

APPENDIX E: PARTS LIST

Please see the following pages.

PARTS LIST

LBI-38640G

VHF TRANSMITTER SYNTHESIZER MODULE
19D902780G1
ISSUE 4

SYMBOL	PART NUMBER	DESCRIPTION
2	19D902508P4	Chassis.
3	19D902509P10	Cover.
4	19D902555P1	Handle.
5	19D902779G1	Transmitter Synthesizer Board (See separate parts list).
6	19A702391P506	Screw, thread forming: TORX, No. M3.5 - 0.6 x 6.
7	19A702381P513	Screw, thread forming: TORX, No. M3.5 - 0.6 x 13.
8	19B235310P1	Nameplate.
9	19B802690P1	RF Shielding Grommet.
11	19A702381P508	Screw, thread forming: TORX, No. M3.5 - 0.6 x 8.
12	19D902824P1	Casting, RF.
TRANSMITTER SYNTHESIZER BOARD 19D902779G1		
-----CAPACITORS-----		
C1	19A702236P25	Ceramic: 10pF ± 0.5pF, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C2	19A702236P32	Ceramic: 18 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C3	19A702236P34	Ceramic: 22 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C6	19A702236P37	Ceramic: 30 pF ± 5%, 50 VDCW.
C7	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C8	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C9	19A705205P6	Tantalum: 10 µF, 16 VDCW; sim to Sprague 293D.
C10	19A702238P9	Ceramic: 1.8pF ± 2.5pF, 50 VDCW, temp coef 0 ± 30 PPM.
C11	19A705205P2	Tantalum: 1µF, 16 VDCW; sim to Sprague 293D.
C12	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C13 and C14	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C15	19A700004P2	Metallized polyester, 0.1µF ± 10%, 63 VDCW.
C16	19A702061P73	Ceramic: 330 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C17	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C18 and C19	19A705205P2	Tantalum: 1µF, 16 VDCW; sim to Sprague 293D.
C20	19A702236P21	Ceramic: 6.8pF ± 0.5pF, 50 VDCW, temp coef 0 ± 60 PPM.
C21	19A702236P8	Ceramic: 1.5pF ± 0.25pF, 50 VDCW, temp coef 0 ± 30 PPM.
C22	19A702236P30	Ceramic: 15 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C23	19A702236P11	Ceramic: 2.7pF ± 0.5pF, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C24	19A702236P6	Ceramic: 1.0pF ± 0.25pF, 50 VDCW, temp coef 0 ± 30 PPM.
C25	19A702236P10	Ceramic: 2.2 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C26	19A702236P9	Ceramic: 1.6pF ± 2.5 pF, 50 VDCW, temp coef 0 ± 30 PPM. (Deleted by Rev. A)
C101	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C102	19A705205P2	Tantalum: 1µF, 16 VDCW; sim to Sprague 293D.
C103	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C201 thru C205	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C206	19A702236P10	Ceramic: 2.2pF ± 2.5 pF, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C207 thru C209	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C211	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.

SYMBOL	PART NUMBER	DESCRIPTION
C212	19A702236P10	Ceramic: 2.2 pF ± 2.5 pF, 50 VDCW, temp coef 0 ± 30 PPM/°C. (Deleted by Rev. A)
C213 and C214	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C216	19A702236P32	Ceramic: 18 pF ± 0.5pF, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C217	19A702236P32	18 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C218	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C219	19A702236P25	Ceramic: 10 pF ± 0.5pF, 50 VDCW, temp coef 0 ± 60 PPM.
C301	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C302	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C303 and C304	19A705205P17	Tantalum: 4.7 µF ± 20%, 20 VDCW.
C305	19A705205P6	Tantalum: 10 µF ± 20%, 16 VDCW; sim to Sprague 293D.
C306	19A705205P2	Tantalum: 1 µF ± 20%, 16 VDCW; sim to Sprague 293D.
C307	19A705205P7	Tantalum: 10 µF ± 20%, 25 VDCW; sim to Sprague 293D.
C308 and C309	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C310	19A705205P6	Tantalum: 10 µF, 16 VDCW; sim to Sprague 293D.
C311	19A705205P2	Tantalum: 1 µF, 16 VDCW; sim to Sprague 293D.
C312	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C313 and C314	19A705205P6	Tantalum: 10 µF, 16 VDCW; sim to Sprague 293D.
C315	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C401	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C402	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C403 thru C405	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C406	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C407	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C408	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C409	19A705205P6	Tantalum: 10 µF, 16 VDCW; sim to Sprague 293D.
C410	19A702052P26	Ceramic: 0.01µF ± 10%, 50 VDCW.
C411	19A705205P6	Tantalum: 10 µF, 16 VDCW; sim to Sprague 293D.
C412	19A702052P14	Ceramic: 0.01µF ± 10%, 50 VDCW.
C413	19A702052P108	Ceramic: 0.01µF ± 10%, 50 VDCW.
C414	19A702061P69	Ceramic: 220 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C501 and C502	19A705205P2	Tantalum: 1 µF, 16 VDCW; sim to Sprague 293D.
C503	19A702052P26	Ceramic: 0.01µF ± 10%, 50 VDCW.
C504	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C505	19A703684P3	Metallized polyester, 2.2µF ± 10%, 50 VDCW.
C506	19A703902P3	Metal: 0.047 µF ± 10%, 50 VDCW.
C507	19A702052P26	Ceramic: 0.1µF ± 10%, 50 VDCW.
C602	19A705205P6	Tantalum: 10 µF, 16 VDCW; sim to Sprague 293D.
C603	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.
C604	19A705205P2	Tantalum: 1 µF, 16 VDCW; sim to Sprague 293D.
C605	19A703684P3	Metallized polyester, 2.2 µF ± 10%, 50 VDCW.
C701 thru C712	19A702061P61	Ceramic: 100 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C714 and C715	19A702061P99	Ceramic: 1000pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/°C.

SYMBOL	PART NUMBER	DESCRIPTION
----- DIODES -----		
CR701	19A703595P10	Diode, Optoelectronic. Red LED in right anglehousing: sim to Hewlett Packard HLMP-1301-010.
D1	19A705377P1	Silicon, Hot Carrier: sim to MMB0201.
D2 and D3	19A149674P3	High Tuning Ratio Dual Diode: sim to Toyo KV1430.
----- JACKS -----		
J1 and J2	19A115938P24	Connector, receptacle.
J3	19B801587P7	Connector, 2 part DIN.
----- INDUCTORS -----		
L1	19C851001P2	Coil, RF: sim to Paul Smith SK-901-1.
L2 thru L5	19A705470P24	Coil, fixed: .082µH: sim to Toko 380NB-R82M. Coils: 82nH ± 20%; sim to Toko 380NB-82nM.
L201	19A705470P5	Coil, fixed: 22 nH: sim to Toko 380NB-22nM.
L202	19A705470P24	Coil, fixed: .082µH: sim to Toko 380NB-R82M.
L203	19A705470P15	Coil, fixed: 15µH: Sim to Toko 380NB-R15M.
L204	19A705470P12	Coil: 82nH ± 20%; sim to Toko 380NB-82nM.
L205	19A705470P13	Coil: 100nH ± 20%; sim to Toko 380NB-R10M.
----- TRANSISTORS -----		
Q1	19A702624P2	N-Type, field effect; sim to MMBFU310.
Q101	19A700076P2	Silicon, NPN: sim to MMBT3904, low profile.
Q102	19A700059P2	Silicon, PNP: sim to MMBT3906, low profile.
Q201	344A3061P1	Silicon, NPN, Low noise: sim to Avanteq AT-41411.
Q301	19A134577P2	Silicon, PNP: sim to Phillips BCX51-16.
Q302	19A700076P2	Silicon, NPN: sim to MMBT3904, low profile.
Q401	19A704708P2	Silicon, NPN: sim to NEC 2SC3356.
Q501	19A700076P2	Silicon, NPN: sim to MMBT3904, low profile.
Q701 thru Q704	19A700076P2	Silicon, NPN: sim to MMBT3904, low profile.
----- RESISTORS -----		
R1	19B800607P470	Metal film: 47 ohms ± 5%, 1/8 w.
R2	19B800607P183	Metal film: 18K ohms ± 5%, 1/8 w.
R3	19B800607P680	Metal film: 68 ohms ± 5%, 1/8 w.
R4 and R5	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R6	19B800607P824	Metal film: 820K ohms ± 5%, 1/8 w.
R7	19B800607P104	Metal film: 100K ohms ± 5%, 1/8 w.
R8	19B800607P102	Metal film: 1K ohms ± 5%, 1/8 w.
R9	19B800607P271	Metal film: 270 ohms ± 5%, 1/8 w.
R10	19B800607P510	Metal film: 51 ohms ± 5%, 1/8 w.
R101	REP645624/27	Metal Film: 2.7k Ohms ± 5%, 1/8 w
R102	19B800607P103	Metal film: 10K ohms ± 5%, 1/8 w.
R103	19B800607P473	Metal film: 47K ohms ± 5%, 1/8 w.
R104	19B800607P472	Metal film: 4.7K ohms ± 5%, 1/8 w.
R105	19B800607P392	Metal film: 3.9K ohms ± 5%, 1/8 w.
R201	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R202	19B800607P331	Metal film: 330 ohms ± 5%, 1/8 w.
R203	19B800607P180	Metal film: 18 ohms ± 5%, 1/8 w.
R204	19B800607P271	Metal film: 270 ohms ± 5%, 1/8 w.
R206	19B800607P101	Metal film: 100 ohms ± 5%, 1/8 w. (Deleted by Rev. B.)
R207	19B800607P120	Metal film: 12 ohms ± 5%, 1/8 w. (Deleted by Rev. B.)
R208	19B800607P270	Metal film: 27 ohms ± 5%, 1/8 w.
R209	19B800607P820	Metal film: 82 ohms ± 5%, 1/8 w.
R210	19B800607P120	Metal film: 12 ohms ± 5%, 1/8 w.
R211	19B800607P101	Metal film: 100 ohms ± 5%, 1/8 w.
R212	19B800607P510	Metal film: 51 ohms ± 5%, 1/8 w.
R213	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R214	19B800607P331	Metal film: 330 ohms ± 5%, 1/8 w.
R215	19B800607P582	Metal film: 5.8K ohms ± 5%, 1/8 w.
R216	19B800607P182	Metal film: 1.8K ohms ± 5%, 1/8 w.
R217	19B800607P150	Metal film: 15 ohms ± 5%, 1/8 w.
R218	19B800607P101	Metal film: 100 ohms ± 5%, 1/8 w.

SYMBOL	PART NUMBER	DESCRIPTION
R219	19B800607P151	Metal film: 150 ohms ± 5%, 1/8 w.
R220	19B800607P390	Metal film: 39 ohms ± 5%, 1/8 w.
R221	19B800607P151	Metal film: 150 ohms ± 5%, 1/8 w.
R301 thru R303	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R304	19B800607P470	Metal film: 47 ohms ± 5%, 1/8 w.
R305	19B800607P103	Metal film: 10K ohms ± 5%, 1/8 w.
R306	19B800607P222	Metal film: 2.2K ohms ± 5%, 1/8 w.
R307	19B800607P230	Metal film: 2000 ohms ± 1%, 200 VDCW, 1/8 w.
R308	19B800607P249	Metal film: 3160 ohms ± 1%, 200 VDCW, 1/8 w.
R309	19B800607P471	Metal film: 470 ohms ± 5%, 1/8 w.
R310	19B800607P470	Metal film: 47 ohms ± 5%, 1/8 w.
R311 and R312	19B800607P103	Metal film: 10K ohms ± 5%, 1/8 w.
R313	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R314	19B800607P103	Metal Film: 10K ohms ± 5%, 1/8 w.
R401	19B800607P330	Metal film: 33 ohms ± 5%, 1/8 w.
R402	19B800607P102	Metal film: 1K ohms ± 5%, 1/8 w.
R403	19B800607P104	Metal film: 100K ohms ± 5%, 1/8 w.
R404	19B800607P561	Metal film: 560 ohms ± 5%, 1/8 w.
R405	19B800607P510	Metal film: 51 ohms ± 5%, 1/8 w.
R406	19B800607P101	Metal film: 100 ohms ± 5%, 1/8 w.
R407	19B800607P104	Metal film: 100K ohms ± 5%, 1/8 w.
R408	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R409	19B800607P222	Metal film: 2.2K ohms ± 5%, 1/8 w.
R410	19B800607P392	Metal film: 3.9K ohms ± 5%, 1/8 w.
R411	19B800607P682	Metal film: 6.8K ohms ± 5%, 1/8 w.
R412	19B800607P473	Metal film: 47K ohms ± 5%, 1/8 w.
R415	19B800607P100	Metal film: 10 ohms ± 5%, 1/8 w.
R501	19B800607P470	Metal film: 47 ohms ± 5%, 1/8 w.
R502	19B800607P102	Metal film: 1K ohms ± 5%, 1/8 w.
R503	19B800607P223	Metal film: 22K ohms ± 5%, 1/8 w.
R504	19B800607P150	Metal film: 15 ohms ± 5%, 1/8 w.
R505	19B800607P104	Metal film: 100K ohms ± 5%, 1/8 w.
R506	19B800607P105	Metal film: 1M ohms ± 5%, 1/8 w.
R507 and R508	19B800607P333	Metal film: 33K ohms ± 5%, 1/8 w.
R509	19B800607P473	Metal film: 47K ohms ± 5%, 1/8 w.
R510	19B800607P103	Metal film: 10K ohms ± 5%, 1/8 w.
R511	19B800607P101	Metal film: 100 ohms ± 5%, 1/8 w.
R601	19B800607P176	Metal film: 604 ohms ± 1%, 200 VDCW, 1/8 w.
R602 and R603	19B800607P104	Metal film: 100K ohms ± 5%, 1/8 w.
R604	19B800607P470	Metal film: 47 ohms ± 5%, 1/8 w.
R605	19B800607P104	Metal film: 100K ohms ± 5%, 1/8 w.
R606	19B800607P680	Metal film: 68 ohms ± 5%, 1/8 w.
R607	19B800607P102	Metal film: 1K ohms ± 5%, 1/8 w.
R608	19B800607P392	Metal film: 3.9K ohms ± 5%, 1/8 w.
R609	19B800607P472	Metal film: 4.7K ohms ± 5%, 1/8 w.
R610	19B800607P105	Metal film: 1M ohms ± 5%, 1/8 w.
R701 and R706	19B800607P102	Metal film: 1K ohms ± 5%, 1/8 w.
R707	19B800607P472	Metal film: 4.7K ohms ± 5%, 1/8 w.
R708 and R709	19B800607P473	Metal film: 47K ohms ± 5%, 1/8 w.
R710 thru R712	19B800607P103	Metal film: 10K ohms ± 5%, 1/8 w.
R720	19B800607P392	Metal film: 3.9K ohms ± 5%, 1/8 w.
R721	19B800607P562	Metal film: 5.6K ohms ± 5%, 1/8 w.
R722	19B800607P473	Metal film: 47K ohms ± 5%, 1/8 w.
R723	19B800607P391	Metal film: 390 ohms ± 5%, 1/8 w.
R724		

SYMBOL	PART NUMBER	DESCRIPTION
		----- INTEGRATED CIRCUITS -----
U201 thru U203	19A705927P1	Silicon, bipolar: sim to AvanteK MSA-0611.
U301	19A704971P9	Voltage Regulator, Positive: sim to Motorola MC78L05ACD.
U302	19A116297P7	Linear: Dual Op Amp: sim to MC4558CD.
U303	19A704971P7	Voltage Regulator, Negative: sim to Motorola MC79L05ACD.
U401	19A149944P201	Dual Modulus Prescaler: sim to Motorola MC12022A.
U402	19B800902P7	Synthesizer : custom CMOS, serial input (Replaced 19B800902P5).
U501	344A3070P1	Dual Operational Amplifier: sim to Motorola TL072.
U502	19A702705P4	Digital: Quad Analog Switch/Multiplexer: sim to 4066BM.
U601	19A116297P7	Linear: Dual Op Amp: sim to MC4558CD.
U701	19A703483P302	Digital, CMOS: QUAD 2-INPUT NAND GATE, sim to 74HC00.
U702	19A703471P320	Digital: 3-to-8 Decoder/Demultiplexer: sim to 74HC138.
U705	19A703483P302	Digital, CMOS: QUAD 2-INPUT NAND GATE, sim to 74HC00.
		----- VARIABLE RESISTORS -----
VR601 and VR602	19B235029P7	25-turn Cermet trimmer; 5K ohms, + 10%, .6w: sim to Bourn 3296W-1502-R.

PRODUCTION CHANGES

Changes to the equipment to improve performance or to simplify circuits are identified by a Revision Letter which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the parts List for the descriptions of parts affected by this revision.

Rev. A - Transmitter Synthesizer Board - 19D902779G1

To improve reliability, changed C21, C23, C24, C25, C216, C305, L203, L204, R211, R219, R220 and R221. Deleted C26 and C212 and added C217.

C21 was: 19A702236P11, 2.7 pF.

C23 was: 19A702236P19, 5.6 pF.

C24 was: 19A702236P9, 1.8 pF.

C25 was: 19A702236P13, 3.3 pF.

C216 was: 19A702236P21, 6.8 pF.

C305 was: 19A705205P6, 10 μ H.

L203 was: 19A705470P18, 0.27 μ H.

L204 was: 19A705470P13, 0.10 μ H.

R211 was: 19B800607P100, 10 ohms.

R219 was: 19B800607P221, 220 ohms.

R220 was: 19B800607P270, 27 ohms.

R221 was: 19B800607P221, 220 ohms.

Rev. B - Transmitter Synthesizer Board - 19D9027791

To improve Lock-on at low end of board and to improve stabilization of +8 volt power supply. Changed C312, R204 and R310; replaced R206 with C219 and R207 with L205.

C312 was: 19A702061P99, 1000 pF.

R204 was: 19B80607P270, 27 ohms.

Rev. C - Transmitter Synthesizer Board - 19D902779G1

To improve the margin of stability on the +8 Vdc power supply, changed C312 and R310, and added C314 and R313.

C312 was: 19A705205P2, 1 μ F.

R310 was: 19B800607P100, 10 ohms.

Rev. D - Transmitter Synthesizer Board - 19D902779G1

To correct loading problem.

R209 was: 100 ohms (19B801486P101).

R411 was: 4.7k ohms (19B800607P472).

R707 was 47k ohms (19B800607P473).

REV. E - Transmitter Synthesizer Board - 19D902779G1

To accommodate SOG synthesizer IC package U402 (PLCC package discontinued). Modified printed wire board layout (Printed wire board changed from 19D902644P1R5 to 19D902644P1R6). Added new U402. U402 was 19B800902P5. Installed RC compensation network resistor R314 and capacitor C315 in 10-volt regulator circuit. Installed item 9 RF shielding grommets (19B802690P1) on two BNC connectors of input/output RF ports.

REV. A - Transmitter Synthesizer Module 19D902780G1

To install RF shielding grommets. Installed item 9 RF shielding grommets (19B802690P1) on two BNC connectors of input/output RF ports.

REV. F - Transmitter Synthesizer Board - 19D902779G1

To improve marginal power output at the high end of the VHF Band (174 MHz). Changed inductor L203 from 0.18 μ H (19A705470P16) to 0.15 μ H. Changed resistor R220 from 39 ohms (19B800607P390) to 22 ohms. Inductor L203 was a 19A705470P16. Resistor R220 was a 19B800607P390.

REV. B - Transmitter Synthesizer Module 19D902780G1

To install a cover that has a conductive gasket. Changed item 3. Item 3 was a 1919D902509P2.

REV. G - Transmitter Synthesizer Board 19D902779G1

To increase the base current of transistor Q101 and ensure saturation during turn on. Changed resistor R101. Resistor R101 was 19B800607P473, 47k Ohms.

REV. H - Transmitter Synthesizer Board 19D902779G1

To decrease the output power by approximately 1.0 dB. Changed resistor R220. Resistor R220 was 19B800607P220, 22 Ohms.



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
900032A001	CCA, 135-175 MHz DRIVER MODULE	03003-101	RES,S,100,1206,5%,.25W	1.00	EA	R115
		100001A012	RES, 130 OHM, 5% .125W 0805	2.00	EA	R40,R108
		100001A015	RES, 82K OHM, 5% .125W 0805	4.00	EA	R18,R22,R43,R64
		100001A017	RES, 20K OHM, 5% .125W 0805	1.00	EA	R111
		100001A022	RES, 1MEG OHM, .125W 0805	3.00	EA	R17,R32,R35
		100003A001	RES,10K OHM,0.125W,1%,0805	36.00	EA	R3,R4,R5,R6,R7,R8,R12,R13,R14,R15,R16,R19,R21,R23,R25,R27,R28,R29,R30,R34,R36,R37,R38,R39,R41,R45,R47,R48,R51,R57,R58,R63,R67,R123,R125
		100003A002	RES,1820 OHM,0.125W,1%,0805	1.00	EA	R109
		100003A003	RES,1.0K OHM,0.125W,1%,0805	22.00	EA	R2,R10,R24,R31,R52,R62,R71,R72,R73,R74,R76,R77,R78,R79,R80,R112,R114,R124,R126,R128,R133,R136
		100003A005	RES, 49.9 OHM,0.125W,1%,0805	1.00	EA	R46
		100003A010	RES, 9.09K OHM,0.125W,1%,0805	1.00	EA	R11
		100003A013	RES, 499 OHM,0.125W,1%,0805	2.00	EA	R122,R134
		100003A014	RES, 6.340 K OHM, 0 .125W, 1%, 0805	6.00	EA	R20,R42,R49,R50,R53,R68
		100003A015	RES,8.250K OHM 1%, 0.125W 0805	1.00	EA	R33
		100003A016	RES, 590 OHM, .125W, 1%, 0805	3.00	EA	R75,R127,R131
		100003A017	RES, 392 OHM,0.125W, 1%, 0805	1.00	EA	R107
		100003A018	RES, 28.7 OHM,.25 W, 1%, 0805	1.00	EA	R102
		100003A019	RES, 200 OHM, .25W, 1%, 0805	4.00	EA	R101,R103,R130,R135
		100003A020	RES, 39.2K OHM, 0.125W, 1%, 0805	1.00	EA	R70
		100003A021	RES, 10.0 Ohm,0.125W,1%, 0805	2.00	EA	R105,R106
		100004A003	RES, S, 1000, 5% 2512,	1.00	EA	R120
		100005A001	RES, 50 OHM TERM,25 Watts	1.00	EA	R121
		100007A001	RES, 9.09 OHM, 0.25W, 1%, 1206	3.00	EA	R110,R116,R117
		120001A001	POT, 5K OHM MULTI-TURN	4.00	EA	R1,R9,R44,R113
		186-0002	CAP1210 Y5V SMT, 4.7 uF	3.00	EA	C1,C109,C128
		200001A044	CAP, SMT, 1111, RF PORC, 20 pF, 5%, 500	1.00	EA	C124
		200001A046	CAP, SMT, 1111, RF PORC, 24 pF, 5%, 500	1.00	EA	C116
		200001A049	CAP, SMT, 1111, RF PORC, 33	1.00	EA	C122



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
900032A001	CCA, 135-175 MHz DRIVER MODULE		pF, 5%, 500			
		200001A055	CAP, SMT, 1111, RF PORC, 56 pF, 5%, 500	1.00	EA	C123
		200001A072	CAP, SMT, 1111, RF PORC, 300 pF, 20%, 20	2.00	EA	C125,C130
		200003A001	CAP, 0.1uF 0805 50V 10%	21.00	EA	C4,C7,C9,C11,C13,C14,C15,C19,C20,C22,C23,C24,C25,C26,C105,C111,C118,C127,C134,C136,C138
		200004A001	CAP, SMT 0.001uF, 100V, 0805	36.00	EA	C2,C3,C5,C6,C8,C10,C12,C16,C17,C18,C21,C28,C29,C30,C31,C32,C33,C34,C35,C36,C37,C38,C39,C103,C104,C107,C108,C110,C112,C113,C120,C126,C135,C137,C140,C141
		200004A003	CAP, SMT 0.01uF, 100V, 0805	2.00	EA	C27,C119
		200006A006	CAP, 8.2pF,RF NPO 0805, SMT	1.00	EA	C131
		200006A007	CAP, 12pF RF NPO 0805, SMT	1.00	EA	C100
		200006A008	CAP, 56 pF RF NPO 0805, SMT	1.00	EA	C132
		200006A009	CAP, 82 pF RF NPO 0805, SMT	1.00	EA	C133
		290006A002	GAIN BLOCK, 5-2000 MHz MEDIUM POWER MMIC	1.00	EA	U101
		310003A001	TRANS, NPN	5.00	EA	Q1,Q2,Q3,Q5,Q101
		310004A001	TRANS, PNP	3.00	EA	Q4,Q102,Q103
		340003A001	DIODE, SMT SCHOTTKY RECTIFIER 15 AMP 50V	1.00	EA	D10
		340004A001	DIODE, 30 V TRANSIENT SUPPRESSOR	1.00	EA	D9
		370001A002	QUAD JFET INPUT OP AMP	5.00	EA	U4,U5,U7,U8,U103
		370002A002	TRU PWR RF DETECTOR,MICRO-SOIC 8 PIN	1.00	EA	U102
		370004A001	IC, SMT DUAL J-K FLIP W/ RESET	1.00	EA	U6 - USE MC74HCT73D PHILIPS
		440002A003	HEADER, SMT 0.1 2X5 POS, SHROUDED	1.00	EA	J13
		500021A001	PCB, 135-175 MHz DRIVER MODULE,REV O	1.00	EA	
		600002A001	FERRITE, CHIP BEAD 1806	1.00	EA	FB100
		610002A002	INDUCTOR,S, 18nH, 5%, 0805	1.00	EA	L101
		610002A003	INDUCTOR,S, 12nH, 5%, 0805	1.00	EA	L102
		610003A001	INDUCTOR,S, 27 nH, 2%, 0805	1.00	EA	L103
		610003A002	INDUCTOR,S, 120 nH, 2%, 0805	1.00	EA	L100
		610003A006	INDUCTOR, S, 82nH, 2%, 0805	1.00	EA	L105

BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
900032A001	CCA, 135-175 MHz DRIVER MODULE	610004A002	INDUCTOR,S,1000nH,5%,1206	1.00	EA	L104
		610005A001	INDUCTOR, SMS, 47nH, 2%, 1812	1.00	EA	L106
		610005A002	INDUCTOR,SMS, 56nH, 2%, 1812	1.00	EA	L107
		610005A003	INDUCTOR, SMS, 27nH, 2%, 1812	1.00	EA	L108
		610005A004	INDUCTOR, SMS, 39nH, 2%, 1812	1.00	EA	L109
		610005A005	INDUCTOR, SMS, 120nH, 2%,1812	1.00	EA	L110
		800012A001	ATTENUATOR, QUAD PIN DIODE	1.00	EA	U100
		920-00223-004	V-REG,FXD,+6V,3A	1.00	EA	U3
		920-00223-005	V-REG,FXD,+15V,3A	1.00	EA	U2
		920-00223-006	V-REG,FXD,+24V,3A	1.00	EA	U1
		923-00023-046	RES,S,332OHM,120	1.00	EA	R119
		923-00030-100	RES,S,10 OHM,2512,5	1.00	EA	R118
		925-00127-001	2.5V SHUNT VOLTAGE REFERENCE	1.00	EA	D1
		925-00127-002	IC, 5.0 VOLT REF,PREC	1.00	EA	D5
		926-00018-001	DIODE,SWITCHING,	3.00	EA	D2,D3,D4



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
900033A001	CCA REV O, 135-175 MHz FINAL MODULE	03003-122	RES,S,1.2K,1206,	1.00	EA	R10
		03003-152	RES,S,1.5K,1206,5%,.125W	1.00	EA	R123
		03003-272	RES,S,2.7K,1206,	1.00	EA	R7
		100-02406-002	PLATE,MRF184, 60	1.00	EA	
		100002A005	RES., S, 2.0K, 1%, 1206	1.00	EA	R124
		100006A002	RES, SMT, 10 OHM, 1%, 2512	1.00	EA	R118
		100009A001	RES, SMT, 10 OHM, 1/2W, 1%, 2010	1.00	EA	R125
		100010A001	RES,SMT,180 OHM,10W,0.1"X0.2",ALUM.NITRI	1.00	EA	R120
		100010A002	RES,SMT,10OHM,10W,0.1"X0.2", ALUM.NITRIDE	1.00	EA	R116
		11143-101	RES,S,100,2512,5	2.00	EA	R115,R122
		120001A001	POT, 5K OHM MULTI-TURN	1.00	EA	R113
		160-0002	CAP TANTALUM 50V, 4.7uF.	2.00	EA	C101,C102
		161-014	CAP SMT 0.1uF 10% 100V 1210	1.00	EA	C134
		161-096	CAP S .1uF 1206	5.00	EA	C2,C3,C18,C103,C111
		185-0001	CAP1206, X7R SMT 100V, 0.01uF	1.00	EA	C112
		200001A022	CAP, SMT, 1111, RF PORC, 2.4 pF, 0.1 pF,	1.00	EA	C131
		200001A047	CAP, SMT, 1111, RF PORC, 27 pF, 5%, 500	2.00	EA	C118,C128
		200001A048	CAP, SMT, 1111, RF PORC, 30 pF, 5%, 500	1.00	EA	C124
		200001A053	CAP, SMT, 1111, RF PORC, 47 pF, 5%, 500	2.00	EA	C116,C119
		200001A055	CAP, SMT, 1111, RF PORC, 56 pF, 5%, 500	1.00	EA	C129
		200001A057	CAP, SMT, 1111, RF PORC, 68 pF, 5%, 500	1.00	EA	C126
		200001A064	CAP, SMT, 1111, RF PORC, 130 pF, 10%, 30	1.00	EA	C117
		200001A068	CAP, SMT, 1111, RF PORC, 200 pF, 20%, 30	1.00	EA	C135
		200001A072	CAP, SMT, 1111, RF PORC, 300 pF, 20%, 20	3.00	EA	C105,C114,C130
		500022A001	PCB, 135-175 FINAL MODULE, REV O	1.00	EA	
		600003A001	FAIRRITE,2-1/2 TURN SM WIDE BAND CHOKE	1.00	EA	FB100
		620003A004	SMT COIL, 8T, 14 AWG 3/16" ID, CW	1.00	EA	L110
		620003A005	SMT COIL, 2T, 14 AWG 0.234" ID,	2.00	EA	L107,L109



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
900033A001	CCA REV O, 135-175 MHz FINAL MODULE	620003A008	CW SMT COIL,2T,14AWG, 0.258 ID	1.00	EA	L106
		921-00051-102	CAP,S,1000pF,1206	2.00	EA	C104,C113
		923-00004-007	RES,S,1K,1206	1.00	EA	R114
		923-00023-041	RES,S,10k OHM,1206	1.00	EA	R1
		923-00076-471	THERMISTOR,S,470	1.00	EA	RT125
		925-00137-001	IC,TEMP SENSOR,4	1.00	EA	U1



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
900034A001	CCA REV P5, 135-175 MHz OUTPUT MODULE	03003-101	RES,S,100,1206,5%,.25W	1.00	EA	R3
		03003-750	RES, 75 OHM, 5%, .25W	2.00	EA	R2,R4
		100001A001	RES, 100K OHM, 5% .125W 0805	3.00	EA	R10,R12,R14
		100001A008	RES, 1.0K OHM, 5% .125W 0805	3.00	EA	R11,R13,R15
		100001A012	RES, 130 OHM, 5% .125W 0805	2.00	EA	R5,R7
		100003A005	RES, 49.9 OHM,0.125W,1%,0805	1.00	EA	R6
		100007A002	RES, 39.2 OHMS, 1%, 1206	1.00	EA	R8
		11143-101	RES,S,100,2512,5	2.00	EA	R19,R20
		200001A025	CAP, SMT, 1111, RF PORC, 3.3 pF, 0.1 pF,	2.00	EA	C13,C16
		200001A032	CAP, SMT, 1111, RF PORC, 6.2 pF, 0.1 pF,	2.00	EA	C14,C15
		200001A036	CAP, SMT, 1111, RF PORC, 9.1 pF, 0.1 pF,	2.00	EA	C17,C21
		200001A042	CAP, SMT, 1111, RF PORC, 16 pF, 5%, 500	1.00	EA	C19
		200001A043	CAP, SMT, 1111, RF PORC, 18 pF, 5%, 500	2.00	EA	C18,C20
		200003A001	CAP, 0.1uF 0805 50V 10%	3.00	EA	C1,C4,C7
		200004A001	CAP, SMT 0.001uF, 100V, 0805	9.00	EA	C2,C3,C5,C6,C8,C9,C10,C11,C12
		200006A002	CAP 47pF RF NPO 0805 SMT	1.00	EA	C24
		340001A001	DIODE, DUAL	3.00	EA	D1,D2,D3
		500023A001	PCB, 135-175 MHz OUTPUT MODULE REV P5	1.00	EA	PCB
		620003A003	SMT COIL, 3T, 14 AWG, 7/32" ID, CW	4.00	EA	L1,L2,L3,L4
		800010A001	COUPLER, 10dB 800-1000 MHz 150W SMT	1.00	EA	Y1
		921-00021-390	CAP,S,39pF,0805,	1.00	EA	C25
		923-00030-750	RES,S,75,2512,5%	1.00	EA	R21



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
990040A001	ASSM TOP, 136-174 MHz, 110W/0.01W, 26 V	05794-001	PIN,TERM,GROUND POST	1.00	EA	
		115-115	WIRE, 18 AWG STR. TEFLON, RED	0.15	FT	
		116-001	TUBING, SHRINK, 3/32", BLACK	0.08	EA	0.5 IN FOR RED FAN WIRE, 0.5 IN FOR FILTER WIRE
		120-127	SCREW 2-56 X 1/2 PPH, ZINC PLATED	8.00	EA	FOR COMBINERS ATTACHMENT
		120-205	SCREW, 4-40 X 5/16 SOC HD CAP, BLACK OXI	6.00	EA	4 PC FOR ATTENUATOR; 2 PC FOR BLF2043F
		121-208	WASHER, LOCK # 4 SPRING, ZINC	6.00	EA	4 PC ATTENUATOR; 2 PC FOR BLF2043F
		121-218	WASHER, LOCK # 6 SPLIT, STEEL ZINC	6.00	EA	4PC FOR FAN; 2PC FOR DC POWER CABLE
		130002A001	BNC STATIC CAP - CEP 08	1.00	EA	
		133-424	CAP, N-TYPE FEMALE ESD EC- 10	1.00	EA	
		150003A001	CHASSIS, EA-SERIES	1.00	EA	
		150004A001	INNER CHASSIS WALL, EA- SERIES	2.00	EA	
		160002A001	BRACKETS, EA-SERIES	2.00	EA	
		165-001	FILTER,EMI,SUPP	1.00	EA	
		183003A003	CIRCULATOR, 132-174 MHz	1.00	EA	
		198001A001	SPECTRUM TERMINAL BLOCK # 52-160-002-C	1.00	EA	
		199001A001	SPECTRUM BLOCK COVER # 54- 205-002	1.00	EA	
		300003A001	BLF2043F, RF POWER TRANSISTOR	1.00	EA	NOTE: Use thin layer of thermal grease under part
		390001A001	NUT, 6-32 HEX KEPS STL ZNC	2.00	EA	FOR TERMINAL BLOCK ATTACHMENT
		400002A001	HOUSING, FAN C-SERIES	1.00	EA	
		410-0011F	NUT , 4-40x1/4x3/32 HEX KEPS NUT	10.00	EA	4 PC FOR BNC-CONN; 4 PC N- CONN; 2 PC FOR CABLE - 10 POS-RIBBON
		410-0013	SCR,4/40x5/16 PPH STL ZP THDFRM	21.00	EA	8 PC FOR DRIVER PCB; 13 PC FOR OUTPUT PCB
		410-0045	SCREW 6-32 x 2 3/4 SLTD MS ZP"	4.00	EA	SCREW FAN TO HEATSINK
		410-0048	#2 x 7/32 x .020 FT STL WASH Z	8.00	EA	FOR COMBINERS ATTACHMENT
		410-0049F	# 2 MED SPLIT STL L/W ZP	8.00	EA	FOR COMBINERS ATTACHMENT
		410-0066	SCREW, 4-40 x 3/8 STL SWAGEFORM ZP	23.00	EA	4 PC FOR BNC-CONN;4 PC FOR N-CONN; 12 PC FOR 184 PALLETTS ATTACHMENT, 3 PC FOR INNER CHASSIS WALL



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
990040A001	ASSM TOP, 136-174 MHz, 110W/0.01W, 26 V	410-0076	6-32 x 3/4 PHIL PAN STL M/S ZP	2.00	EA	FOR TERMINAL BLOCK AND COVER ATTACHMENT
		410004A002	SEMS JACK SCREWS	2.00	EA	
		410005A001	6-32 X 5/16 STL ZP. SPLIT LIW SEMS PHIL	40.00	EA	4 PC SCREW CHASSIS TO HEATSINK, 4 PC FOR INNER CHASSIS WALL, 26 PC FOR COVER, 6 PC FOR BRACKETS ATTACHMENT
		420-0003M	FAN GRILLS - LARGE	1.00	EA	
		420-0010	FAN, ROTRON MC24B3	1.00	EA	
		430-0002	WIRE, RED 14 AWG UL1015- 1441-2	0.21	FT	2.5 IN TERMINAL BLOCK TO J1 ON DRIVER PCB
		430-0003K	UL1015-1441-0 14 GA BLK	0.21	FT	2.5 IN TERMINAL BLOCK TO J2 ON DRIVER PCB
		440-0016	N-CONNECTOR PANEL MOUNT	1.00	EA	OUTPUT CONN
		440010A001	BNC -23110-000N	1.00	EA	
		450007A001	HEATSINK - EA SERIES	1.00	EA	
		460008A001	FRONT PANEL	1.00	EA	
		480-0011	TUBING SHRINK, BLK 3/16"	0.17	FT	2 X 1 IN FOR TERMINAL BLOCK WIRES
		490-0026	BOX, ID 21-15/16 X 10-1/8 X 8-1/8	1.00	EA	
		660001A001	FOAM, DSIGN #2001H-1191B, EA UNITS	1.00	SE	
		740002A002	LABEL - WARRANTY, PLAIN	2.00	EA	
		740004A001	CURRENT LABEL / FREQUENCY LABEL	1.00	EA	
		800-0005R	COMBINER, RFP-131-181-90-200	2.00	EA	
		890033A001	PALLET, 135-174 MHz, AFTER TEST	2.00	EA	
		900032A001	CCA, 135-175 MHz DRIVER MODULE	1.00	EA	
		900034A001	CCA REV P5, 135-175 MHz OUTPUT MODULE	1.00	EA	
		920-00253-001	ATTENUATOR,100W, 20DB	2.00	EA	
		930008A001	CBL, DIN 10 POS-RIBBON-DB 9	1.00	EA	
		930017A001	FILTER SDR C	1.00	EA	
		930018A001	DC POWER CABLE	1.00	EA	
		930018A001	EXTERNAL CONTROL CABLE	1.00	EA	
		930024A001	CABLE, 4.5" 3 CONDUCTOR FLAT,STRIP/TIN	1.00	EA	



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
990040A002	ASSM TOP, 136-154 MHz, 110W/0.01W, 26 V	05794-001	PIN,TERM,GROUND POST	1.00	EA	
		115-115	WIRE, 18 AWG STR. TEFLON, RED	0.15	FT	
		116-001	TUBING, SHRINK, 3/32", BLACK	0.08	EA	0.5 IN FOR RED FAN WIRE, 0.5 IN FOR FILTER WIRE
		120-127	SCREW 2-56 X 1/2 PPH, ZINC PLATED	8.00	EA	FOR COMBINERS ATTACHMENT
		120-205	SCREW, 4-40 X 5/16 SOC HD CAP, BLACK OXI	6.00	EA	4 PC FOR ATTENUATOR; 2 PC FOR BLF2043F
		121-208	WASHER, LOCK # 4 SPRING, ZINC	6.00	EA	4 PC ATTENUATOR; 2 PC FOR BLF2043F
		121-218	WASHER, LOCK # 6 SPLIT, STEEL ZINC	6.00	EA	4PC FOR FAN; 2PC FOR DC POWER CABLE
		130002A001	BNC STATIC CAP - CEP 08	1.00	EA	
		133-424	CAP, N-TYPE FEMALE ESD EC- 10	1.00	EA	
		150003A001	CHASSIS, EA-SERIES	1.00	EA	
		150004A001	INNER CHASSIS WALL, EA- SERIES	1.00	EA	
		150004A002	INNER WALL, VHF	1.00	EA	
		160002A001	BRACKETS, EA-SERIES	2.00	EA	
		165-001	FILTER,EMI,SUPP	1.00	EA	
		183003A001	CIRCULATOR, 132-154 MHz	1.00	EA	
		198001A001	SPECTRUM TERMINAL BLOCK # 52-160-002-C	1.00	EA	
		199001A001	SPECTRUM BLOCK COVER # 54- 205-002	1.00	EA	
		300003A001	BLF2043F, RF POWER TRANSISTOR	1.00	EA	NOTE: Use thin layer of thermal grease under part
		390001A001	NUT, 6-32 HEX KEPS STL ZNC	2.00	EA	FOR TERMINAL BLOCK ATTACHMENT
		400002A001	HOUSING, FAN C-SERIES	1.00	EA	
		410-0011F	NUT , 4-40x1/4x3/32 HEX KEPS NUT	10.00	EA	4 PC FOR BNC-CONN; 4 PC N- CONN; 2 PC FOR CABLE - 10 POS-RIBBON
		410-0013	SCR,4/40x5/16 PPH STL ZP THDFRM	21.00	EA	8 PC FOR DRIVER PCB; 13 PC FOR OUTPUT PCB
		410-0045	SCREW 6-32 x 2 3/4 SLTD MS ZP"	4.00	EA	SCREW FAN TO HEATSINK
		410-0048	#2 x 7/32 x .020 FT STL WASH Z	8.00	EA	FOR COMBINERS ATTACHMENT
		410-0049F	# 2 MED SPLIT STL L/W ZP	8.00	EA	FOR COMBINERS ATTACHMENT
		410-0066	SCREW, 4-40 x 3/8 STL SWAGEFORM ZP	23.00	EA	4 PC FOR BNC-CONN;4 PC FOR N-CONN; 12 PC FOR 184 PALLETS ATTACHMENT, 3 PC



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
990040A002	ASSM TOP, 136-154 MHz, 110W/0.01W, 26 V	410-0076	6-32 x 3/4 PHIL PAN STL M/S ZP	2.00	EA	FOR INNER CHASSIS WALL
		410004A002	SEMS JACK SCREWS	2.00	EA	FOR TERMINAL BLOCK AND COVER ATTACHMENT
		410005A001	6-32 X 5/16 STL ZP. SPLIT LIW SEMS PHIL	40.00	EA	4 PC SCREW CHASSIS TO HEATSINK, 4 PC FOR INNER CHASSIS WALL, 26 PC FOR COVER, 6 PC FOR BRACKETS ATTACHMENT
		420-0003M	FAN GRILLS - LARGE	1.00	EA	
		420-0010	FAN, ROTRON MC24B3	1.00	EA	
		430-0002	WIRE, RED 14 AWG UL1015- 1441-2	0.21	FT	2.5 IN TERMINAL BLOCK TO J1 ON DRIVER PCB
		430-0003K	UL1015-1441-0 14 GA BLK	0.21	FT	2.5 IN TERMINAL BLOCK TO J2 ON DRIVER PCB
		440-0016	N-CONNECTOR PANEL MOUNT	1.00	EA	OUTPUT CONN
		440010A001	BNC -23110-000N	1.00	EA	
		450007A001	HEATSINK - EA SERIES	1.00	EA	
		460008A002	FRONT PANEL, VHF	1.00	EA	
		480-0011	TUBING SHRINK, BLK 3/16"	0.17	FT	2 X 1 IN FOR TERMINAL BLOCK WIRES
		490-0026	BOX, ID 21-15/16 X 10-1/8 X 8-1/8	1.00	EA	
		660001A001	FOAM, DSIGN #2001H-1191B, EA UNITS	1.00	SE	
		740002A002	LABEL - WARRANTY, PLAIN	2.00	EA	
		740004A001	CURRENT LABEL / FREQUENCY LABEL	1.00	EA	
		800-0005R	COMBINER, RFP-131-181-90-200	2.00	EA	
		890033A001	PALLET, 135-174 MHz, AFTER TEST	2.00	EA	
		900032A001	CCA, 135-175 MHz DRIVER MODULE	1.00	EA	
		900034A001	CCA REV P5, 135-175 MHz OUTPUT MODULE	1.00	EA	
		920-00253-001	ATTENUATOR,100W, 20DB	2.00	EA	
		930008A001	CBL, DIN 10 POS-RIBBON-DB 9	1.00	EA	
		930017A001	FILTER SDR C DC POWER CABLE	1.00	EA	
		930018A001	EXTERNAL CONTROL CABLE	1.00	EA	
		930024A001	CABLE, 4.5" 3 CONDUCTOR FLAT,STRIP/TIN	1.00	EA	



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
990040A003	ASSM TOP, 150-174 MHz, 110W/0.01W, 26 V	05794-001	PIN,TERM,GROUND POST	1.00	EA	
		115-115	WIRE, 18 AWG STR. TEFLON, RED	0.15	FT	
		116-001	TUBING, SHRINK, 3/32", BLACK	0.08	EA	0.5 IN FOR RED FAN WIRE, 0.5 IN FOR FILTER WIRE
		120-127	SCREW 2-56 X 1/2 PPH, ZINC PLATED	8.00	EA	FOR COMBINERS ATTACHMENT
		120-205	SCREW, 4-40 X 5/16 SOC HD CAP, BLACK OXI	6.00	EA	4 PC FOR ATTENUATOR; 2 PC FOR BLF2043F
		121-208	WASHER, LOCK # 4 SPRING, ZINC	6.00	EA	4 PC ATTENUATOR; 2 PC FOR BLF2043F
		121-218	WASHER, LOCK # 6 SPLIT, STEEL ZINC	6.00	EA	4PC FOR FAN; 2PC FOR DC POWER CABLE
		130002A001	BNC STATIC CAP - CEP 08	1.00	EA	
		133-424	CAP, N-TYPE FEMALE ESD EC- 10	1.00	EA	
		150003A001	CHASSIS, EA-SERIES	1.00	EA	
		150004A001	INNER CHASSIS WALL, EA- SERIES	1.00	EA	
		150004A002	INNER WALL, VHF	1.00	EA	
		160002A001	BRACKETS, EA-SERIES	2.00	EA	
		165-001	FILTER,EMI,SUPP	1.00	EA	
		183003A002	CIRCULATOR, 150-174 MHz	1.00	EA	
		198001A001	SPECTRUM TERMINAL BLOCK # 52-160-002-C	1.00	EA	
		199001A001	SPECTRUM BLOCK COVER # 54- 205-002	1.00	EA	
		300003A001	BLF2043F, RF POWER TRANSISTOR	1.00	EA	NOTE: Use thin layer of thermal grease under part
		390001A001	NUT, 6-32 HEX KEPS STL ZNC	2.00	EA	FOR TERMINAL BLOCK ATTACHMENT
		400002A001	HOUSING, FAN C-SERIES	1.00	EA	
		410-0011F	NUT , 4-40x1/4x3/32 HEX KEPS NUT	10.00	EA	4 PC FOR BNC-CONN; 4 PC N- CONN; 2 PC FOR CABLE - 10 POS-RIBBON
		410-0013	SCR,4/40x5/16 PPH STL ZP THDFRM	21.00	EA	8 PC FOR DRIVER PCB; 13 PC FOR OUTPUT PCB
		410-0045	SCREW 6-32 x 2 3/4 SLTD MS ZP"	4.00	EA	SCREW FAN TO HEATSINK
		410-0048	#2 x 7/32 x .020 FT STL WASH Z	8.00	EA	FOR COMBINERS ATTACHMENT
		410-0049F	# 2 MED SPLIT STL L/W ZP	8.00	EA	FOR COMBINERS ATTACHMENT
		410-0066	SCREW, 4-40 x 3/8 STL SWAGEFORM ZP	23.00	EA	4 PC FOR BNC-CONN;4 PC FOR N-CONN; 12 PC FOR 184 PALLET'S ATTACHMENT, 3 PC



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
990040A003	ASSM TOP, 150-174 MHz, 110W/0.01W, 26 V	410-0076	6-32 x 3/4 PHIL PAN STL M/S ZP	2.00	EA	FOR INNER CHASSIS WALL
		410004A002	SEMS JACK SCREWS	2.00	EA	FOR TERMINAL BLOCK AND COVER ATTACHMENT
		410005A001	6-32 X 5/16 STL ZP. SPLIT LIW SEMS PHIL	40.00	EA	4 PC SCREW CHASSIS TO HEATSINK, 4 PC FOR INNER CHASSIS WALL, 26 PC FOR COVER, 6 PC FOR BRACKETS ATTACHMENT
		420-0003M	FAN GRILLS - LARGE	1.00	EA	
		420-0010	FAN, ROTRON MC24B3	1.00	EA	
		430-0002	WIRE, RED 14 AWG UL1015- 1441-2	0.21	FT	2.5 IN TERMINAL BLOCK TO J1 ON DRIVER PCB
		430-0003K	UL1015-1441-0 14 GA BLK	0.21	FT	2.5 IN TERMINAL BLOCK TO J2 ON DRIVER PCB
		440-0016	N-CONNECTOR PANEL MOUNT	1.00	EA	OUTPUT CONN
		440010A001	BNC -23110-000N	1.00	EA	
		450007A001	HEATSINK - EA SERIES	1.00	EA	
		460008A002	FRONT PANEL, VHF	1.00	EA	
		480-0011	TUBING SHRINK, BLK 3/16"	0.17	FT	2 X 1 IN FOR TERMINAL BLOCK WIRES
		490-0026	BOX, ID 21-15/16 X 10-1/8 X 8-1/8	1.00	EA	
		660001A001	FOAM, DSIGN #2001H-1191B, EA UNITS	1.00	SE	
		740002A002	LABEL - WARRANTY, PLAIN	2.00	EA	
		740004A001	CURRENT LABEL / FREQUENCY LABEL	1.00	EA	
		800-0005R	COMBINER, RFP-131-181-90-200	2.00	EA	
		890033A001	PALLET, 135-174 MHz, AFTER TEST	2.00	EA	
		900032A001	CCA, 135-175 MHz DRIVER MODULE	1.00	EA	
		900034A001	CCA REV P5, 135-175 MHz OUTPUT MODULE	1.00	EA	
		920-00253-001	ATTENUATOR,100W, 20DB	2.00	EA	
		930008A001	CBL, DIN 10 POS-RIBBON-DB 9	1.00	EA	
		930017A001	FILTER SDR C DC POWER CABLE	1.00	EA	
		930018A001	EXTERNAL CONTROL CABLE	1.00	EA	
		930024A001	CABLE, 4.5" 3 CONDUCTOR FLAT,STRIP/TIN	1.00	EA	



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
EA101292V10	AMPLIFIER, 136-174 MHz, 110W, 10mW, 26VD	990040A001	ASSM TOP, 136-174 MHz, 110W/0.01W, 26 V	1.00	EA	



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
EA101292V11 REV.1A	AMP, 136-154MHz, 110W, 10mW IN, 26 VDC	990040A002	ASSM TOP, 136-154 MHz, 110W/0.01W, 26 V	1.00	EA	



BOM REQUIREMENT

<u>Mat No</u>	<u>Description</u>	<u>Component No</u>	<u>Description</u>	<u>Qty</u>	<u>UOM</u>	<u>Location Ref</u>
EA101292V12 REV. P	AMP, 150-174 MHz, 110W, 10mW, 26VDC	990040A003	ASSM TOP, 150-174 MHz, 110W/0.01W, 26 V	1.00	EA	

Drawing Number	PL01-CB101134V1		Rev A						
			Issued Aug 8, 2002						
			By Seyed Tabrian						
DSP Modem Board									
M/A-COM Wireless Systems									
3315 Old Forest Rd.									
Lynchburg, VA 24501									
Item	Quantity	Reference	Part	Description	Package	Manufacturer	Order Part Number	2nd Src. Mfg	2nd Src. Part Number
1	2	C79,C80	22uF, AL, 6.3V, LOW E	CAP, Alum Elect, Low ESR, 6.3V, 22uF	7953	Panasonic	ECGC0JB220R		
2	3	C73,C78,C85	22uF, TAN, 25V, 7343	CAP, Tantalum, 25V +/-20%	7343	AVX	TAJD226M025R		
3	9	C18,C21,C25,C27,C35,C38,C44,C51,C53	10uF, TAN, 10V, 3216	CAP, Tantalum, 10V +/-20%	3216	AVX	TAJA106M010R		
4	5	C1,C2,C14,C60,C61	1.0uF, Y5V, 16V, 0805	CAP, Ceramic Y5V, 16V, +/-10%	0805	AVX	0805YG105KAT2A		
5	1	C55	1.0uF, X7R, 16V, 1206	CAP, Ceramic X7R, 16V, +/-10%	1206	AVX	1206YC105KAT2A		
6	28	C16,C17,C22,C23,C26,C28,C29,C30,C31,C34,C39,C41,C42,C43,C45,C50,C52,C56,C57,C58,C68,C69,C71,C72,C75,C77,C82,C84	0.1uF, X7R, 25V, 0805	CAP, Ceramic X7R, 25V, +/-10%	0805	AVX	08053C104KAT2A		
7	1	C54	0.022uF, X7R, 50V, 0805	CAP, Ceramic X7R, 50V, +/-10%	0805	AVX	08055C223KAT2A		
8	1	C32	0.047uF, X7R, 16V, 0603	CAP, Ceramic X7R, 16V, +/-10%	0603	AVX	0603YC473KAT2A		
9	26	C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C15,C20,C40,C62,C63,C64,C65,C66,C67,C70,C74,C86,C87,C88,C89	0.01uF, X7R, 16V, 0603	CAP, Ceramic X7R, 16V, +/-10%	0603	AVX	0603YC103KAT2A		
10	4	C46,C76,C81,C83	1000pF, X7R, 50V, 0603	CAP, Ceramic X7R, 50V, +/-10%	0603	AVX	06035C102KAT2A		
11	1	C37	220pF, NPO, 50V, 0603	CAP, Ceramic NPO, 50V +/-10%	0603	AVX	06035A221KAT2A		
12	1	C36	100pF, NPO, 50V, 0603	CAP, Ceramic NPO, 50V +/-10%	0603	AVX	06035A101KAT2A		
13	13	C19,C24,C33,C47,C48,C49,C59,C90,C91,C92,C93,C94,C95	33pF, NPO, 50V, 0603	CAP, Ceramic NPO, 50V +/-10%	0603	AVX	06035A330KAT2A		
14	6	RN1,RN2,RN3,RN4,RN5,RN6	4.7K, BUS8	RES NTWK BUS8, 0.063W, 5%	SM	CTS	745C101472JTR		
15	1	R27	0, 0603	RES, 0.063W, 5%	0603	AVX	CR10-000J-T		
16	1	R38	10, 0603	RES, 0.063W, 5%	0603	AVX	CR10-100J-T		
17	21	R6,R7,R9,R40,R41,R43,R45,R46,R48,R49,R50,R52,R53,R54,R55,R58,R59,R60,R61,R102,R103	30, 0603	RES, 0.063W, 5%	0603	AVX	CR10-300J-T		
18	2	R21,R25	49.9, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-49R0F-T		
19	18	R28,R47,R86,R87,R88,R89,R90,R91,R92,R93,R94,R95,R96,R97,R98,R99,R100,R101	100, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-1000F-T		
20	10	R65,R66,R67,R68,R69,R70,R79,R80,R81,R82	560, 0603	RES, 0.063W, 5%	0603	AVX	CR10-271J-T		
21	2	R22,R26	499, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-4990F-T		
22	5	R73,R77,R78,R84,R85	1.00K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-1001F-T		
23	1	R44	1.47K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-1471F-T		
24	1	R72	1.96K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-1961F-T		
25	2	R76,R71	3.09K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-3091F-T		
26	1	R39	3.32K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-3321F-T		
27	1	R62	3.40K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-3401F-T		
28	25	R1,R2,R3,R4,R5,R8,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20,R29,R33,R36,R51,R56,R57,R83,R104	4.7K, 0603	RES, 0.063W, 5%	0603	AVX	CR10-472J-T		
29	1	R75	5.90K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-5901F-T		
30	9	R23,R24,R30,R34,R35,R37,R63,R64,R74	10.0K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-1002F-T		
31	1	R42	11.8K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-1182F-T		
32	1	R32	35.7K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-3572F-T		
33	1	R31	66.5K, 1%, 0603	RES, 0.063W, 1%	0603	AVX	CR10-6652F-T		
34	1	L17	70ohm, 1206	FERRITE BEAD, 70 OHM, 300MHz	1206	FAIR-RITE	2512067007Y3	MURATA	BLM31A601S
35	2	L18,L16	600ohm, 0805	FERRITE BEAD, 600 OHM, 200MHz	0805	FAIR-RITE	2508056017Y0		
36	26	L1,L2,L3,L4,L5,L6,L8,L9,L10,L11,L12,L13,L14,L15,L19,L20,L21,L22,L23,L24,L25,L26,L27,L28,L29,L30	600ohm, 0603	FERRITE BEAD, 600 OHM, 100MHz	0603	FAIR-RITE	2506036017Y0		
37	2	L7,L31	39uH, 1008	INDUCTOR, 39uH, 90mA	1008	PANASONIC	ELJ-FC390JF		
38	2	Q5,Q4	BC856ALT1	TRANSISTOR, PNP, 65V	SOT23	MOTOROLA	BC856ALT1	GENERAL SEMI	BC856A
39	9	D3,D4,D5,D6,D7,D13,	MMBD7000LT1	DIODE, SWITCHING	SOT23	MOTOROLA	MMBD7000LT1	GENERAL SEMI	MMBD7000

Item	Quantity	Reference	Part	Description	Package	Manufacturer	Order Part Number	2nd Src. Mfg	2nd Src. Part Number
40	8	.D19,D21,D22 D15,D16,D17,D18,D23,D24, D25,D26	MMBZ5V6ALT1	DIODE, DUAL ZENER	SOT23	MOTOROLA	MMBZ5V6ALT1	DIODES INC	AZ23C5V6
41	1	Q1	IRLML5103	TRANSISTOR, PFET, 30V	SOT23	IR	IRLML5103		
42	2	Q3,Q2	IRLML2402	TRANSISTOR, NFET, 20V	SOT23	IR	IRLML2402		
43	5	D8,D9,D10,D11,D12	LED, GRN	LED, GREEN, RT-ANGLE SM	SM	DIALIGHT	591-2301-013		
44	1	J6	HEADER, 4X1, SM	CONN, 4X1, 0.1	SM	AMP	146128-2		
45	1	J3	HEADER, 6X1, SM	CONN, 6X1, 0.1	SM	AMP	146128-4		
46	1	J1	HEADER, 7X2, SM	CONN, 7X2, 0.1	SM	AMP	146130-6		
47	2	J9,J8	HEADER, 8X2, SM	CONN, 8X2, 0.1	SM	AMP	146130-7		
48	3	J10,J11,J12	HEADER, 10X2, SM	CONN, 10X2, 0.1	SM	AMP	146130-9		
49	3	J2,J4,J5	JUMPER2	JUMPER, 2-PIN	TH	AMP	103185-2		
50	1	J7	DIN 96_ABC	CONN, DIN TYPE-C W/ BRD	TH	AMP	650913-5	BRUNDY	PI96B80P00F00N9
51	1	U1	TMS320VC5421PGE	IC, DUAL CORE DSP	PQFP144	TI	TMS320VC5421PGE		
52	1	U2	74HCT374PW	IC, OCTAL D-FF'S	TSOP20	PHILIPS	74HCT374PW	FAIRCHILD	MM74HCT374MTC
53	1	U3	AM29LV400BB90EC	IC, 4M BOOT SECTOR FLASH	TSOP48	AMD	AM29LV400BB90EC		
54	2	U4,U6	74LVC245APW	IC, OCTAL XCVR	TSOP20	PHILIPS	74LVC245APW	TI	SN74LVC245APWR
55	1	U5	74LVC244APW	IC, OCTAL BUFFER	TSOP20	PHILIPS	74LVC244APW	TI	SN74LVC244APWR
56	2	U19,U7	TLV2451CDBV	IC, RAIL-TO-RAIL OP AMP	SOT23	TI	TLV2451CDBV		
57	1	U8	AD9241AS	IC, A/D CONVERTER	PQFP44	ANALOG DEVICES	AD9241AS		
58	1	U9	CS4338	IC, STEREO D/A	SOIC8	CIRRUS LOGIC	CS4338-KS		
59	2	U13,U10	TLV2461IDBV	IC, RAIL-TO-RAIL OP AMP	SOT23	TI	TLV2461IDBV		
60	1	U11	AD73311LARS	IC, A/D-D/A FRONT END	SSOIC20	ANALOG DEVICES	AD73311LARS		
61	1	U12	ADG704BRM	IC, 4-CH MULTIPLEXER	TSOP10	ANALOG DEVICES	ADG704BRM		
62	1	U14	TLC2932IPWR	IC, PHASE-LOCKED LOOP	SOIC14	TI	TLC2932IPWR		
63	4	U15,U16,U28,U29	74AHCT1G125	IC, SINGLE TS BUFFER	SOT353	TI	SN74AHCT1G125DCKR	PHILIPS	74AHCT1G125GW
64	1	U17	XC95144XL-7TQ100	IC, CPLD	TQFP100	XILINX	XC95144XL-7TQ100C		
65	1	U18	TLV5636CD	IC, 12-BIT D/A	SOIC8	TI	TLV5636CD		
66	1	U21	TL16C550CPFB	IC, UART	PQFP48	TI	TL16C550CPFB		
67	3	U22,U23,U24	MC33161D	IC, VOLT MONITOR	SOIC8	MOTOROLA	MC33161D		
68	1	U25	REG103-5	IC, LDO REGULATOR, 5V	DDPAK-5	BURR-BROWN	REG103FA-5		
69	1	U26	TPS70151PWP	IC, DUAL LDO REGULATOR,	TSOP20	TI	TPS70151PWP		
70	1	U27	ADM1232ARN	IC, uP SUPERVISOR	SOIC8	ANALOG DEVICES	ADM1232ARN		
71	1	U20	MAX3221ECAE	IC, RS-232 TRANSCEIVER	SSOP16	MAXIM	MAX3221ECAE	INTERSIL	ICL3221CA
72	1	Y1	2.4576MHz, SG636	IC, 3.3V, 2.4576Mhz OSC	SM	EPSON	SG-636PCE2.4576MC		
73	1	S2	SW, PB, NO/NC, DIP4	SWITCH, PB NO/NC, RT-ANG	TH	GRAYHILL	32-01		
74	1	S1	SOCKET, TSOP, 48-PIN	SOCKET 48-PIN TSOP	TSOP48	EMULATION TECH	S-TSO-SM-048-A		
75	23	TP1,TP2,TP3,TP4,TP5,TP6, TP7,TP8,TP9,TP10,TP11, TP12,TP13,TP14,TP15,TP16, TP17,TP18,TP19,TP20,TP28, TP29,TP30	TESTPT, WHT	TEST POINT LOOP - WHITE	TH	COMPONENTS CORP	TP-105-01-09		
76	2	TP21,TP22	TESTPT, RED	TEST POINT LOOP - RED	TH	COMPONENTS CORP	TP-105-01-02		
77	5	TP23,TP24,TP25,TP26,TP27	TESTPT, BLK	TEST POINT LOOP - BLACK	TH	COMPONENTS CORP	TP-105-01-00		
78	6	FID1,FID2,FID3,FID4,FID5, FID6	FIDUCIAL	N/A	N/A	N/A	N/A		
79	8	MH1,MH2,MH3,MH4,MH5,MH6, MH7,MH8	MT HOLE 147	N/A	N/A	N/A	N/A		
80	4	MH9,MH10,MH11,MH12	MT HOLE 50						
81	1	Y2	12.288MHZ, VCXO	IC, 5V, 12.288MHZ VCXO	SM	VECTRON	VCUGLA-12.288MHZ		
91	1	PWB	PB101133V1R2						

MASTR III MALIBU RECEIVER IF CIRCUIT BOARD ASSEMBLY
 BILL OF MATERIALS: PL01-CB101128 Rev B July 24,2002

Schematic: WD-CB101128

Item	Qty	Reference	Part	Size	Part No.	Approved Mfgr
1	3	C1,C2,C148	120pF	0805	RJC 463 4043/12	
2	3	C3,C22,C211	47nF	0805	RJC 464 2045/47	
3	19	C4,C6,C20,C23,C123,C124,C128,C207,C233,C234, C237,C238,C239,C240,C241,C242,C245,C246,C249	10nF	0805	RJC 464 2045/1	
4	6	C113,C117,C136,C243,C244,C250	1nF	0805	RJC 463 4044/1	
5	9	C7,C8,C18,C19,C27,C28,C34,C151,C152	15pF	0805	RJC463 6042/15	
6	6	C9,C12,C17,C24,C29,C36	3-10pF		19A704350P102	Murata
7	2	C14,C15	5.6pF	0805	RJC463 9041/56	
8	6	C11,C13,C16,C26,C30,C32	2.7pF	0805	RJC463 9041/27	
10	34	C37,C104,C106,C109,C112,C115,C116,C122, C125,C126,C130,C131,C132,C133,C134,C135,C137, C138,C140,C141,C142,C143,C144,C147,C149,C150, C154,C155,C157,C203,C205,C213,C214,C223	100nF	0805	RJC 464 3046/1	
11	6	C100,C101,C103,C105,C107,C114	22nF	0805	RJC 464 3045/22	
12	6	C102,C110,C201,C206,C216,C219	1uF	1206	RJC 464 3067/1	
13	7	C5,C21,C31,C33,C108,C209,C210	4.7nF	0805	RJC464 3044/47	
14	1	C111	330pF	0805	RJC463 4043/33	
15	1	C119	150pF	0805	RJC 463 4043/15	
16	1	C120	56pF	0805	RJC 463 4042/56	
17	2	C121,C39	1pF	0805	RJC 463 0041/1	
18	1	C127	33 uF	D	19A705205P15	
19	1	C129	27pF	0805	RJC 463 4042/27	
20	14	C145,C208,C217,C218,C220,C221,C224,C225,C226, C228,C229,C230,C231,C232	100pF	0805	RJC463 4043/1	
21	1	C146	6.8uF	B	19A705205P5	
22	4	C139,C153,C156,C158	22pF	0805	RJC 463 4042/22	
23	1	C200	47uF	D	19A705205P111	
24	3	C202,C204,C222	1uF POL	A	19A705205P2	
25	2	C215,C212	470pF	0805	RJC 463 4043/47	
26	2	C235,C236	.33uF	0805	RJC 464 3046/33	

27	4	C10,C25,C248,C252	33pF	0805	RJC 463 4042/33	
28	1	D1	SMS7630-005		RKZ 323 661/5	Alpha Ind.
29	1	D2	LED		19A703595P10	Agilent Tech.
30	1	D100	BZX84C8V2/SOT		19A700083P105	ON Semicon.
31	1	D200	BAT18		19A700155P2	Philips Semicon.
32	1	FL1,FL2 (High IP3 filter set consists of a matched pair)	21.4 MHz	5x7mm	FL101061V1	TEW, ToyoCom
33	1	FL3,FL4 (filter set consists of a matched pair)	21.4 MHz	5x7mm	FL101061V4	TEW, ToyoCom
34	1	FL100	455 kHz Cer. Filt.		VECFUM455E	Murata
35	2	FL101,FL102	455 kHz Cer. Filt.		VECFUM455F	Murata
36	1	J1	BNC		19A115938P24	
37	1	J2	96PIN CONN		19B801587P7	
38	2	L1,L2	.47uH	1008	REG704593/47	TDK
39	4	L3,L4,L7,L8	6.8uH	1008	REG704594/68	TDK
40	3	L5,L6,L9	1.5uH	1008	VELQS33N1R5G04	Murata
41	1	L10	3.3uH	1210	REG 704 14/31	TDK
42	4	L100,L103,L201,L202	10uH	1210	REG 704 14/37	TDK
43	1	L101	.27uH	1008	REG 704 593/27	TDK
44	1	L102	.75uH		19A703311P1	Toko
45	2	Q1,Q2	NE85633	SOT23	19A704708P2	CEL (NEC)
46	7	Q3,Q4,Q100,Q101,Q201,Q202,Q203	MMBT3904/SOT	SOT23	19A700076P2	ON Semicon.
47	2	R1,R103	51.1 ohm	0805	344A3304P51R1	
48	4	R2,R9,R24,R25	100 ohms	0805	344A3304P1000	
49	10	R19,R111,R134,R138,R141,R205 R206,R207,R215,R254	100k	0805	344A3304P1003	
50	8	R4,R11,R16,R17,R114,R117,R143,R202	3.32k	0805	344A3304P3321	
51	5	R5,R12,R110,R124,R224	825 ohms	0805	344A3304P8250	
52	4	R8,R6,R13,R15	909 ohms	0805	344A3304P9090	
53	2	R7,R14	5.62 ohms	0805	19B801251P5R6	
54	6	R225,R226,R229,R233,R234,R235	47.5k	0805	344A3304P4752	
55	3	R106,R152,R153	0 ohm	0805	19B801251P1	
56	3	R20,R133,R204	15k	0805	344A3304P1502	
57	2	R22,R201	2.67k	0805	344A3304P2741	
58	4	R21,R122,R144,R147	2.21k	0805	344A3304P2211	
59	6	R23,R121,R123,R148,R149,R155	475	0805	344A3304P4750	
60	6	R18,R26,R27,R115,R118,R208	6.81k	805	344A3304P6811	
61	1	R100	1K VAR		REL 316 1114/1	Bourns
62	1	R101	200 ohms	0805	344A3304P2000	

63	1	R104	332 ohms	0805	344A3304P3320	
64	3	R105,R220,R221	22.1k	0805	344A3304P2212	
65	14	R102,R209,R237,R238,R239,R241,R242,R243, R244,R246,R248,R250,R252,R253	1k	0805	344A3304P1001	
66	1	R107	221 ohms	0805	344A3304P2210	
67	1	R108	150k	0805	344A3304P1503	
68	1	R109	1.5k	0805	334A3304P1501	
69	11	R3,R10,R112,R125,R132,R135,R214,R217,R218, R227,R230	10k	0805	344A3304P1002	
70	1	R113	4.32k	0805	344A3304P4321	
71	1	R120	12.1k	0805	344A3304P1212	
72	4	R130,R145,R231,R236	4.75k	0805	344A3304P4751	
73	3	R154,R245,R247	47.5 ohms	0805	344A3304P47R5	
74	3	R126,R128,R142	1.21k	0805	344A3304P1211	
75	1	R127	3.92k	0805	344A3304P3921	
76	1	R129	1.82k	0805	344A3304P1821	
77	2	R131,R213	8.25k	0805	344A3304P8251	
78	1	R146	267 ohms	0805	344A3304P2670	
79	1	R137	121k	0805	344A3304P1213	
80	1	R203	20K VAR		REL 316 1115/2	Bourns
81	3	R139,R211,R210	33.2k	0805	344A3304P3322	
82	1	R212	56.2k	0805	344A3304P5622	
83	1	R216	332k	0805	344A3304P3323	
84	2	R228,R219	39.2k	0805	344A3304P3922	
85	1	R222,R136	68.1k	0805	344A3304P6812	
86	1	R223	750 ohms	0805	344A3304P7500	
87	1	R232	10 ohms	0805	344A3304P10R0	
88	1	R35	NO PLACE	0805	NONE	
89	2	TP2,TP5	TEST POINT		344A3367P1	
90	2	TX1,TX2	B5F		REGUA10003/1	Toko
91	3	U1,U104,U106	LM239A/SO		GNLM239D	ON Semicon.
92	1	U100	UPC3206GR		VEUPC3206GR-E1	CEL (NEC)
93	1	U101	SA605		19A705535P3	Philips Semicon.
94	3	U102,U103,U207	MAX4544		RYT1016239/C	Maxim
95	1	U105	LM6172IM	SO8	VELM6172IM	National Semicon.
96	1	U200	TLC2274/SO		RYT1016140/2	TI
97	1	U203	LM2902/SO		RYT1016002/2C	ON Semicon.

98	2	U201,U208	MC78M08C/TO		19A704971P10	ON Semicon.
99	1	U202	LM78L05AC/SO		19A704971P9	Fairchild Semicon.
100	1	U204	74HCT138/SO		344A3064P201	ON Semicon.
101	1	U205	74HC32/SO		19A703483P311	ON Semicon.
102	1	U206	74HC595/SO		19A703987P324	ON Semicon.
103	1	Y100	CRYSTAL	5x7mm	CY101062V1	TEW, NDK, ToyoC.
104	1	Y101	DISCRIM.		19A149976P1	Murata
105	1	Receiver IF Printed Wiring Board	PWB		PB101127V1	

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