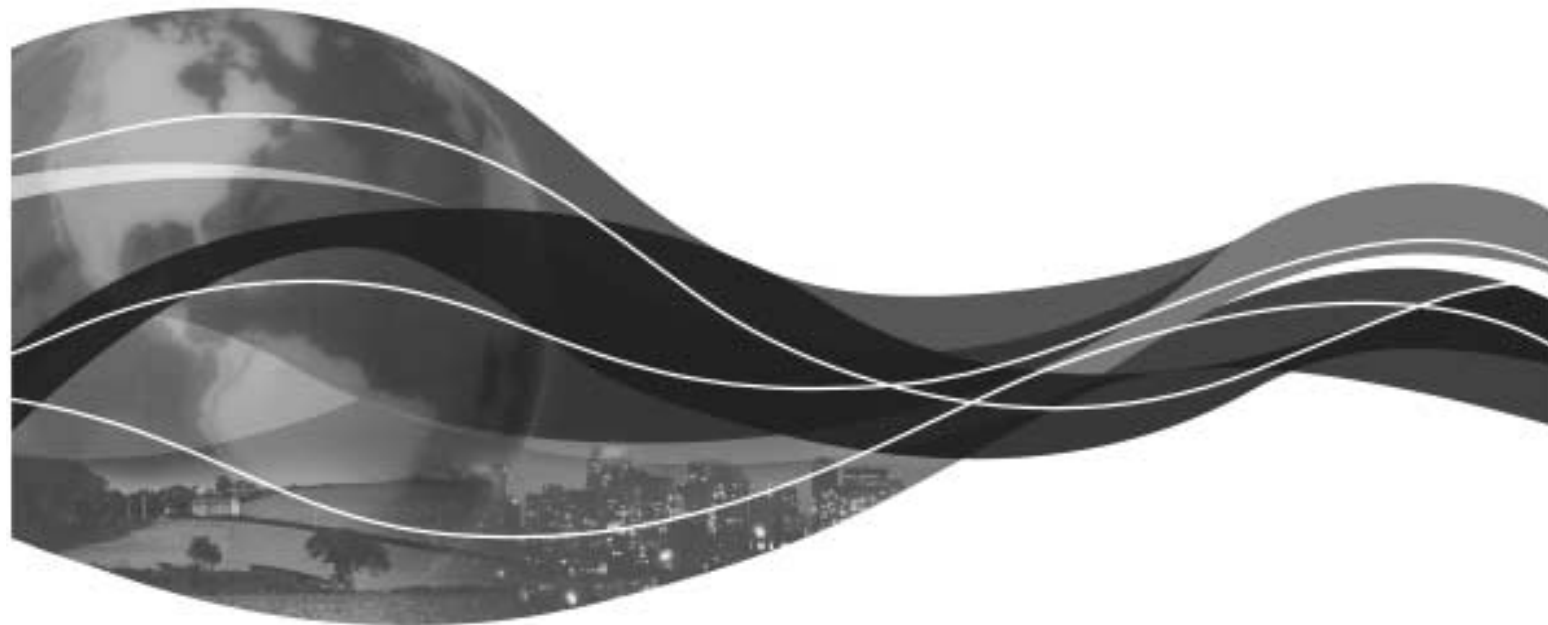




Level 3 Transceiver Supplement

Personal Communicator



Model V200
CDMA Technology

Product Names

Product names included in V200 are listed on the front cover. Product names are subject to change without notice. Some product names, as well as some frequency bands, are available only in certain markets.

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Replacement parts, test equipment, and manuals can be ordered from AAD.

U.S.A.

Phone: 800-422-4210

FAX: 800-622-6210

Outside U.S.A.

Phone: 847-538-8023

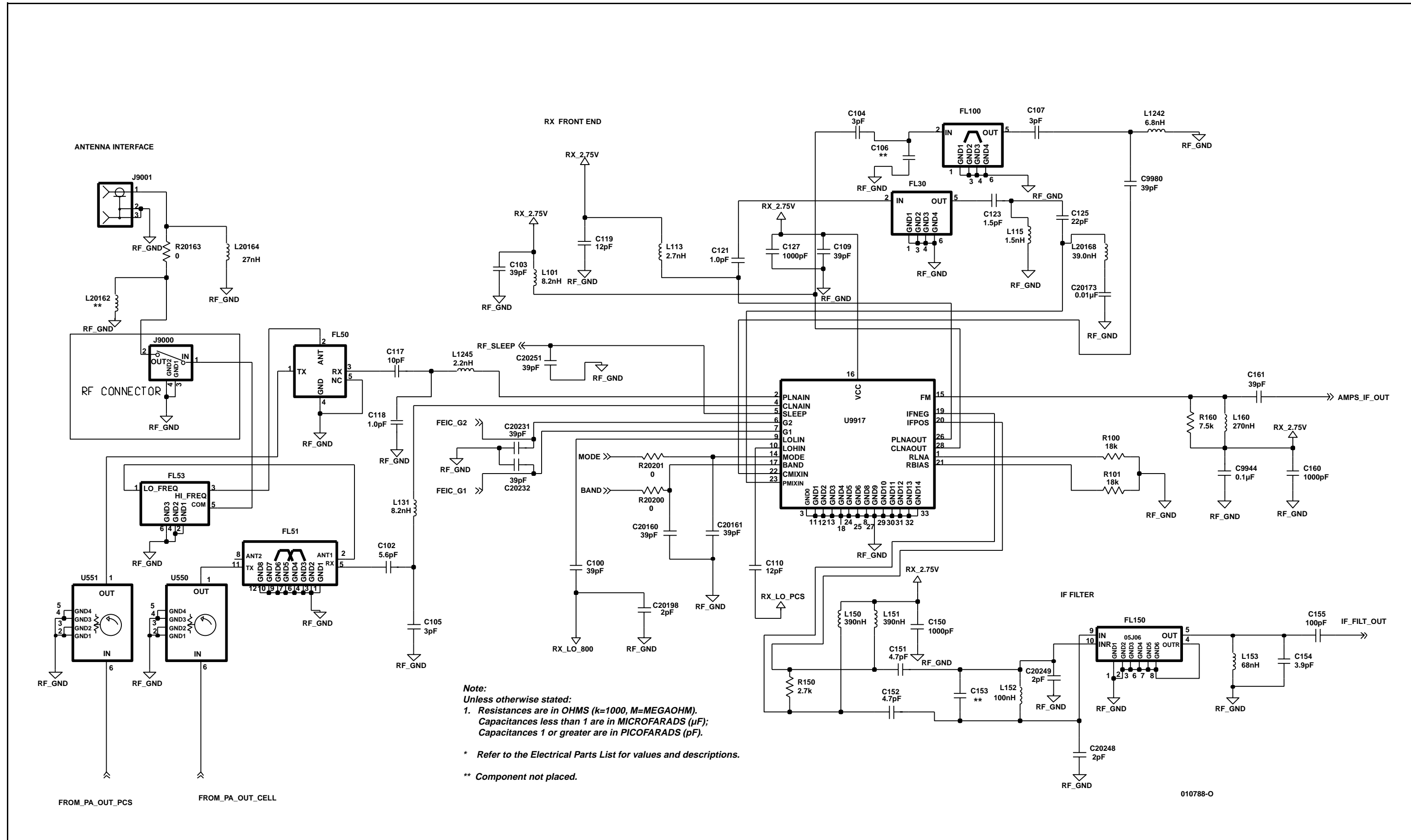
FAX: 847-576-3023

Kit Descriptions

The following table lists all kits presented in this manual. For each kit, the page number of the applicable schematic, PCB overlay drawings, and parts lists is provided in the far right column. Kits listed on the same line are equivalent but with parts differences as noted by the item reference letter used in the table and in the parts list.

Item	KIT NUMBERS	DESCRIPTION	PAGE NUMBER		
			Schematics	Overlay	Parts List
A	SLG4123A	Transceiver Kit	2 - 7	8 / 9	10 / 11

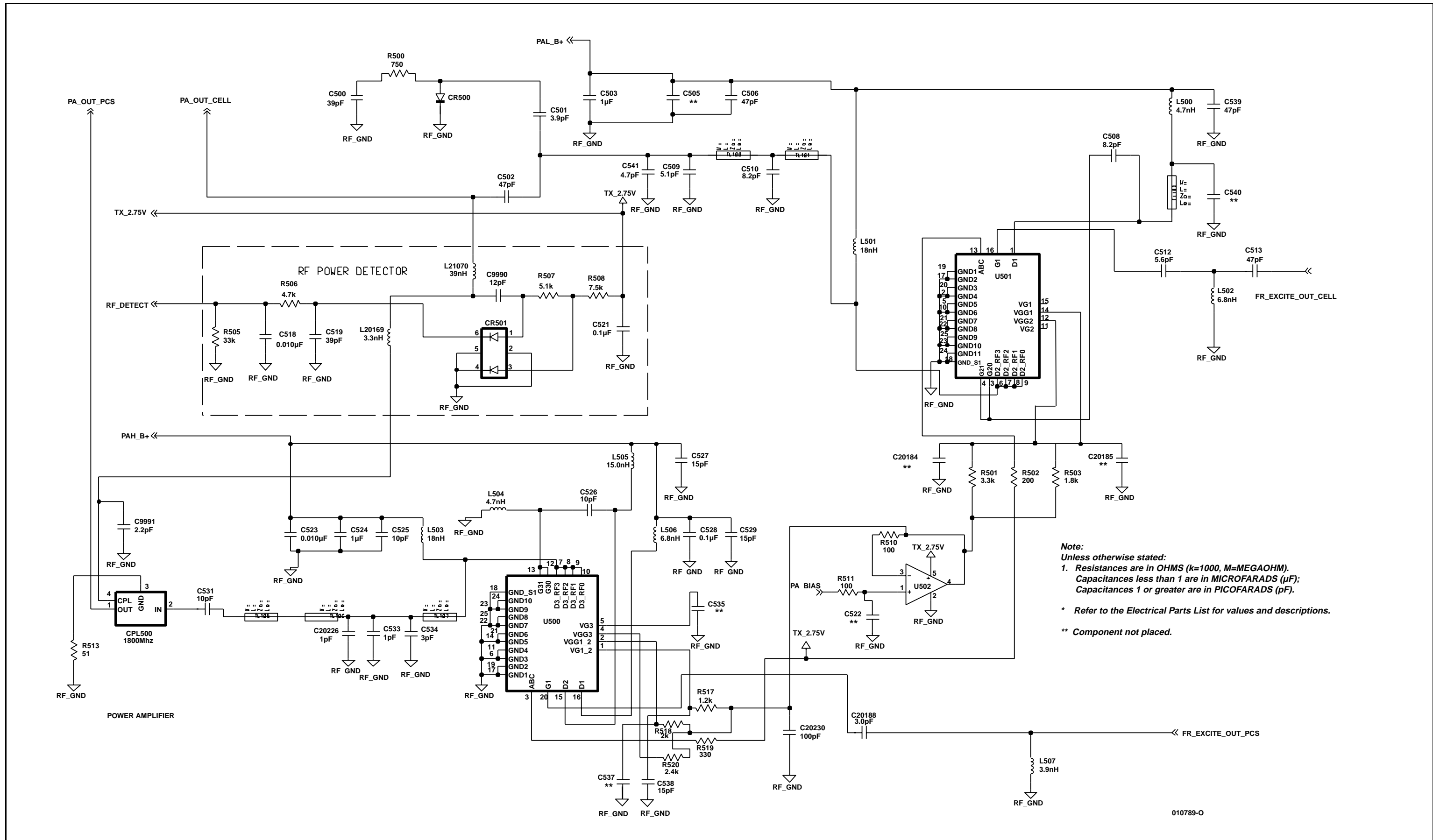
SLG4123A Transceiver Antenna Interface Schematic Diagram page 1 of 6



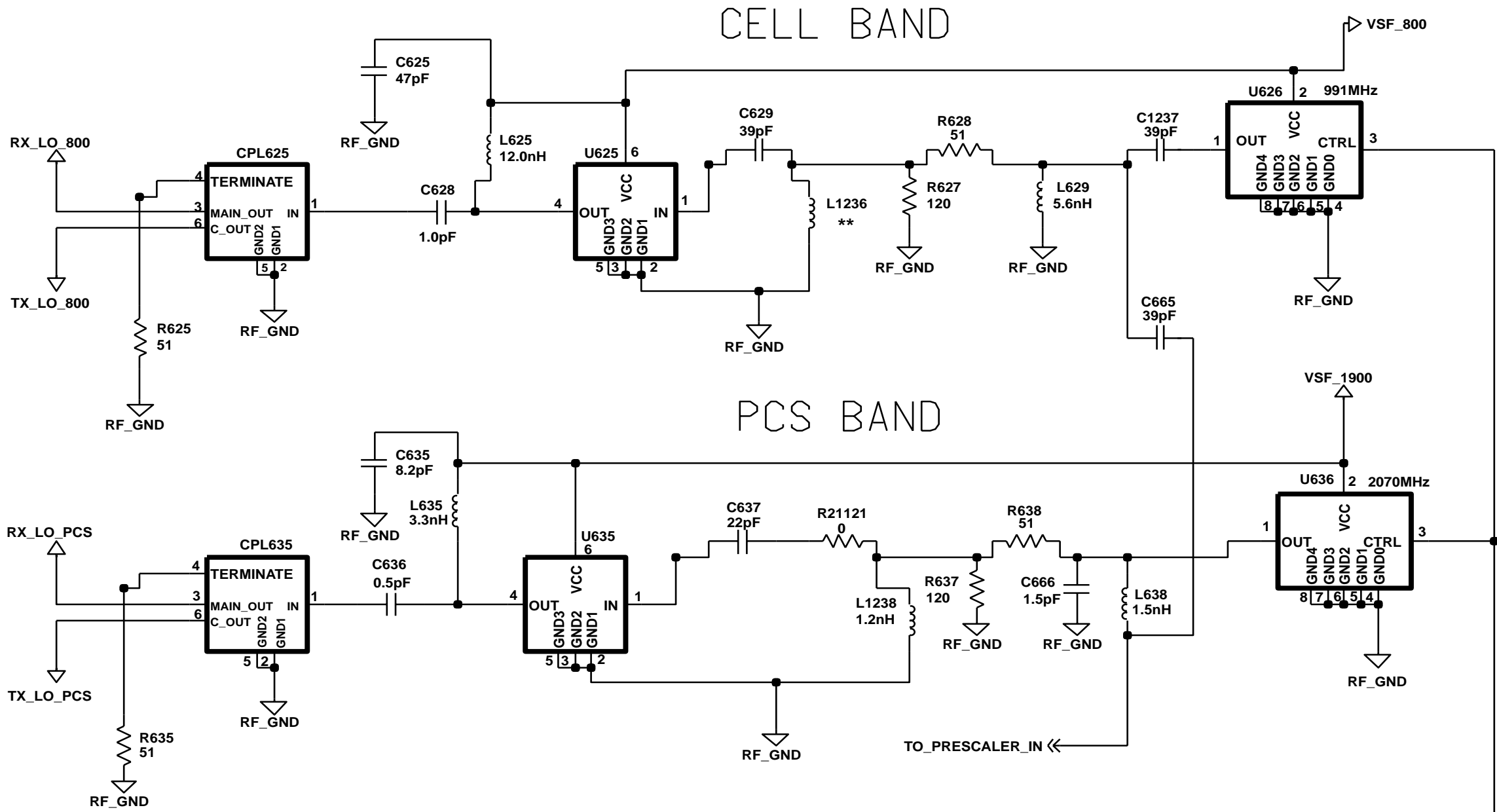
Note:
 Unless otherwise stated:
 1. Resistances are in OHMS (k=1000, M=MEGAOHM).
 Capacitances less than 1 are in MICROFARADS (μ F);
 Capacitances 1 or greater are in PICOFARADS (pF).

* Refer to the Electrical Parts List for values and descriptions.
 ** Component not placed.

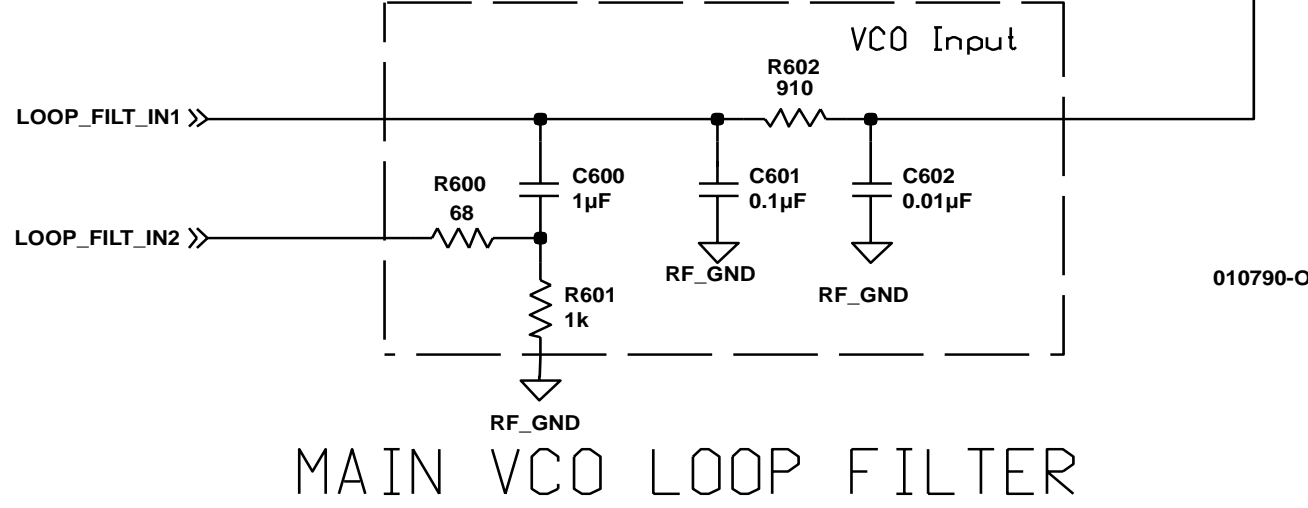
010788-O



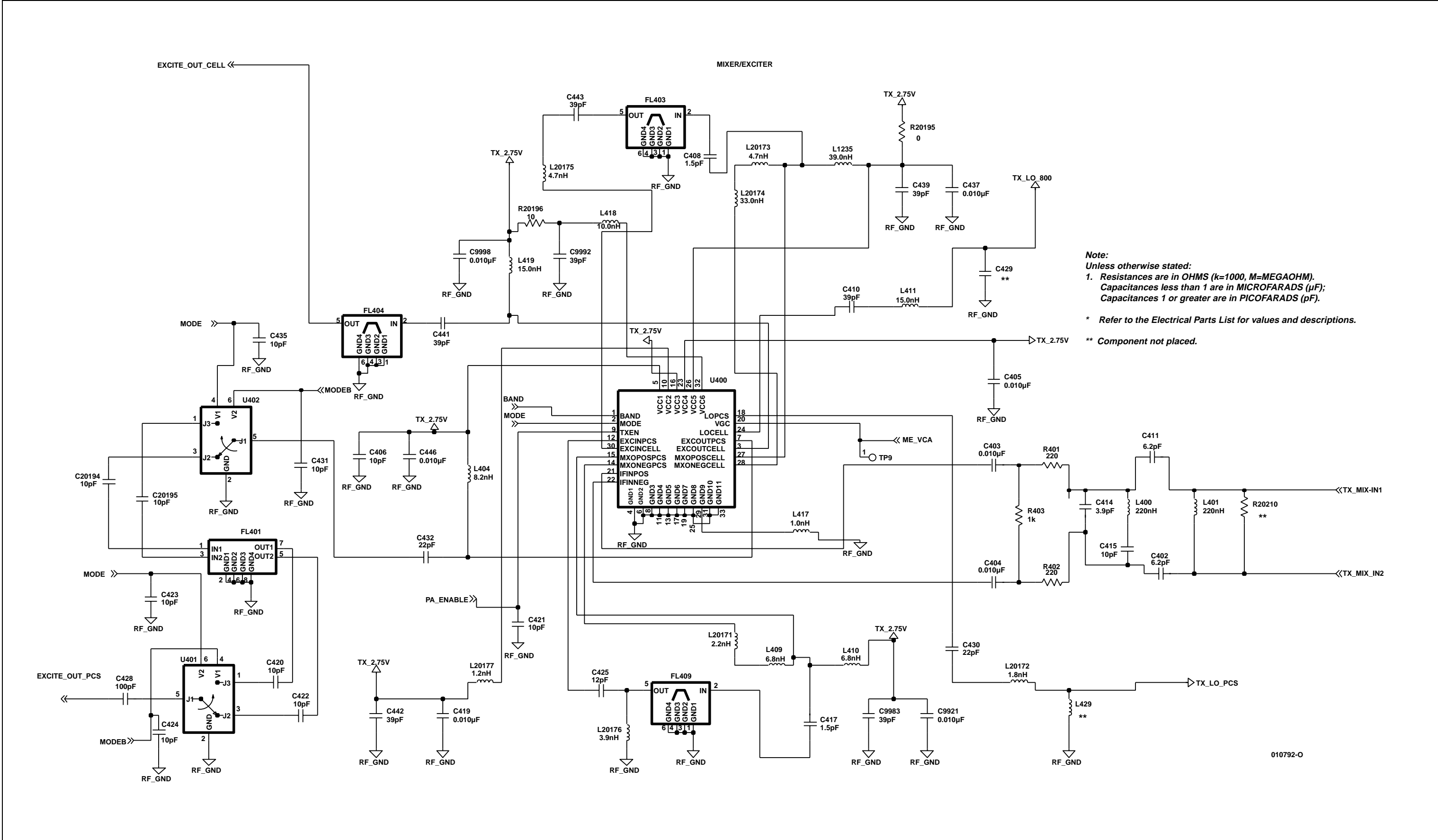
010789-O



Note:
 Unless otherwise stated:
 1. Resistances are in OHMS (k=1000, M=MEGAOHM).
 Capacitances less than 1 are in MICROFARADS (μ F);
 Capacitances 1 or greater are in PICOFARADS (pF).
 * Refer to the Electrical Parts List for values and descriptions.
 ** Component not placed.



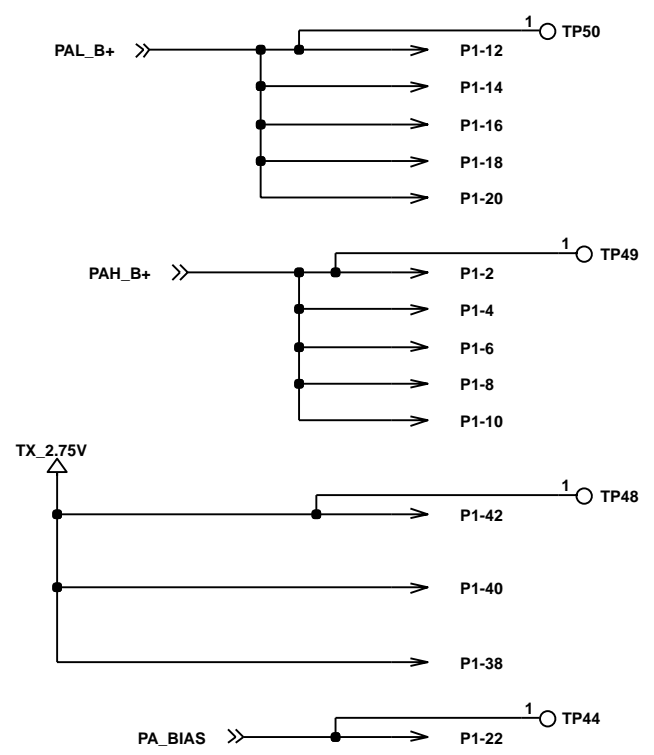
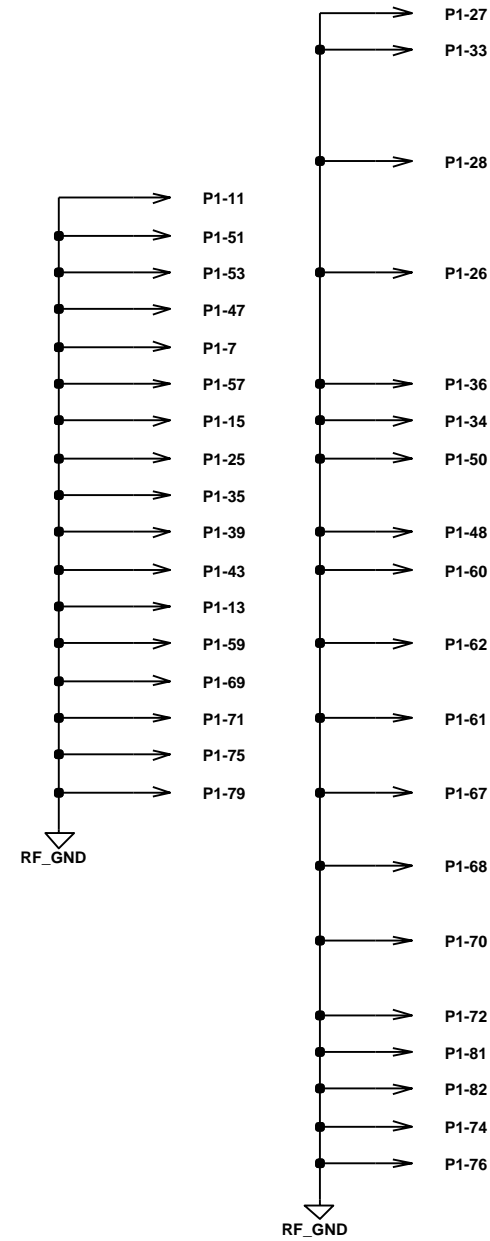
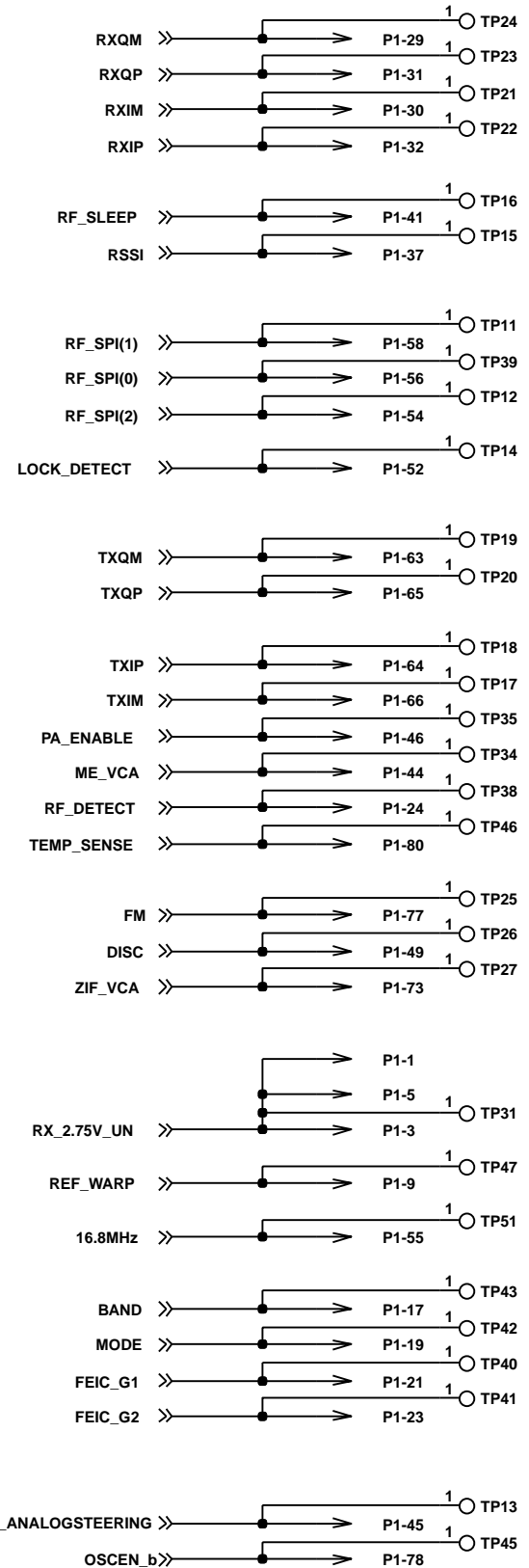
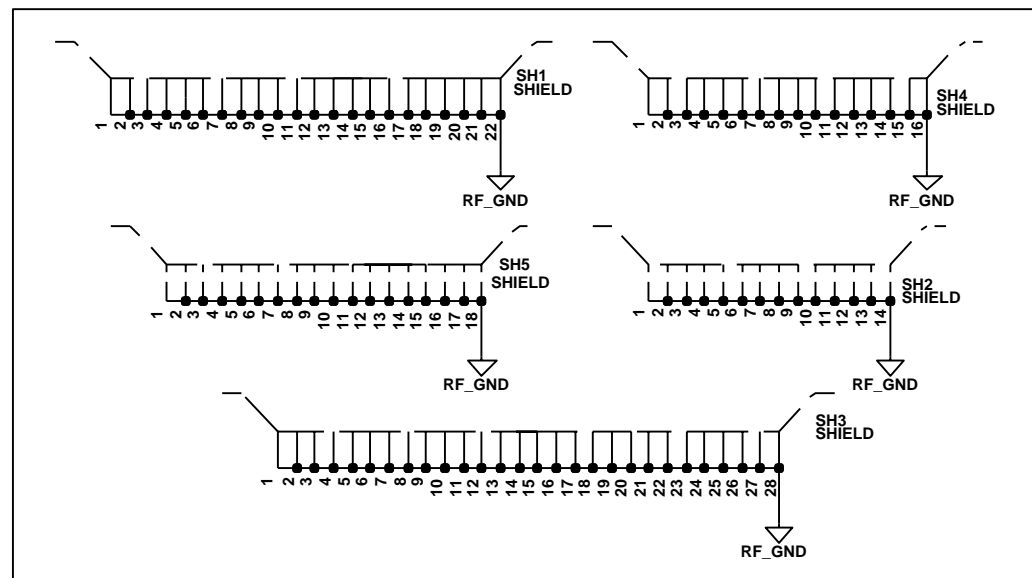
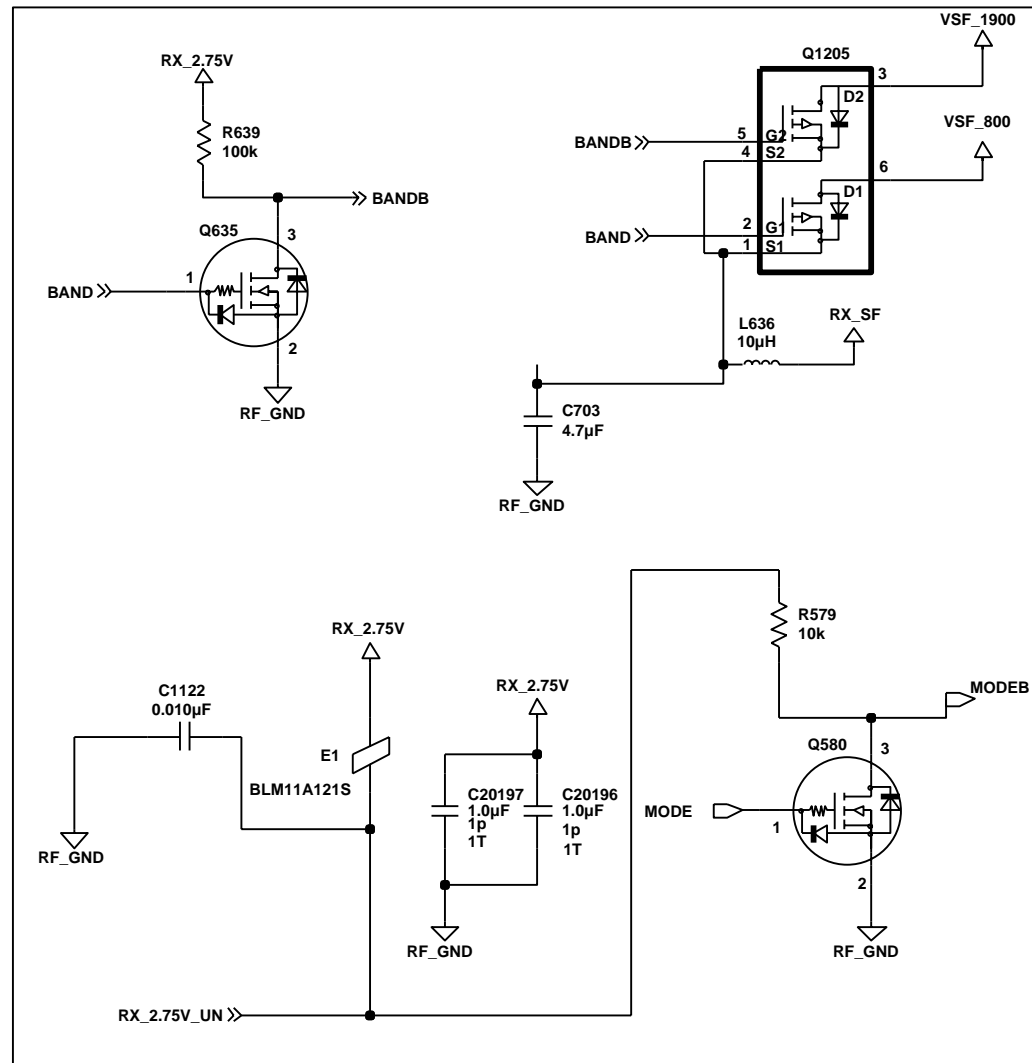
SLG4123A Transceiver Mixer/Exciter Schematic Diagram page 5 of 6



Note:
 Unless otherwise stated:
 1. Resistances are in OHMS (k=1000, M=MEGAOHM).
 Capacitances less than 1 are in MICROFARADS (μF);
 Capacitances 1 or greater are in PICOFARADS (pF).
 * Refer to the Electrical Parts List for values and descriptions.
 ** Component not placed.

010792-O

SLG4123A Transceiver Connections Schematic Diagram page 6 of 6

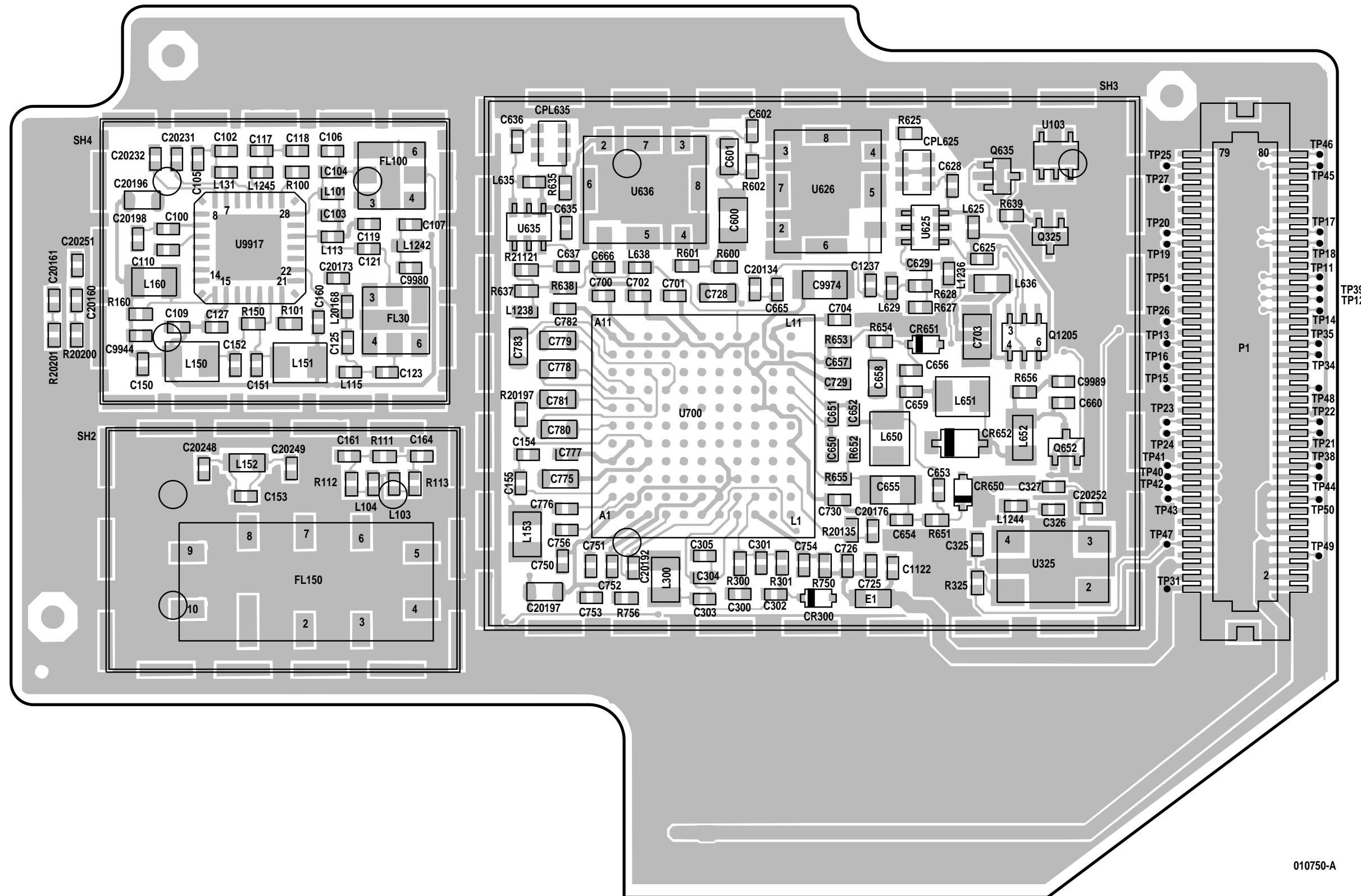


Note:
 Unless otherwise stated:
 1. Resistances are in OHMS (k=1000, M=MEGAOHM).
 Capacitances less than 1 are in MICROFARADS (µF);
 Capacitances 1 or greater are in PICOFARADS (pF).
 * Refer to the Electrical Parts List for values and descriptions.
 ** Component not placed.

010793-O

Component Overlay Diagrams





010750-A

SLG4123A Transceiver Parts List

ITEM REFERENCE	TRANSCEIVER KIT NUMBER	DESCRIPTION
A	SLG4123A	MHz
REFERENCE DESIGNATOR	MOTOROLA PART NUMBER	DESCRIPTION
CAPACITORS Fixed pF ±5%, 50V unless stated		
C100	2113743N40	39
C102	2113743N20	5.6 ±0.5pF
C103	2113743N40	39
C104	2104801Z17	3.0 16v
C105	2113743N13	3.0 ±0.5pF
C106	-----	Not Placed
C107	2113743N13	3.0 ±0.5pF
C109	2113743N40	39
C110	2113743N28	12
C117	2113743N26	10 ±0.5pF
C118	2104801Z06	1.0 16v
C119	2113743N28	12
C121	2104801Z06	1.0 16v
C123	2113743Q07	1.5 ±0.1pF
C125	2113743N34	22
C127, C150	2113743L17	1000 10%
C151, C152	2113743N18	4.7 ±0.25pF
C153	-----	Not Placed
C154	2113743N16	3.9 ±0.5pF
C155	2113743N50	100
C160	2113743L17	1000 10%
C161	2113743N40	39
C164	2109445U27	10
C300	2113743M24	0.1 µF +80%/-20%
C301	2113743L41	0.01 µF
C302	2113743M42	47
C303	2113743M40	39
C304	2113743N24	8.2 ±0.5pF
C305	2113743N14	3.3 ±0.5pF
C325	2113743L41	0.01 µF
C326	2113743M24	0.1 µF +80%/-20%
C327	2113743L17	1000
C402	2113743N21	6.2 ±0.5pF
C403 - C405	2113743L41	0.01 µF
C406	2113743N26	10 ±0.5pF
C408	2113743N07	1.5 ±0.25pF
C410	2113743N40	39
C411	2113743N21	6.2 ±0.5pF
C414	2113743N16	3.9 ±0.25pF
C415	2113743N26	10 ±0.5pF
C417	2113743N07	1.5 ±0.25pF
C419	2113743L41	0.01 µF
C420 - C424	2113743N26	10 ±0.5pF
C425	2113743N28	12

C428	2113743N50	100
C429	-----	Not Placed
C430	2113743N34	22
C431	2113743N26	10 ±0.5pF
C432	2113743N34	22
C435	2113743N26	10 ±0.5pF
C437	2113743L41	0.01 µF
C439, C441 - C443	2113743N40	39
C446	2113743L41	0.01 µF
C500	2113743N40	39
C501	2113743N16	3.9 ±0.25pF
C502	2113743N42	47
C503	2113928C03	1.0 µF ±10%
C505	-----	Not Placed
C506	2113743N42	47
C508	2113743N24	8.2 ±0.5pF
C509	2113743N19	5.1 ±0.5pF
C510	2113743N24	8.2 ±0.5pF
C512	2113743N20	5.6 ±0.5pF
C513	2113743N42	47
C518	2113743L41	0.01 µF
C519	2113743N40	39
C521	2113928N01	0.1 µF ±10%
C522	-----	Not Placed
C523	2113743L41	0.01 µF
C524	2113928A01	1.0 µF +80%/-20% 10v
C525, C526	2113743N26	10 ±0.5pF
C527	2113743N30	15
C528	2113928N01	0.1 µF ±10%
C529	2113743N30	15
C531	2113743N26	10 ±0.5pF
C533	2113743N03	1 ±0.25pF
C534	2104801Z17	3.0 16v
C535, C537	-----	Not Placed
C538	2113743N30	15
C539	2113743N42	47
C540	-----	Not Placed
C541	2113743N18	4.7 ±0.25pF
C600	2113928C03	1.0 µF ±10%
C601	2113743E20	0.10 µF 10%
C602	2113743L41	0.01 µF
C625	2113743N42	47
C628	2104801Z06	1.0 16v
C629	2113743N40	39
C635	2109445U25	8.2 ±0.1%
C636	2104801Z01	0.5 16v
C637	2113743N34	22
C650	2113743N16	3.9 ±0.25pF
C651	2113743N24	8.2 ±0.5pF
C652	2113743N32	18

C653	2113743N28	12
C654	2113743L41	0.01 µF
C655	2113928C03	1.0 µF ±10% 6.3v
C656	2104801Z06	1.0 16v
C657	2113743M24	0.1 µF +80%/-20%
C658	2113928A01	1.0 µF +80%/-20% 10v
C659	2113743N50	100
C660	2113743L41	0.01 µF
C665	2113743N40	39
C666	2113743Q07	1.5 ±0.1pF
C700	2113928N01	0.1 µF ±10%
C701	2113743L17	1000 10%
C702	2113743M24	0.1 µF +80%/-20%
C703	2113928C04	4.7 µF 10% 6.3v
C704, C725	2113743M24	0.1 µF +80%/-20%
C726	2113743L41	0.01 µF
C728	2113928P04	1.0 µF 20% 6.3v
C729	2113743M24	0.1 µF +80%/-20%
C730, C750	2113928N01	0.1 µF ±10%
C751, C752	2113743L41	0.01 µF
C753, C754	2113928N01	0.1 µF ±10%
C756	2113743L17	1000 10%
C775	2113928G01	0.22 µF +80%/-20% 10v
C776	2113743L25	2200 10%
C777	2113928N01	0.1 µF ±10%
C778 - C781	2113928P04	1.0 µF 20% 6.3v
C782	2113928N01	0.1 µF ±10%
C783	2113928P04	1.0 µF 20% 6.3v
C1122	2113743L41	0.01 µF
C1237	2113743N40	39
C9921	2113743L41	0.01 µF
C9944	2113928N01	0.1 µF ±10%
C9974	2113928C04	4.7 µF 10% 6.3v
C9980, C9983	2113743N40	39
C9989	2113743L41	0.01 µF
C9990	2113743N28	12
C9991	2113743N10	2.2 ±0.25pF
C9992	2113743N40	39
C9998	2113743L41	0.01 µF
C20134	2104801Z06	1.0 16v
C20160, C20161	2113743N40	39
C20173	2113743L41	0.01 µF
C20176	2113743L01	220 10%
C20184, C20185	-----	Not Placed
C20188	2104801Z17	3.0 16v
C20192	2113743N46	68
C20194, C20195	2113743N26	10 ±0.5pF
C20196, C20197	2113928P04	1.0 µF 20% 6.3v

C20198	2113743N09	2 ±0.25pF
C20226	2113743N03	1 ±0.25pF
C20230	2113743N50	100
C20231, C20232	2113743N40	39
C20248, C20249	2113743N09	2 ±0.25pF
C20251	2113743N40	39
C20252	2113743N46	68
COUPLERS		
CPL500	5885811G04	
CPL625	5803703S01	
CPL635	5804632Z01	
DIODES (See Note 1)		
CR300	4809877C08	Varactor
CR500	4809948D13	Switch Diode
CR501	4809924D16	Schotky
CR650	4809877C13	Varactor
CR651	4809877C08	Varactor
CR652	4809948D10	Pin-Bar
ANTENNA		
E1	2462586G01	
FILTERS		
FL30	9109239M08	1960 MHz
FL50	9185911J08	1880/1960 MHz
FL51	9109361K03	850 MHz
FL53	9185906G08	859/1920 MHz
FL100	9103913K04	881 MHz
FL150	9109405J06	109 MHz
FL401	9185726J03	1.9 GHz
FL403	9109247M03	836 MHz
FL404	9103913K03	836 MHz
FL409	9109239M04	1880 MHz
CONNECTORS		
J9000	0987378K01	
J9001	0962117B02	
P1	2889041L01	
COILS RF, 5% unless stated		
L101	2487319K11	8.2
L103, L104	-----	Not Placed
L113	2409154M06	2.7 ±0.3 nH
L115	2409154M03	1.5 ±0.3 nH
L131	2487319K11	8.2
L150, L151	2462587V59	390
L152	2409646M98	100
L153	2409414M16	68
L160	2404574Z14	270 ±2%
L300	2409414M11	27
L400, L401	2404574Z13	220
L404	2409154M62	8.2
L409, L410	2409154M11	6.8
L411	2409154M65	15

SLG4123A Transceiver Parts List (continued)

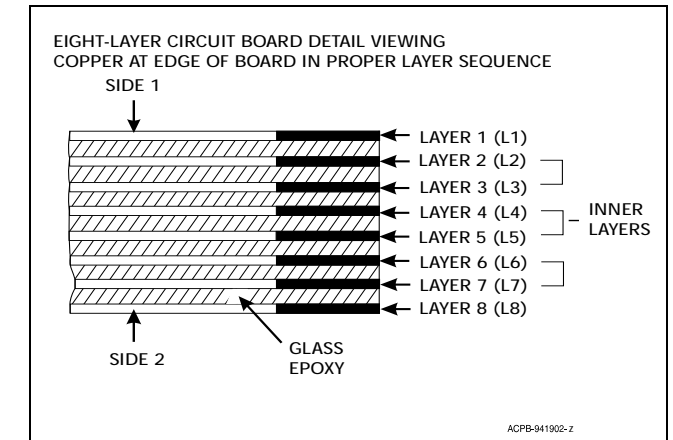
L417	2409154M51	1.0 ±0.3 nH
L418	2409154M63	10
L419	2409154M65	15
L429	-----	Not Placed
L500	2409154M09	4.7
L501	2488428L09	18
L502	2409154M11	6.8
L503	2488428L09	18
L504	2409154M09	4.7 ±0.3 nH
L505	2409154M65	15
L506	2409154M61	6.8
L507	2409154M08	3.9 ±0.3 nH
L625	2409154M64	12
L629	2409154M60	5.6 ±0.3 nH
L635	2409154M57	3.3 ±0.3 nH
L636	2404554Z28	10 µH 10%
L638	2409154M53	1.5 ±0.3 nH
L650	2462587V25	18
L651	2462587V30	47
L652	2413926D27	220 10%
L1235	2409154M43	39
L1236	-----	Not Placed
L1238	2409154M02	1.2 ±0.3 nH
L1242	2409154M61	6.8
L1243	-----	Not Placed
L1244	2409154M75	100
L1245	2487319K03	2.2
L20162	-----	Not Placed
L20164	2413926G12	27
L20168	2409154M20	39
L20169	2409154M57	3.3 ±0.3 nH
L20171	2409154M55	2.2 ±0.3 nH
L20172	2409154M04	1.8 ±0.3 nH
L20173	2409154M59	4.7 ±0.3 nH
L20174	2409154M19	33
L20175	2409154M09	4.7 ±0.3 nH
L20176	2409154M08	3.9 ±0.3 nH
L20177	2409154M52	1.2 ±0.3 nH
L21070	2409377M11	39
TRANSISTORS (See Note 1)		
Q325	4809579E24	P-Chan FET
Q580, Q635, Q652	4809579E02	MOSFET
Q1205	4809579E50	Dual P-Chan FET
RESISTORS Fixed Ω ±5%, 1/8W unless stated		
R100, R101	0662057N05	18k
R111	0662057M01	0
R112, R113	-----	Not Placed
R150	0662057M84	2.7k
R160	0662057M95	7.5k

R300	0662057M86	3.3k
R301	0662057M98	10k
R325	0662057M74	1k
R401, R402	0662057M58	220
R403	0662057M74	1k
R500	0662057M71	750
R501	0662057U89	3.3k ±1%
R502	0662057M57	200
R503	0662057U83	1.8k ±1%
R505	0662057N11	33k
R506	0662057M90	4.7k
R507	0662057M91	5.1k
R508	0662057M95	7.5k
R510, R511	0662057M50	100
R513	0662057M43	51
R517	0662057M76	1.2k
R518	0662057M81	2k
R519	0662057M62	330
R520	0662057M83	2.4k
R579	0662057M98	10k
R600	0662057M46	68
R601	0662057M74	1k
R602	0662057M73	910
R625	0662057M43	51
R627	0662057M52	120
R628, R635	0662057M43	51
R637	0662057M52	120
R638	0662057M43	51
R639	0662057N23	100k
R651	0662057M95	7.5k
R652	0662057M77	1.3k
R653	0662057M96	8.2k
R654	0662057V10	20k ±1%
R655	0662057M50	100
R656	0662057M84	2.7k
R750	0662057M50	100
R756, R20135	0662057M01	0
R20163	0662057B47	0
R20195	0662057M01	0
R20196	0662057M26	10
R20197, R20200, R20201	0662057M01	0
R20210	-----	Not Placed
R21121	0662057M01	0
SHIELDS		
SH1	2689112L01	
SH2	2689113L01	
SH3	2689111L01	

SH4	2689345K01	
SH5	2689336K01	
CIRCUIT MODULES (See Notes 1 and 2)		
U103	5109768D08	LM20
U325	4809863M17	16.8 MHz
U400	5109940K29	ME3
U401, U402	5109572E39	AS179-92
U500	5109730C25	30C25
U501	5109730C22	30C22
U502	5109731C27	LMV821M7
U550	5803912K03	836DCB
U551	5885810G02	CEO521R
U625	5109940K32	UPC8151TB
U626	4809283D34	991 MHz
U635	5109940K32	UPC8151TB
U636	4809283D47	2070 MHz
U700	5109879E74	SC79882
U9917	5109940K40	MAX2323
NONREFERENCED ITEM		
	8489096L01	Transceiver PCB

NOTES:

- For optimum performance, order replacement semiconductor devices by Motorola part number only.
- When ordering crystal units, specify carrier frequency, crystal frequency and Motorola part number.
- Gaps in numbering continuity of reference designators indicate that the missing numbers are not used.



Eight-Layer Printed Circuit Board Construction

WARNING
Substitution of components may impair intrinsic safety.

