
39	1	C79	470n	??	C1206	16V	
40	2	C92,C80	1n0	93041000P	C0805	100V	
41	2	C88,C134	33n	930433N	C0805		
42	3	C89,C90,C91	470p	9302470P	C0805		
43	1	C94	100n	03152	CRECT_2.5_4.6_9.0_4.6		5%
44	2	C110,C123	1000u	03134	CPRAD_5.0_12.5_15.0	10V	
45	8	C111,C136,C149,C150,C151, C152,C155,C213	220u	03135	CPRAD_3.5_8.0_15.0	25V	
46	1	C113	1u	03146	CRECT_5.08_5.0_10.5_7.2	63V	
47	2	C121,C120	100n	03093	CRECT_10.16_5.0_12.5_12. 0	250V	
48	3	C127,C128,C220	220p	9300220P	C0805	100V	
49	1	C131	NF	NF	C0805		
50	1	C139	330p	93BDHBXX330P	C0805		
51	4	C142,C147,C207,C208	4u7	93HEFEXX4U7	CPRAD_SM_B_D4.0_H5.5	25V	
52	1	C148	1u	93HEHEXX1U	CPRAD_SM_B_D4.0_H5.5	50V	
53	1	C153	1n	03090	CRECT_5.0_3.0_11.0_10.0	1KV	
54	2	C157,C156	47p	03148	CRECT_5.08_2.5_9.0_8.0	1KV	
55	3	C161,C167,C185	10n	NF	C0805		
56	3	C162,C164,C186	1n	NF	C0805		
57	1	C163	4n7	NF	C0805		
58	2	C165,C170	100p	NF	C0805		
59	1	C166	2n2	NF	CRECT_5.08_2.5_9.0_8.0	1KV	
60	2	C180,C168	220p	NF	C0805		

61	1	C169	100n	NF	CRECT_10.16_5.0_12.5_12. 250V 0
62	2	C171,C183	47p	NF	CRECT_5.08_2.5_9.0_8.0 1KV
63	1	C173	47n	NF	CRECT_10.0_5.0_11.0_13.0 250V
64	2	C175,C176	33n	NF	C0805
65	3	C177,C178,C205	100n	NF	C1206
66	2	C179,C230	2n2	NF	C0805
67	1	C181	1u	NF	C1206 16V
68	1	C182	10u	NF	CPRAD_SM_B_D4.0_H5.5 16V
69	1	C184	100n	NF	CRECT_15.0_7.5_15.5_17.5 630V
70	1	C188	100n	NF	CRECT_10.16_5.0_12.5_12. 250V 0
71	1	C189	100p	NF	CRECT_5.08_2.5_9.0_8.0 1KV
72	1	C190	NFit	NF	C0805
73	1	C194	33p	930133P	C0805
74	2	C197,C198	NF	NF	C0805
75	1	C199	150p	9300150P	C0805 100V
76	1	C200	22p	930122P	C0805
77	1	C201	NF	NF	C0805
78	1	C202	47p	930147P	C0805
79	1	C221	see-table	W-LINK	C6KV_DISC 6.3KV
80	1	C222	see-table	03121	C6KV_DISC 6.3KV
81	2	C224,C223	see-table	NF	C6KV_DISC 6.3KV
82	1	C225	220u	NF	CPRAD_3.5_8.0_15.0 25V
83	1	C228	4n7	03138	CRECT_22.5_7.0_16.0_24.5 2KV
84	1	C231	1u	NF	CRECT_27.5_13.0_24.0_31. 400V 5
85	1	C232	2u2	03128	CRECT_37.5_17.0_29.0_41. 400V 5
86	1	C233	100u	NF	CPRAD_7.5_18.0_40.0 400V
87	1	C234	100u	03149	CPRAD_7.5_18.0_40.0 400V

88	1	C250	1u5	NF	CRECT_37.5_20.0_39.5_41. 630V 5	
90	5	D1,D12,D13,D14,D34	BZX84C12V	9203BZX12V	DSOT23	
91	8	D8,D9,D10,D26,D40,D60, D63,D66	BAS19	9200BAS19	DSOT23	
92	4	D15,D17,D29,D54	MURS120T3	9200UF1A200V	SMB	
93	4	D16,D18,D30,D55	BYV27-200	NF	SOD57	
94	7	D19,D21,D23,D61,D62,D64, D65	10BQ060	920010BQ060	SMB	
95	3	D20,D24,D25	11DQ050	NF	DO-41	
96	2	D38,D22	BAV99	9200BAV99	DSOT23	
97	2	D28,D27	UF180	02087	SOD57	
98	1	D33	BYV27-200	02082	SOD57	
99	2	D48,D36	BAX12A	NF	DO-41	
100	2	D49,D37	10BQ060	NF	SMB	
101	1	D39	BZX84C5V1	9203BZX84C5V1	DSOT23	
102	1	D41	BZV85-C18	02074	DO-41	
103	1	D42	UF180	NF	SOD57	
104	1	D43	BZX84C6V8	NF	DSOT23	
105	1	D46	BZV85-C18	NF	DO-41	
106	1	D47	BYV27-200	NF	SOD57	
107	1	D50	UF180	NF	SOD57	
108	2	D52,D53	BAV70	9200BAV70	DSOT23	
109	2	D56,D57	UX-FOB	02077	DAX_30.0_7.0_7.0	8KV
110	1	D58	UF5404	02078	DO-201AD	400V
111	1	D59	UF5404	02078	DO-201AD	400V
112	2	EndCap1,EndCap2	Wago-256-EndCap	07235	-	
113	2	FB1,FB3	BL01RN1-A62	15249	LAX_12.5_3.5_5.0	
114	2	FB4,FB2	BL01RN1-A62	NF	LAX_12.5_3.5_5.0	
115	2	HT1,HT2	SW50-2	15347	HEATSINK_REDP_SW38	8.6C/W
116	1	HT3	HEATSINK-3036-172	3036-172	HEATSINK_3036-172	

117	1	JP1	Motor-On(C)	07350	JP_1X2_2.54
118	2	LABEL1,LABEL2	LABEL	-	LABEL_HV
119	4	L1,L4,L11,L12	BEAD_L1	NF	L1206
120	6	L2,L3,L5,L9,L10,L13	BEAD_L1	9600L1	L1206
121	3	L6,L7,L8	100uH	15185	LRAD_5.08_8.0_12.0
122	4	OP1,OP2,OP3,OP4	PC357-D	9400PC357D	SO6/4
123	1	OP5	PC357-D	NF	SO6/4
124	1	PCB	3015-185	3015-185	-
125	7	Q1,Q5,Q9,Q13,Q14,Q15,Q16	STP60N05FI	05052	TO220
126	4	Q2,Q6,Q10,Q25	BC856	9500BC856	TRSOT23
127	6	Q3,Q7,Q11,Q22,Q29,Q39	BC846	9500BC846	TRSOT23
128	3	Q4,Q8,Q12	2N3906	95003906	TRSOT23
129	6	Q17,Q27,Q34,Q38,Q40,Q43	IMX1	9500IMX1	SOT23-6
130	2	Q18,Q19	IMZ1	9500IMZ1	SOT23-6
131	3	Q20,Q28,Q44	2N2222A	95002N2222A	TRSOT23
132	1	Q21	IRF540/IRFP2807	05045	TO220
133	1	Q23	BC807	9500BC807	TRSOT23
134	2	Q24,Q26	IMT1	9500IMT1	SOT23-6
135	3	Q30,Q32,Q45	BC846	NF	TRSOT23
136	1	Q31	IRFP2807	NF	TO220
137	2	Q33,Q46	IMZ1	NF	SOT23-6
138	3	Q35,Q36,Q37	2N3904	95003904	TRSOT23
139	1	Q41	IRFP450	05056	TO247
140	1	Q42	IRFP450	NF	TO247
141	7	RIV1,RIV2,RIV3,RIV4,RIV5, RIV6,RIV7	RIV-SCREW	26008	-
142	1	RIV8	RIV-SCREW	NF	-
143	1	RT1	PTH9M04BC222TS2F 333	01205	RRECT_2.54_2.54_14.0_6.5
144	1	RV1	2K	91072KEVM	SM_POT_3MM
145	42	R22,R32,R40,R59,R64,R65,	10k	910310K	R1206

		R66,R104,R108,R132,R133, R146,R166,R168,R188,R195, R197,R201,R261,R267,R268, R269,R270,R271,R272,R273, R274,R275,R280,R281,R284, R287,R288,R299,R301,R304, R305,R306,R312,R355,R362, R0				
146	1	R1	0R	NF	R1206	
147	1	R3	1K0	91031K	R1206	1%
148	1	R4	1K8	NF	R1206	
149	1	R5	3K9	NF	R1206	
150	4	R7,R134,R161,R255	15K	910615K	R1206	
151	12	R8,R9,R95,R97,R99,R116, R119,R147,R329,R330,R352, R356	10R	910310R	R1206	
152	29	R10,R15,R16,R17,R18,R42, R58,R106,R117,R124,R148, R149,R150,R151,R152,R153, R171,R194,R262,R276,R277, R285,R295,R297,R308,R343, R344,R347,R351	1K0	91031K	R1206	1%
153	1	R11	1R0	91DCFXX1R0	R1210	
154	1	R12	120R	9106120R	R1206	
155	1	R13	3R3	91063R3	R1206	
156	10	R14,R46,R52,R189,R193, R264,R265,R266,R289,R360	47K	910647K	R1206	
157	3	R19,R236,R353	NF	NF	R1206	
158	15	R20,R93,R96,R98,R143, R156,R157,R158,R159,R198, R199,R203,R257,R283,R293	100R	9103100R	R1206	

159	12	R21,R48,R60,R72,R73,R78, R79,R84,R85,R94,R131, R296	2K2	91062K2	R1206	
160	6	R23,R29,R49,R50,R51,R160	220R	9106220R	R1206	
161	6	R24,R27,R43,R162,R311, R349	5K6	91035K6	R1206	1%
162	29	R25,R37,R38,R39,R44,R45, R53,R54,R55,R61,R62,R63, R74,R77,R80,R83,R86,R89, R110,R127,R130,R142,R164, R196,R254,R258,R298,R358, R361	4K7	91064K7	R1206	
163	4	R26,R56,R67,R68	27k	910327K	R1206	1%
164	12	R28,R33,R34,R47,R113, R114,R115,R128,R176,R286, R345,R350	100K	9106100K	R1206	
165	1	R30	0R	91060R0	R1206	1%
166	7	R31,R41,R70,R109,R163, R259,R309	3K3	91033K3	R1206	1%
167	1	R35	220K	9106220K	R1206	
168	3	R36,R190,R291	33K	910333K	R1206	
169	1	R57	10K	910310K	R1206	1%
170	1	R69	NF	NF	R1206	
171	2	R71,R263	1K5	91061K5	R1206	
172	19	R75,R76,R81,R82,R87,R88, R129,R135,R136,R137,R138, R139,R140,R154,R155,R167, R186,R317,R318	47R	910647R	R1206	
173	3	R90,R91,R92	10R	01191	RAX_15.0_4.0_12.0	2W
174	4	R100,R101,R103,R145	470R	9106470R	R1206	
175	1	R102	20m	01231	RRECT_28.0_7.0_7.0_19.0	4W_5%



176	3	R111,R187,R294	22K	910622K	R1206	
177	1	R112	3K3	91033K3	R1206	
178	3	R141,R144,R313	22R	910622R	R1206	
179	1	R165	680R	9106680R	R1206	
180	1	R169	0R	91060R0	R1206	
181	1	R170	3R3	NF	R1206	
182	3	R172,R202,R322	33R	01211	RAX_15.0_4.0_12.0	2W
183	3	R173,R174,R175	0R1	01208	RAX_15.0_4.0_12.0	1W
184	1	R177	10R	NF	R1206	
185	2	R178,R307	2K7	91062K7	R1206	
186	1	R179	15K	910615K	R1206	
187	3	R180,R200,R241	22K	NF	R1206	
188	7	R181,R182,R183,R184,R185, R310,R348	6K8	91036K8	R1206	1%
189	3	R191,R192,R278	270R	9103270R	R1206	
190	1	R204	22R	NF	R1206	
191	11	R205,R207,R215,R216,R217, R218,R229,R238,R239,R240, R243	1K0	NF	R1206	1%
192	2	R206,R208	10K	NF	R1206	
193	2	R209,R210	470R	NF	R1206	
194	2	R211,R237	100K	NF	R1206	
195	1	R212	47R	NF	R1206	
196	1	R213	2K2	NF	R1206	
197	1	R214	15K	NF	R1206	
198	2	R219,R230	33R	NF	RAX_15.0_4.0_12.0	2W
199	2	R223,R234	100R	NF	R1206	
200	1	R224	680R	NF	R1206	
201	3	R225,R235,R244	4K7	NF	R1206	
202	1	R226	1K5	NF	R1206	
203	1	R227	0R0	NF	R1206	

204	5	R228,R245,R247,R336,R337	10R	NF	R1206	
205	3	R231,R232,R233	0R1	NF	RAX_15.0_4.0_12.0	1W
206	1	R242	220K	01234	RAX_17.78_5.0_14.0	1%/2W/500V
207	1	R246	NF	NF	R1206	
208	1	R248	*	91061K5	R1206	1%
209	1	R249	*	NF	R1206	1%
210	1	R250	0R	91060R0	R1206	
211	1	R252	0R	91060R0	R1206	
212	2	R260,R346	12K	910612K	R1206	
213	1	R290	39K	910639K	R1206	
214	1	R292	1K8	91061K8	R1206	
215	1	R314	68K	910368K	R1206	
216	1	R315	470K	01227	RAX_25.4_6.8_18.0	7kV
217	5	R316,R319,R320,R321,R359	1R0	91061R0	R1206	
218	1	R323	1K0	01225	RAX_20.0_5.5_15.0	2.5W
219	1	R324	0R47	91040R47	R1210	0.5W
220	3	R325,R331,R332	0R47	NF	R1210	0.5W
221	1	R326	0R47	91040R47	R1210	0.5W
222	2	R327,R328	0R47	91040R47	R1210	0.5W
223	1	R333	0R47	NF	R1210	0.5W
224	2	R334,R335	0R47	NF	R1210	0.5W
225	1	R338	4R7	AC03	RAX_20.0_5.5_15.0	2.5W
226	1	R339	4R7	01190	RAX_15.0_4.0_12.0	2.5W
227	1	R340	10R	01191	RAX_15.0_4.0_12.0	2.5W
228	1	R341	470K	W-LINK	RAX_15.0_4.0_10.0	0.5W/350V
229	1	R342	470K	01232	RAX_15.0_4.0_10.0	0.5W/350V
230	1	R357	22R	01226	RAX_15.0_4.0_12.0	2W
231	4	SCRW2,SCRW3,SCRW4,SCRW5	ST-SCREW-4X12MM	21117	-	
232	2	SIL1,SIL2	TO247-SILPAD	15306	-	1kV
233	1	SIL3	CUSTOM-SILPAD-	?	-	

			TO220X8		
234	2	TH_DATUM,TH_TH2	TEST-POINT	-	HOLE_4.0_TOOLING
235	4	TP19,TP20,TP21,TP22	TEST-POINT	TP_F164/124/0	
236	4	TP34,TP35,TP36,TP37	TEST-POINT	TP_C74/40	
237	1	TX1	3030-210	3030-210	TX_RM12_2X6
238	1	TX2	3030-211	NF	TX_RM10_2X6
239	1	TX3	3030-212	3030-212	TX_ETD44
240	1	TX4	3030-213	NF	TX_ETD54
241	4	Term1,Term2,Term3,Term4	Wago-256-term	07234	-
242	1	T1	TDK-ZJYS51R5-4P	9600CHOKE1	CMODE_SM1_SM8DIL
243	1	T3	B8275-A2103-N1	15345	CMODE_2
244	1	U1	74HC86	940074HC86	SO14
245	2	U2,U11	74LS221	940074LS221	SO16
246	2	U3,U14	LM324	9400LM324	SO14
247	1	U4	MC33035DW	9400MC33035D	SO24L
				W	
248	1	U7	TL431-SO8	9400431	SO8
249	1	U8	UCC3800	9400UCC3800	SO8
250	1	U9	TL431-SO8	NF	SO8
251	1	U10	UCC3800	NF	SO8
252	1	U12	74HC14	940074HC14ST	SO14
253	1	U13	TC4427	94004427	SO8
254	1	VARNISH	RED	43009	-
255	1	VR1	V56ZA2	01219	RSQ_5.08_4.0_11.0_8.0
256	1	VR2	NF	NF	RSQ_5.08_4.0_11.0_8.0
257	7	WASH1,WASH2,WASH3,WAS H4, WASH5,WASH6,WASH7	FIBRE-WASHER	23042	-
258	1	WASH8	FIBRE-WASHER	NF	-