



PROFESSIONAL DIGITAL TWO-WAY RADIO

MOTOTRBO™ MOBILE

XPR™ 5350 NUMERIC DISPLAY MOBILE (WITH BLUETOOTH & GPS)

XPR™ 5550 COLOR DISPLAY MOBILE (WITH BLUETOOTH & GPS)

DETAILED SERVICE MANUAL



Foreword

This manual covers all XPR™ 5000 Series Mobiles, unless otherwise specified. This manual provides sufficient information to enable qualified service technicians to troubleshoot and repair XPR™ 5000 Series Mobiles to the component level.

For details on radio operation or basic troubleshooting, refer to the applicable manuals available separately.



These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the Operating Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

Product Safety and RF Exposure Compliance



Before using this product, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet enclosed with your radio.

ATTENTION!

This radio is restricted to occupational use only to satisfy FCC RF energy exposure requirements. Before using this product, read the RF energy awareness information and operating instructions in the Product Safety and RF Exposure booklet enclosed with your radio (Motorola Publication part number 6881095C99) to ensure compliance with RF energy exposure limits.

For a list of Motorola-approved antennas, and other accessories, visit the following web site which lists approved accessories: <http://www.motorolasolutions.com/governmentandenterprise>

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Notes

Document History

The following major changes have been implemented in this manual since the previous edition:

Edition	Description	Date
68009509001-A	Initial Release.	Dec. 2011
68009509001-B	Added VHF High Power and Low Power Bands.	Jan. 2012

Notes

Commercial Warranty

Limited Warranty

MOTOROLA COMMUNICATION PRODUCTS

I. What This Warranty Covers And For How Long

MOTOROLA SOLUTIONS INC. ("MOTOROLA") warrants the MOTOROLA manufactured Communication Products listed below ("Product") against defects in material and workmanship under normal use and service for a period of time from the date of purchase as scheduled below:

XPR Series Digital Mobile Radios	Two (2) Years
Product Accessories	One (1) Year

The mobiles additionally ship with a standard 1-year Repair Service Advantage (RSA)(for U.S. customers) or 1-year Extended Warranty (for Canada customers). However, at the time of order, you may choose to omit these warranties. For more RSA or Extended Warranty information, please refer to the price pages or Motorola Online (<http://www.motorola.com/businessonline>) > Resource Center > Services > Service Product Offerings > Repair Service Advantage or Extended Warranty.

Motorola, at its option, will at no charge either repair the Product (with new or reconditioned parts), replace it (with a new or reconditioned Product), or refund the purchase price of the Product during the warranty period provided it is returned in accordance with the terms of this warranty. Replaced parts or boards are warranted for the balance of the original applicable warranty period. All replaced parts of Product shall become the property of MOTOROLA.

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You must provide proof of purchase (bearing the date of purchase and Product item serial number) in order to receive warranty service and, also, deliver or send the Product item, transportation and insurance prepaid, to an authorized warranty service location. Warranty service will be provided by Motorola through one of its authorized warranty service locations. If you first contact the company which sold you the Product, it can facilitate your obtaining warranty service. You can also call Motorola at 1-888-567-7347 US/Canada.

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- B. Defects or damage from misuse, accident, water, or neglect.
- C. Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.
- D. Breakage or damage to antennas unless caused directly by defects in material workmanship.
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- F. Product which has had the serial number removed or made illegible.
- G. Freight costs to the repair depot.
- H. A Product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with MOTOROLA's published specifications or the FCC type acceptance labeling in effect for the Product at the time the Product was initially distributed from MOTOROLA.
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- J. Normal and customary wear and tear.

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- B. that MOTOROLA will have sole control of the defense of such suit and all negotiations for its settlement or compromise; and
- C. should the Product or parts become, or in MOTOROLA's opinion be likely to become, the subject of a claim of infringement of a United States patent, that such purchaser will permit MOTOROLA, at its option and expense, either to procure for such purchaser the right to continue using the Product or parts or to replace or modify the same so that it becomes noninfringing or to grant such purchaser a credit for the Product or parts as depreciated and accept its return. The depreciation will be an equal amount per year over the lifetime of the Product or parts as established by MOTOROLA.

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VII. Governing Law

This Warranty is governed by the laws of the State of Illinois, USA.

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XPR 5350/XPR 5550 Mobile Radios

Detailed Service Manual

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Summary of Printed Circuit Boards and Bands available:

Table below lists all the bands available in this manual and the revision of the Printed Circuit Boards used. For details, please refer to the respective chapters.

Chapter	Description	PC Board Part Number	Board Revision
3	Numeric Display Control Head	84012212001	A
3	Color Display Control Head	84012211001	A
4	Bluetooth - GPS Expansion Board	84012172002	B
5	Generic Option Board (GOB)	84012198001	A
7	VHF Low Power 136–174 MHz, 1–25 W	84012210001	A
8	VHF High Power 136–174 MHz, 25–45 W	84012194001	A
9	UHF1 Low Power 403–470 MHz, 1–25 W	84012209001	A
10	UHF1 High Power 403–470 MHz, 25–40 W	84012160001	A

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XPR 5350/XPR 5550 Mobile Radios

Chapter 1 Service Maintainability

Issue: January, 2012

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Chapter 1 – Service Maintainability

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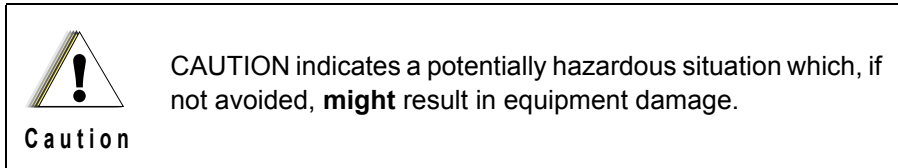
Section 1

INTRODUCTION

1.0 Notations Used in This Manual

Throughout the text in this publication, you will notice the use of note and caution notations. These notations are used to emphasize that safety hazards exist, and due care must be taken and observed.

NOTE: An operational procedure, practice, or condition that is essential to emphasize.



2.0 Radio Description

The XPR 5000 series mobile radios are available in the following frequency ranges and power levels.

Table 1-1 Radio Frequency Ranges and Power Levels

Freq. Band	Bandwidth	Power Level
VHF	136–174 MHz	1–25 Watts 25–45 Watts
UHF B1	403–470 MHz	1–25 Watts 25–40 Watts
UHF B2*	450–512 MHz	1–25 Watts 25–40 Watts

* For future release.

These radios are among the most sophisticated two-way radios available. They have a robust design for radio users who need high performance, quality, and reliability in their daily communications. This architecture provides the capability of supporting a multitude of legacy and advanced features resulting in a more cost-effective two-way radio communications solution.

Notes

Section 2

MAINTENANCE

1.0 Introduction

This chapter provides details about the following:

- Preventive maintenance (inspection and cleaning)
- Safe handling of CMOS and LDMOS devices
- Repair procedures and techniques
- Pre-baking of Integrated Circuits

2.0 Preventive Maintenance

Periodic visual inspection and cleaning is recommended.

2.1 Inspection

Check that the external surfaces of the radio are clean, and that all external controls and switches are functional. It is not recommended to inspect the interior electronic circuitry.

2.2 Cleaning Procedures

The following procedures describe the recommended cleaning agents and the methods to be used when cleaning the external and internal surfaces of the radio. External surfaces include the control head and housing assembly. These surfaces should be cleaned whenever a periodic visual inspection reveals the presence of smudges, grease, and/or grime.

NOTE: Internal surfaces should be cleaned only when the radio is disassembled for service or repair.

The only recommended agent for cleaning the external radio surfaces is a 0.5% solution of a mild dishwashing detergent in water. The only factory recommended liquid for cleaning the printed circuit boards and their components is isopropyl alcohol (100% by volume).



Caution

Use all chemicals as prescribed by the manufacturer. Be sure to follow all safety precautions as defined on the label or material safety data sheet.

The effects of certain chemicals and their vapors can have harmful results on certain plastics. Avoid using aerosol sprays, tuner cleaners and other chemicals.

Cleaning External Plastic Surfaces

Apply the 0.5% detergent-water solution sparingly with a stiff, non-metallic, short-bristled brush to work all loose dirt away from the radio. Use a soft, absorbent, lintless cloth or tissue to remove the solution and dry the radio. Make sure that no water remains entrapped near the connectors, cracks, or crevices.

Cleaning Internal Circuit Boards and Components

Isopropyl alcohol (100%) may be applied with a stiff, non-metallic, short-bristled brush to dislodge embedded or caked materials located in hard-to-reach areas. The brush stroke should direct the dislodged material out and away from the inside of the radio. Make sure that controls or tunable components are not soaked with alcohol. Do not use high-pressure air to hasten the drying process since this could cause the liquid to collect in unwanted places. Once the cleaning process is complete, use a soft, absorbent, lintless cloth to dry the area. Do not brush or apply any isopropyl alcohol to the frame, control head and housing assembly.

NOTE: Always use a fresh supply of alcohol and a clean container to prevent contamination by dissolved material (from previous usage).

3.0 Safe Handling of CMOS and LDMOS Devices

Complementary Metal Oxide Semiconductor (CMOS) and Laterally Diffused Metal Oxide Semiconductor (LDMOS) devices are used in this family of radios, and are susceptible to damage by electrostatic or high voltage charges. Damage can be latent, resulting in failures occurring weeks or months later. Therefore, special precautions must be taken to prevent device damage during disassembly, troubleshooting, and repair.

Handling precautions are mandatory for CMOS/LDMOS circuits and are especially important in low humidity conditions.

DO NOT attempt to disassemble the radio without first referring to the following CAUTION statement.

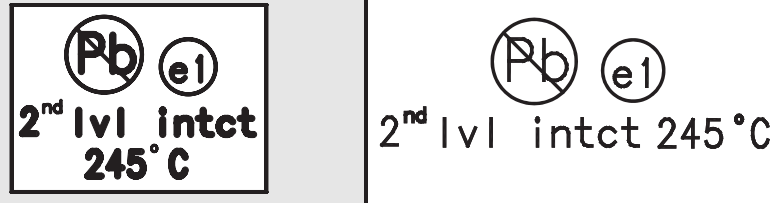
**Caution**

This radio contains static-sensitive devices. Do not open the radio unless you are properly grounded. Take the following precautions when working on this unit:

- Store and transport all CMOS/LDMOS devices in conductive material so that all exposed leads are shorted together. Do not insert CMOS/LDMOS devices into conventional plastic “snow” trays used for storage and transportation of other semiconductor devices.
- Ground the working surface of the service bench to protect the CMOS/LDMOS device. We recommend using a wrist strap, two ground cords, a table mat, a floor mat, ESD shoes, and an ESD chair.
- Wear a conductive wrist strap in series with a 100k resistor to ground. (Replacement wrist straps that connect to the bench top covering are Motorola part number 4280385A59).
- Do not wear nylon clothing while handling CMOS/LDMOS devices.
- Do not insert or remove CMOS/LDMOS devices with power applied. Check all power supplies used for testing CMOS/LDMOS devices to be certain that there are no voltage transients present.
- When straightening CMOS/LDMOS pins, provide ground straps for the apparatus used.
- When soldering, use a grounded soldering iron.
- If at all possible, handle CMOS/LDMOS devices by the package and not by the leads. Prior to touching the unit, touch an electrical ground to remove any static charge that you may have accumulated. The package and substrate may be electrically common. If so, the reaction of a discharge to the case would cause the same damage as touching the leads.

4.0 Repair Procedures and Techniques – General

NOTE Environmentally Preferred Products (EPP) (refer to the marking on the printed circuit boards — examples shown below) were developed and assembled using environmentally preferred components and solder assembly techniques to comply with the European Union's **Restriction of Hazardous Substances (ROHS) Directive 2002/95/EC** and **Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC**. To maintain product compliance and reliability, use only the Motorola specified parts in this manual.



Any rework or repair on Environmentally Preferred Products must be done using the appropriate lead-free solder wire and lead-free solder paste as stated in the following table:

Table 2-1 Lead Free Solder Wire Part Number List

Motorola Part Number	Alloy	Flux Type	Flux Content by Weight	Melting Point	Supplier Part number	Diameter	Weight
1088929Y01	95.5Sn/3.8Ag/0.7Cu	RMA Version	2.7-3.2%	217°C	52171	0.015"	1lb spool

Table 2-2 Lead Free Solder Paste Part Number List

Motorola Part Number	Manufacturer Part Number	Viscosity	Type	Composition & Percent Metal	Liquid Temperature
1085674C03	NC-SMQ230	900-1000KCPs Brookfield (5rpm)	Type 3 (-325/+500)	(95.5%Sn-3.8%Ag-0.7%Cu) 89.3%	217°C

Parts Replacement and Substitution

Check the parts list for the proper Motorola part number and order the part from the nearest Motorola Radio Products and Solutions Organization listed in Appendix A of this manual.

Rigid Circuit Boards

This family of radios uses bonded, multi-layer, printed circuit boards. Since the inner layers are not accessible, some special considerations are required when soldering and unsoldering components. The printed through holes may interconnect multiple layers of the printed circuit. Therefore, exercise care to avoid pulling the plated circuit out of the hole.

When soldering near a connector:

- Avoid accidentally getting solder in the connector.
- Be careful not to form solder bridges between the connector pins.
- Examine your work closely for shorts due to solder bridges.

For soldering components with Hot-Air or infra red solder systems, please check your user guide of the solder system to get information on solder temperature and time for the different housings of the integrated circuits and other components.

5.0 Pre-baking of Integrated Circuits

Electronic components are generally coated with plastic material which has the nature of not being waterproof. If kept unsealed, the components can absorb humidity. When soldered to the board (especially with reflow techniques) a sudden change in temperature can cause fissures or cracks which can result in malfunction or damage. Therefore, service should temper in a Desiccant Cabinet (12 hours at 50 degree Celsius) the radio PCB, before heating up areas around MS components.

To avoid this problem, these Moisture Sensitive components (MS) should be stored and shipped in a sealed wrapping (dry pack). Processing must take place only with dry components when an uninterrupted dry storage can be guaranteed, otherwise the components have to be pre-baked.

If a reflow procedure takes place close to MS components the whole board must be pre-baked.

Please refer to the following table:

Table 2-3 MS Components and Location

Location	Circuit Ref.	Motorola Part No.	MSL
Numeric Display Control Head	D6001	4815809H02	2
Numeric Display Control Head	D6000, D6004	4815809H04	2
Color Display Control Head	D6400, D6401		
Numeric Display Control Head	D6003, D6005	48012173001	2a
Color Display Control Head	D6404, D6405, D6406		
Color Display Control Head	D6400	51012180001	2
Color Display Control Head	D6402	4815809H03	2
Color Display Control Head	U6404	5171774H01	3
GOB	U5102	5175772B43	3
GOB	U5103	51012009003	3
Controller R1, R2	U1001M1	51012295001	3
Controller R1, R2	U3103M1	51012142001	2
Controller R1, R2	U3104M1, U3105M1	5114610F01	2
Controller R1, R2	U3108M1	51012138001	3
Controller R1, R2	U3200M1	51009415001	3
Controller R1, R2	U3204M1	51009509001	3
VHF 1–25W	Q0702M5	48012067002	3
VHF 25–45W	Q0702M6	48012022001	3
UHF1 1–25W	Q0705M5	48012067002	3
UHF1 25–40W	Q0705M6	48012022001	3
VHF 1–25W, VHF 25–45W UHF1 1–25W, UHF1 25–40W	U0000M2	51009277001	3

5.1 IPC/JEDEC J-STD-020D.1 (March 2008) Chart

Table 2-4 Moisture Sensitivity Levels

LEVEL	FLOOR LIFE		SOAK REQUIREMENTS				
			STANDARD		ACCELERATED EQUIVALENT ¹		
					eV 0.40–0.48	eV 0.30–0.39	CONDITION
	TIME (hours)	CONDITION	TIME (hours)	CONDITION	TIME (hours)	TIME (hours)	
1	Unlimited	≤30 °C/85% RH	168 +5/-0	85 °C/85% RH	NA	NA	NA
2	1 year	≤30 °C/60% RH	168 +5/-0	85 °C/60% RH	NA	NA	NA
2a	4 weeks	≤30 °C/60% RH	696 ² +5/-0	30 °C/60% RH	120 +1/-0	168 +1/-0	60 °C/60% RH
3	168 hours	≤30 °C/60% RH	192 ² +5/-0	30 °C/60% RH	40 +1/-0	52 +1/-0	60 °C/60% RH
4	72 hours	≤30 °C/60% RH	96 ² +2/-0	30 °C/60% RH	20 +5/-0	24 +0.5/-0	60 °C/60% RH
5	48 hours	≤30 °C/60% RH	72 ² +2/-0	30 °C/60% RH	15 +5/-0	20 +0.5/-0	60 °C/60% RH
5a	24 hours	≤30 °C/60% RH	48 ² +2/-0	30 °C/60% RH	10 +0.5/-0	13 +0.5/-0	60 °C/60% RH
6	Time on Label (TOL)	≤30 °C/60% RH	TOL	30 °C/60% RH	NA	NA	NA

Note 1: CAUTION - To use the “accelerated equivalent” soak conditions, correlation of damage response (including electrical, after soak and reflow), should be established with the “standard” soak conditions. Alternatively, if the known activation energy for moisture diffusion of the package materials is in the range of 0.40–0.48 eV or 0.30–0.39 eV, the “accelerated equivalent” may be used. Accelerated soak times may vary due to material properties (e.g. mold compound, encapsulant, etc.). JEDEC document JESD22-A120 provides a method for determining the diffusion coefficient.

Note 2: The standard soak time includes a default value of 24 hours for semiconductor Manufacturer’s Exposure Time (MET) between bake and bag and includes the maximum time allowed out of the bag at the distributor’s facility.

If the actual MET is less than 24 hours, the soak time may be reduced. For soak conditions of 30 °C/60% RH, the soak time is reduced by 1 hour for each hour the MET is less than 24 hours. For soak conditions of 60 °C/60% RH, the soak time is reduced by 1 hour for each 5 hours the MET is less than 24 hours.

If the actual MET is greater than 24 hours the soak time must be increased. If soak conditions are 30 °C/60% RH, the soak time is increased 1 hour for each hour that the actual MET exceeds 24 hours. If soak conditions are 60 °C/60% RH, the soak time is increased 1 hour for each 5 hours that the actual MET exceeds 24 hours.

Note 3: Supplier may extend the soak times at their own risk.

Section 3

TEST EQUIPMENT AND SERVICE AIDS

1.0 Recommended Test Equipment

The list of equipment contained in Table 3-1 includes most of the standard test equipment required for servicing Motorola mobile radios.

Table 3-1 Recommended Test Equipment

Equipment	Characteristic	Example	Application
Service Monitor	Can be used as a substitute for items marked with an asterisk (*)	Aeroflex 2945B, Aeroflex 3920, or equivalent	Frequency/deviation meter and signal generator for wide-range troubleshooting and alignment
Digital RMS Multimeter*	100 μ V to 300 V 5 Hz to 1 MHz 10 Meg Ohm Impedance	Fluke 179 or equivalent (www.fluke.com)	AC/DC voltage and current measurements. Audio voltage measurements.
RF Signal Generator*	100 MHz to 1 GHz -130 dBm to +10 dBm FM Modulation 0 kHz to 10 kHz	Agilent N5181 (www.agilent.com) or equivalent	Receiver measurements
Oscilloscope*	2 Channels 50 MHz Bandwidth 5 mV/div to 20 V/div	Tektronix TDS1001b (www.tektronix.com) or equivalent	Waveform measurements
Power Meter and Sensor*	5% Accuracy 100 MHz to 500 MHz 50 Watts	Bird 43 Thruline Watt Meter (www.bird-electronic.com) or equivalent	Transmitter power output measurements
RF Millivolt Meter	100 mV to 3 V RF 10 kHz to 1 GHz	Boonton 92EA (www.boonton.com) or equivalent	RF level measurements
Power Supply	0 V to 32 V 0 A to 20 A	B&K Precision 1790 (www.bkprecision.com) or equivalent	Voltage supply

2.0 Service Aids

Table 3-2 lists the service aids recommended for working on the radio. While all of these items are available from Motorola, most are standard workshop equipment items, and any equivalent item capable of the same performance may be substituted for the item listed.

Table 3-2 Service Aids

Motorola Part Number	Description	Application
RLN4460_	Test Set	Enables connection to audio/accessory jack. Allows switching for radio testing.
RVN5115_	Customer Programming Software on CD-ROM	Allows servicer to program radio parameters, tune and troubleshoot radios.
PMKN4010_	Mobile & Repeater Rear Programming Cable	Connects the radio's rear connector to a USB port for radio programming and data applications.
PMKN4016_	Mobile & Repeater Rear Accessory Programming and Test Cable	Connects the radio's rear connector to a USB port for radio programming, data applications, testing and alignment.
PMKN4018_	Mobile & Repeater Rear Accessory Connector Universal Cable	Connects the radio's rear connector to accessory devices such as desk sets. Cable contains all 26 wires and is unterminated at the user end.
HKN6184_	Mobile Front Programming Cable	Connects the radio's front connector to a USB port for radio programming and data applications.
HPN4007_	Power Supply	Provides the radio with power when bench testing.
PMEN4027_	Housing Eliminator	Test Fixture used to bench test the radio PCB.
6686119B01	Control Head Dismantling Tool	Assists in the removal of radio control head.
66012025001	Volume/Channel Knob Removal Tool	Assists in the removal of the Volume/Channel knob.
66012020001	RFIC (U0000) Repair Stencil	Fixture to screen solder paste onto the IC leads for replacement.

3.0 Programming Cables



Figure 3-1 Mobile Front Programming Cable HKN6184_

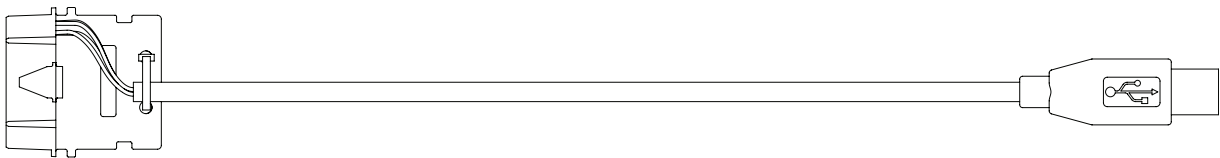


Figure 3-2 Mobile & Repeater Rear Programming Cable PMKN4010_

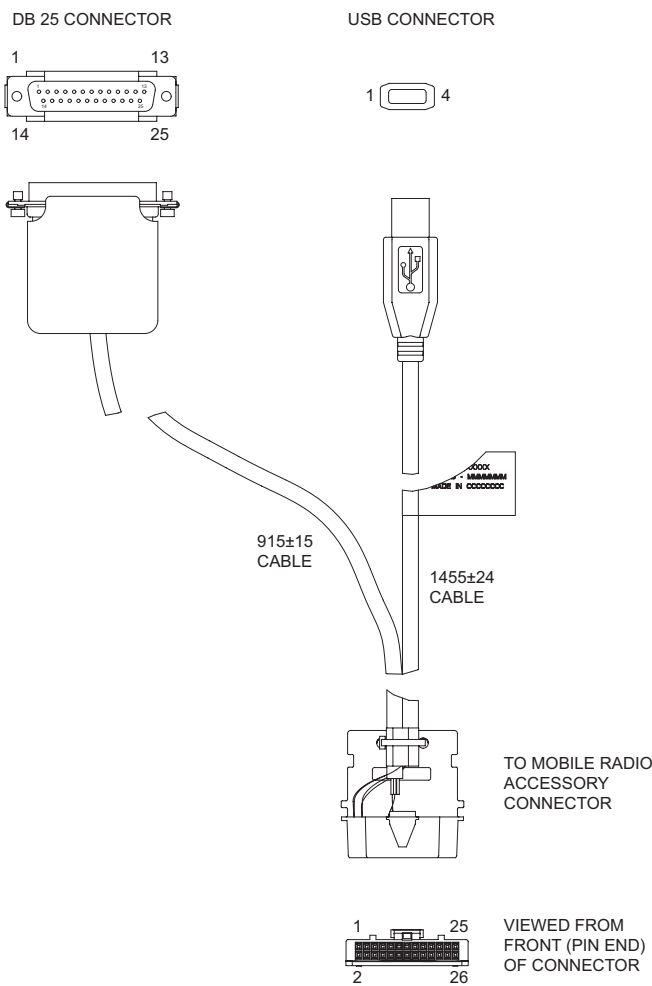


TABLE 2-3: WIRE DIAGRAM			
26 PIN ACCESSORY PORT CONNECTOR		USB	DB25P
PIN NO.	DESCRIPTION		
3	VCC (5v)	1	
2	DATA -	2	
1	DATA +	3	
4	GND	4	
	DRAIN WIRE AND BRAID	SHELL	
9	SPEAKER -		7
11	EXT MIC		17
17	DIGI IN I (EXT PTT)		20
16	GND		16
10	SPEAKER +		1

Figure 3-3 Mobile & Repeater Rear Accessory Programming and Test Cable PMKN4016_

Notes

Section 4

POWER-UP SELF TEST

NOTE: This section is for reference only. If at any time one of the error codes is present, the radio should be returned to a qualified Motorola Service Center.

1.0 Power-Up Error Codes

When the radio is turned on (powered-up), the radio performs cursory tests to determine if its basic electronics and software are in working order. Problems detected during these tests are presented as error codes on the radio's display. The presence of an error should prompt the user that a problem exists and that a service technician should be contacted.

Self-test errors are classified as either fatal or non-fatal. Fatal errors inhibit user operation; non-fatal errors do not. Use the following table to aid in understanding particular power-up error code displays.

Table 4-1 Power-Up Error Codes

Error Code	Description	Error Type	Corrective Action
ERROR 01/02	FLASH ROM Codeplug Checksum	NON-FATAL	Reprogram the codeplug.
ERROR 01/22	Tuning Codeplug Checksum	NON-FATAL	Reprogram the tuning partition.
FAIL 01/82	FLASH ROM Codeplug Checksum	FATAL	Reprogram the codeplug.
FAIL 01/90	General Hardware Error	FATAL	Turn the radio off, then on.
FAIL 01/92	Security Partition Checksum	FATAL	Reprogram the security partition.
FAIL 01/93	FlashPORT AUTHENT CODE Failure	FATAL	Contact the depot.
FAIL 01/A2	Tuning Codeplug Checksum	FATAL	Reprogram the tuning partition.

2.0 Operational Error Codes

During radio operation, the radio performs dynamic tests to determine if the radio is working properly. Problems detected during these tests are presented as error codes on the radio's display. The presence of an error code should prompt a user that a problem exists and that a service technician should be contacted. Use Table 4-2 to aid in understanding particular operational error codes.

Table 4-2 Operational Error Codes

Error Code	Description	Error Type	Corrective Action
FAIL 001	Synthesizer Out-of-Lock	NON-FATAL	Reprogram the codeplug. Send radio to the nearest Motorola Depot.
FAIL 002	Personality checksum or system block error	NON-FATAL	Reprogram the codeplug.



XPR 5350/XPR 5550 Mobile Radios

Chapter 2

MOTOTRBO

XPR 5350/XPR 5550
Mobile Radio Block Diagram

Issue: January, 2012

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Chapter 2 – MOTOTRBO XPR 5350/XPR 5550 Mobile Radio Block Diagram

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-----	--	-----

Notes

Figure 1-1: shows the MOTOTRBO XPR 5350/XPR 5550 Mobile Radio Block Diagram. This block diagram should be used for reference for all subsequent chapters.



Notes



XPR 5350/XPR 5550 Mobile Radios

Chapter 3 Control Head Service Information

Issue: January, 2012

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Chapter 3 – Control Head Service Information

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Notes

Section 1

OVERVIEW

1.0 Numeric Display Model

The Control Head contains the internal speaker, the On/Off button, the Volume/Channel knob, the microphone connector, several buttons to operate the radio and several indicator Light Emitting Diodes (LED) to inform the user about the radio status and channel. The switches and indicators on the Control Head are indirectly controlled by the processor in the radio.



2.0 Color Display Model

The Control Head contains the internal speaker, the On/Off button, the Volume/Channel knob, the microphone connector, several buttons to operate the radio, several indicator Light Emitting Diodes (LED) to inform the user about the radio status, and a Color Liquid Crystal Display (LCD) for alpha - numerical information e.g., channel number or call address name. The switches, indicators, and LCD on the Control Head are indirectly controlled by the processor in the radio.

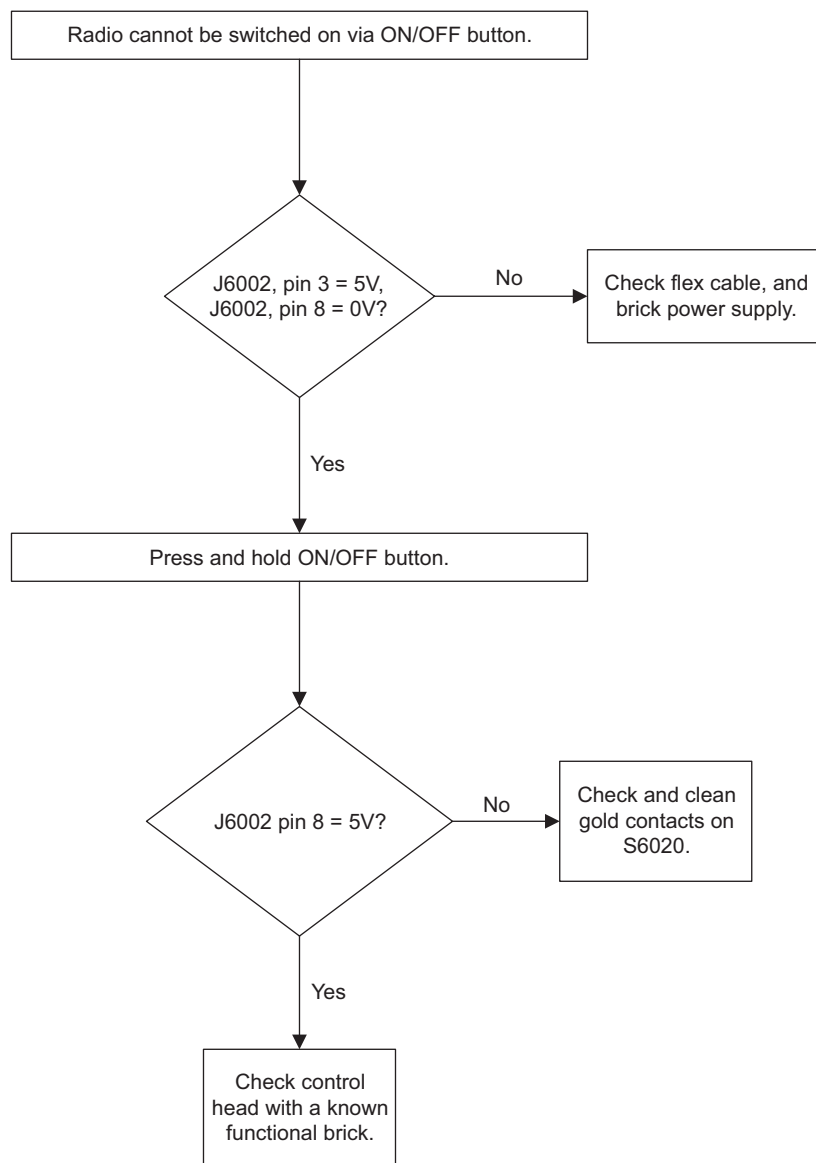


Section 2

TROUBLESHOOTING CHARTS

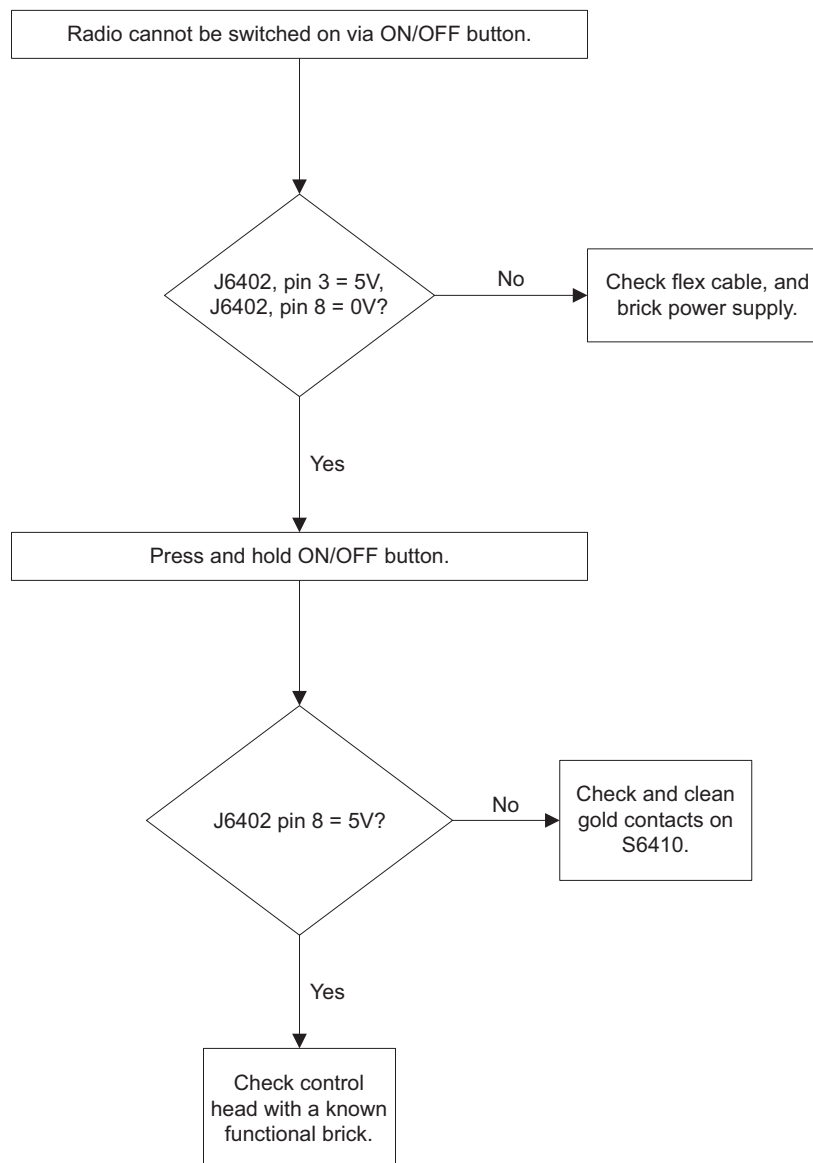
1.0 Numeric Display Model Control Head Troubleshooting Flow Chart

1.1 On/Off

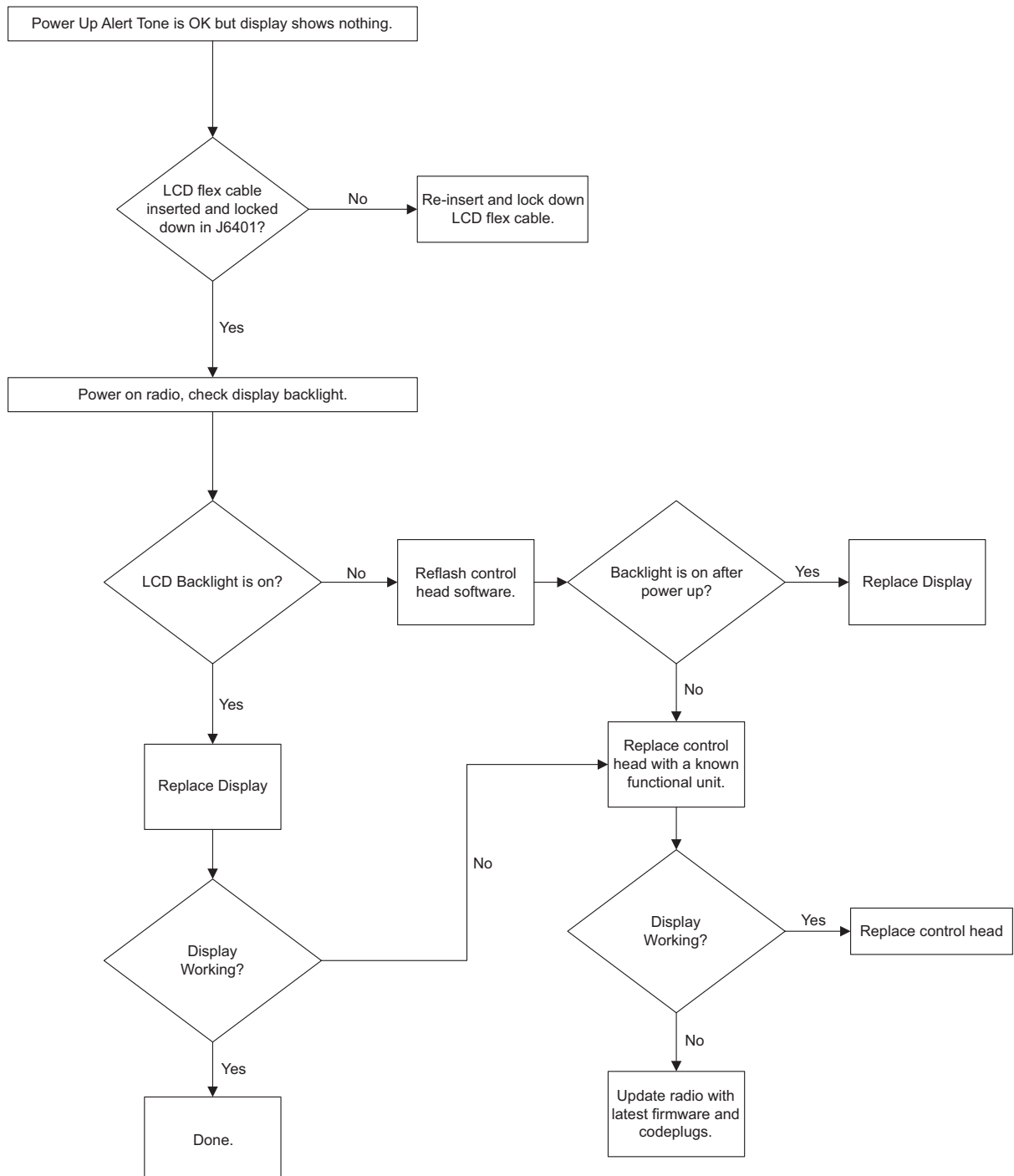


2.0 Color Display Model Control Head Troubleshooting Flow Chart

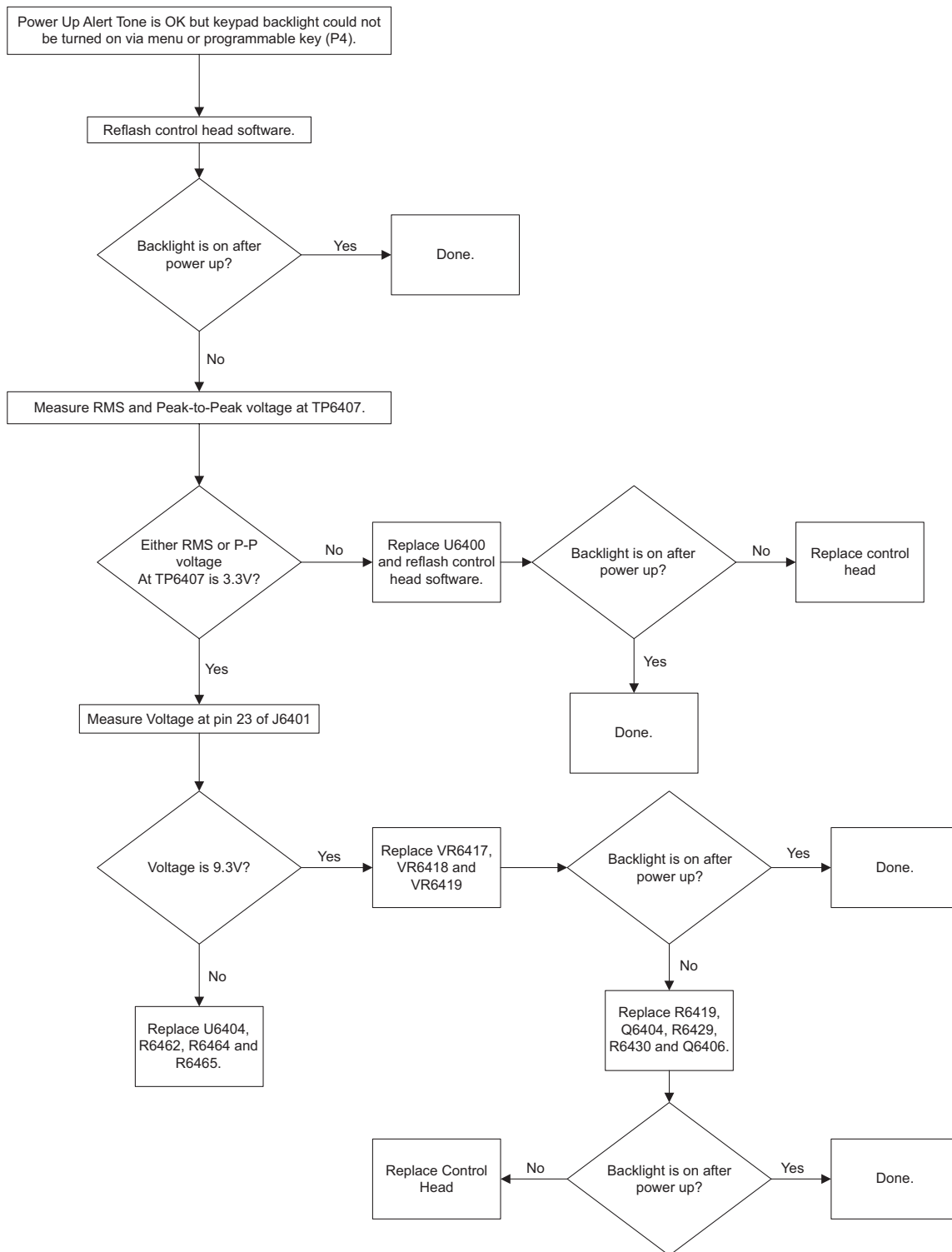
2.1 On/Off



2.2 Display



2.3 Backlight



Section 3

CONTROL HEAD PCBS/SCHEMATICS/PARTS LISTS

1.0 Allocation of Schematics and Circuit Boards

Table 3-1 Numeric Display Control Head Schematic Diagram and Parts List

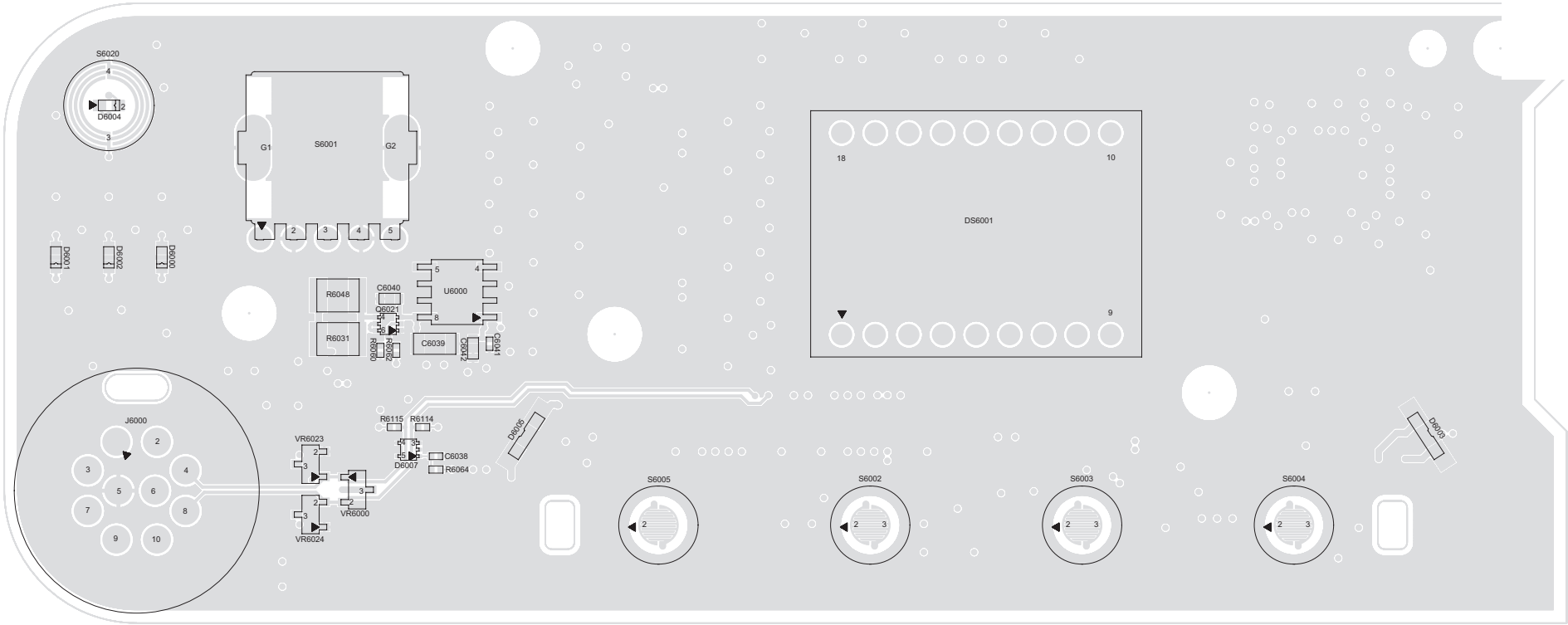
PCB : Numeric Display Control Head 84012212001-A Main Board Top Side 84012212001-A Main Board Bottom Side	Page 3-3 Page 3-3
SCHEMATICS Numeric Display Control Head Schematic Diagram	Page 3-4
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Table 3-2 Color Display Control Head Schematic Diagram and Parts List

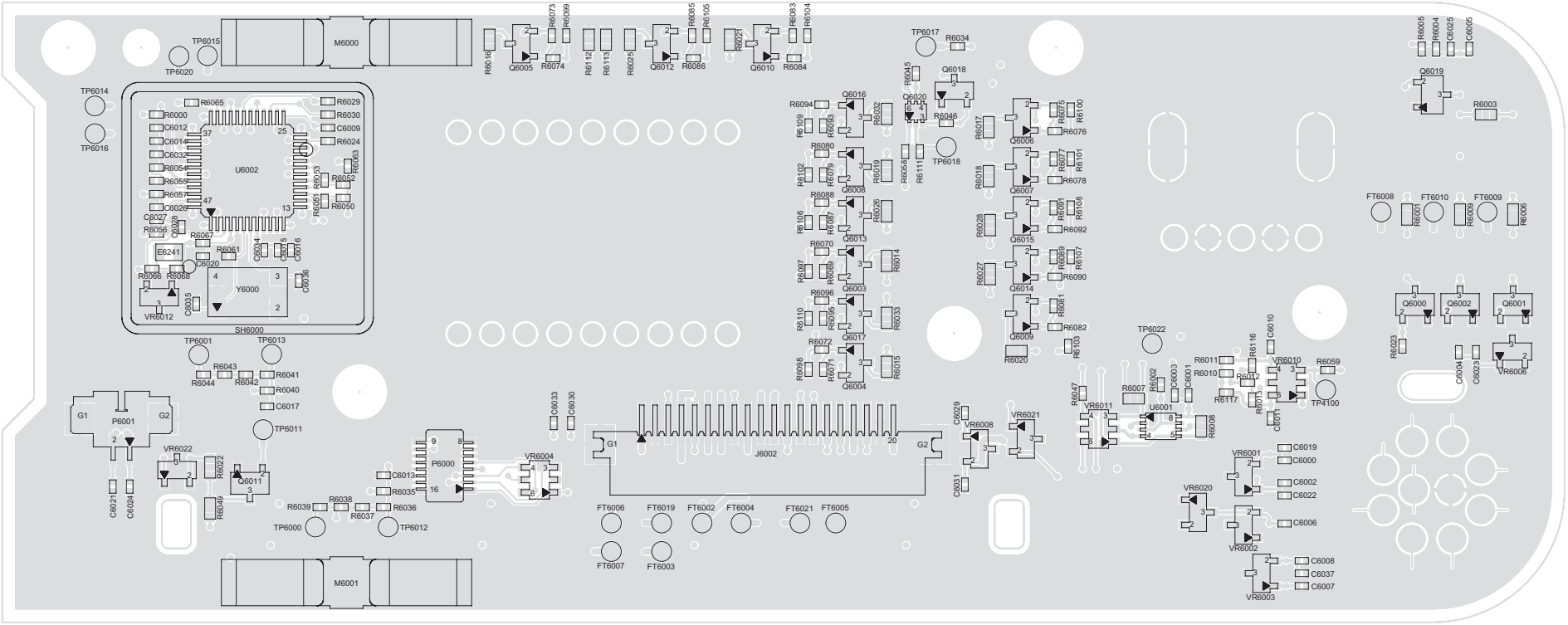
PCB : Color Display Control Head 84012211001-A Main Board Top Side 84012211001-A Main Board Bottom Side	Page 3-6 Page 3-6
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2.0 Numeric Display Control Head – PCB 84012212001-A/Schematics

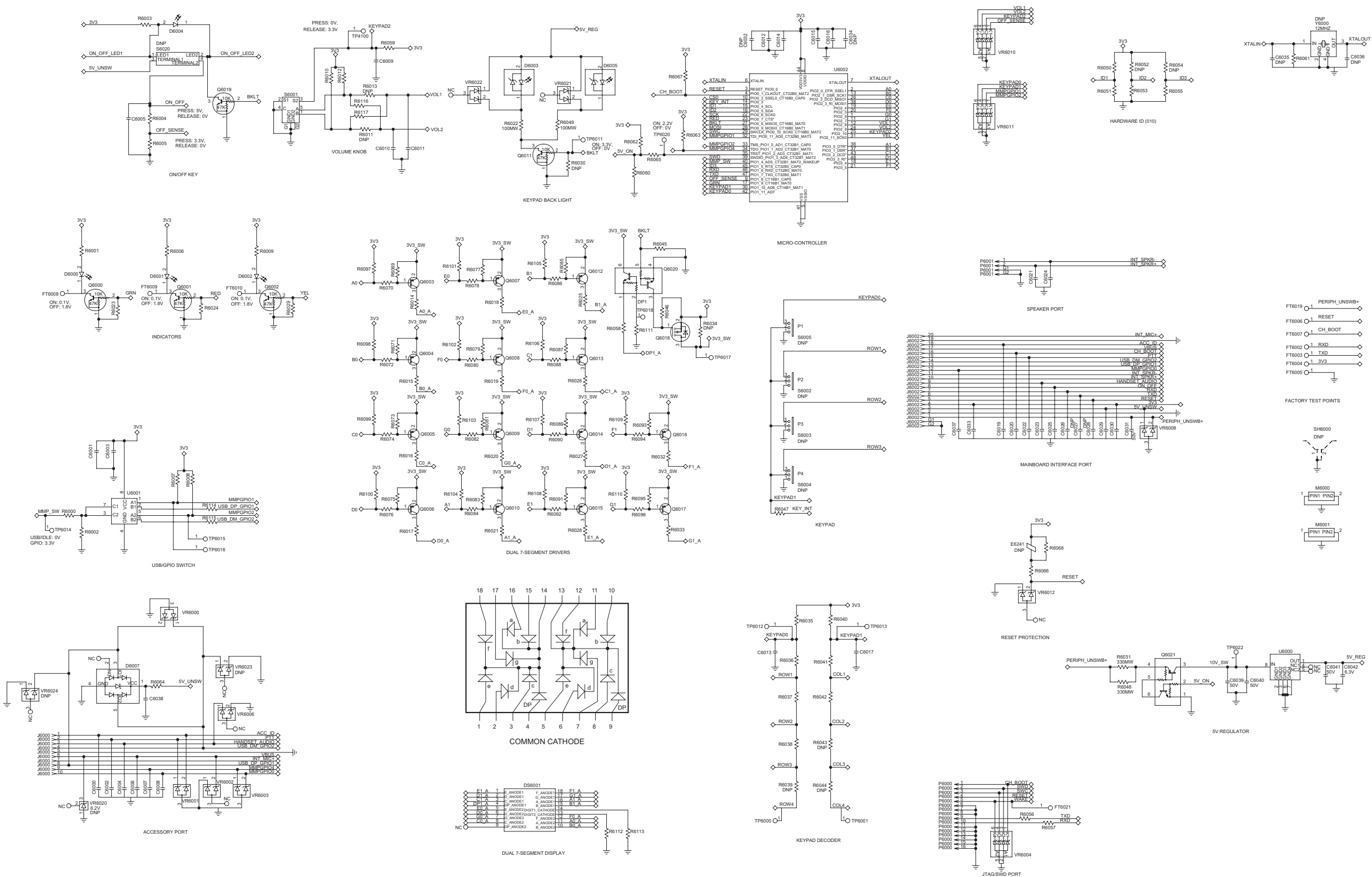


Top Side View



Bottom Side View

Numeric Display Control Head – PCB 84012212001-A



Numeric Display Control Head Schematic Diagram

3.0 Numeric Display Control Head Parts List

Circuit Ref.	Motorola Part No.
C6000	2113945A05
C6001	2113945B02
C6002	2113945A05
C6003	2113946B04
C6004	2113945A05
C6005	2113945B02
C6006	2113945A05
C6007	2113945A05
C6008	2113945A05
C6009	2113945B02
C6010	2113945B02
C6011	2113945B02
C6012	2113946B04
C6013	2113945B02
C6014	2113945B02
C6015	2113946B04
C6016	2113945B02
C6017	2113945B02
C6019	2113945A05
C6020	2113945A05
C6021	2113945A05
C6022	2113945A05
C6023	2113945A05
C6024	2113945A05
C6025	2113945A05
C6026	NOT PLACED
C6027	NOT PLACED
C6028	2113945A05
C6029	2113945A05
C6030	2113945A05
C6031	2113945A05
C6032	NOT PLACED
C6033	2113956A51
C6034	NOT PLACED
C6035	NOT PLACED

Circuit Ref.	Motorola Part No.
C6036	NOT PLACED
C6037	2113945A05
C6038	2113946B04
C6039	2113955D13
C6040	2113944C06
C6041	2113944A44
C6042	2113946D05
D6000	4815809H04
D6001	4815809H02
D6002	4815809H03
D6003	48012173001
D6004	4815809H04
D6005	48012173001
D6007	48012106001
DS6001	7216958H01
E6241	NOT PLACED
J6000	0964501H04
J6002	0915767H01
M6000	3915452H01
M6001	3915452H01
P6000	NOT PLACED
P6001	2815162H01
Q6000	4815261H01
Q6001	4815261H01
Q6002	4815261H01
Q6003	4813973A13
Q6004	4813973A13
Q6005	4813973A13
Q6006	4813973A13
Q6007	4813973A13
Q6008	4813973A13
Q6009	4813973A13
Q6010	4813973A13
Q6011	4815261H01
Q6012	4813973A13
Q6013	4813973A13
Q6014	4813973A13
Q6015	4813973A13

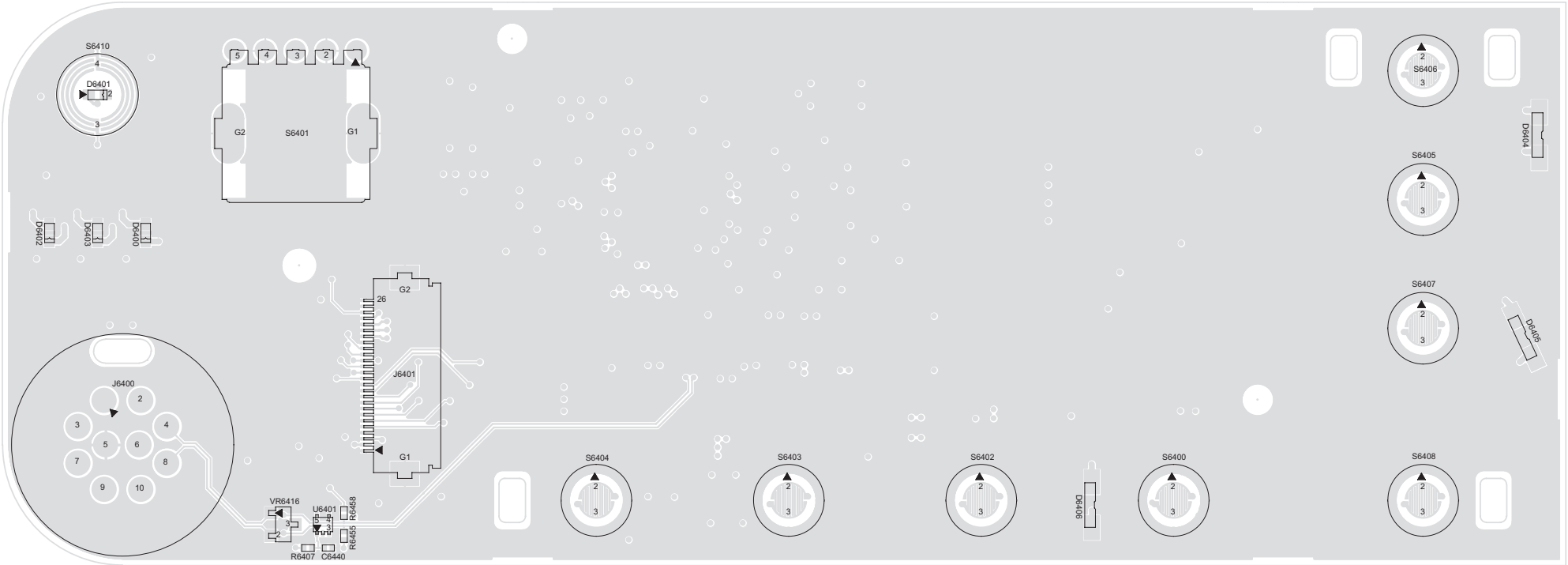
Circuit Ref.	Motorola Part No.
Q6016	4813973A13
Q6017	4813973A13
Q6018	4885065Y01
Q6019	4815261H01
Q6020	4809939C47
Q6021	4815272H01
R6000	0613952R66
R6001	0613952H47
R6002	0613952Q85
R6003	0613952H47
R6004	0613952Q85
R6005	0613952Q93
R6006	0613952H47
R6007	0613952J09
R6008	0613952J09
R6009	0613952H47
R6010	0613952R01
R6011	NOT PLACED
R6012	0613952R01
R6013	NOT PLACED
R6014	0613952H44
R6015	0613952H44
R6016	0613952H44
R6017	0613952H44
R6018	0613952H44
R6019	0613952H44
R6020	0613952H44
R6021	0613952H44
R6022	0613952C01
R6023	0613952R01
R6024	0613952R01
R6025	0613952H44
R6026	0613952H44
R6027	0613952H44
R6028	0613952H44
R6029	0613952R01
R6030	NOT PLACED
R6031	0613959G57

Circuit Ref.	Motorola Part No.
R6032	0613952H44
R6033	0613952H44
R6034	NOT PLACED
R6035	0613952R18
R6036	0613952R04
R6037	0613952R09
R6038	0613952R17
R6039	NOT PLACED
R6040	0613952R18
R6041	0613952R04
R6042	0613952R09
R6043	NOT PLACED
R6044	NOT PLACED
R6045	0613952Q89
R6046	0613952R25
R6047	0613952R66
R6048	0613959G57
R6049	0613952C01
R6050	NOT PLACED
R6051	0613952R01
R6052	0613952R66
R6053	0613952R01
R6054	NOT PLACED
R6055	0613952R01
R6056	0613952R66
R6057	0613952R66
R6058	0613952Q25
R6059	0613952R01
R6060	0613952R01
R6061	0613952R66
R6062	0613952Q85
R6063	0613952R09
R6064	0613952Q73
R6065	0613952R66
R6066	0613952Q73
R6067	0613952R17
R6068	0613952R66
R6069	0613952R17

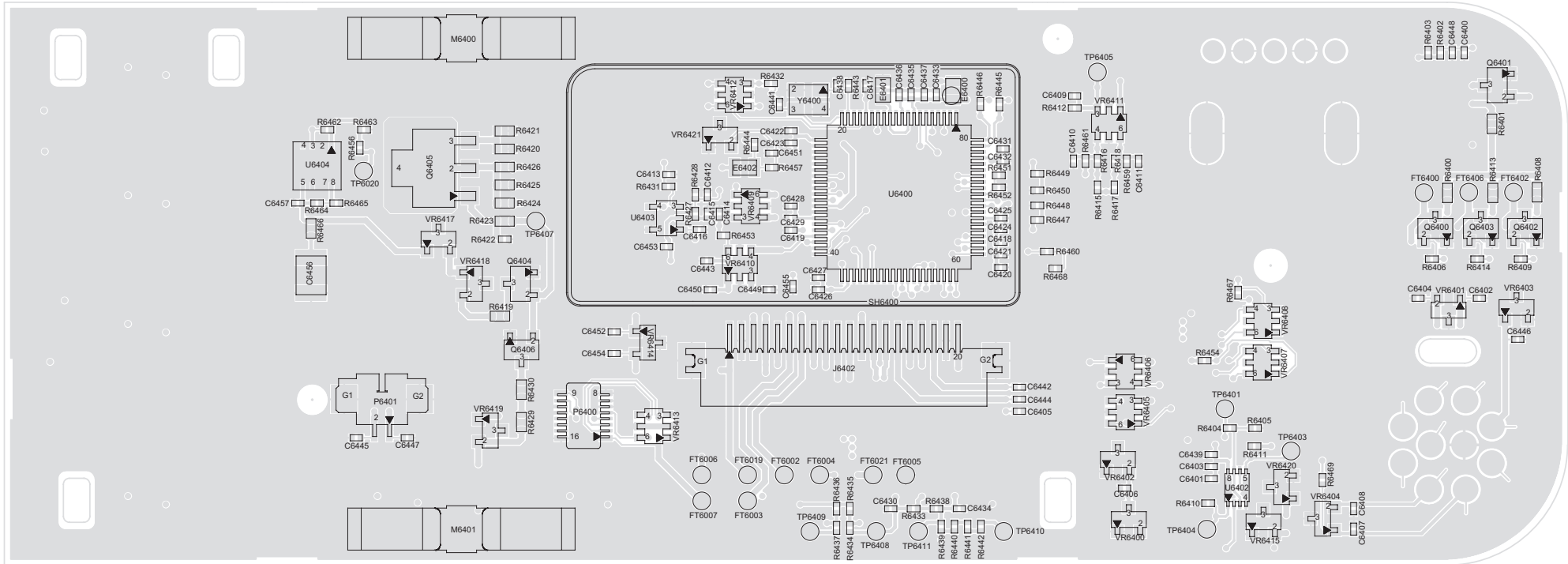
Circuit Ref.	Motorola Part No.
R6070	0613952R01
R6071	0613952R17
R6072	0613952R01
R6073	0613952R17
R6074	0613952R01
R6075	0613952R17
R6076	0613952R01
R6077	0613952R17
R6078	0613952R01
R6079	0613952R17
R6080	0613952R01
R6081	0613952R17
R6082	0613952R01
R6083	0613952R17
R6084	0613952R01
R6085	0613952R17
R6086	0613952R01
R6087	0613952R17
R6088	0613952R01
R6089	0613952R17
R6090	0613952R01
R6091	0613952R17
R6092	0613952R01
R6093	0613952R17
R6094	0613952R01
R6095	0613952R17
R6096	0613952R01
R6097	0613952R01
R6098	0613952R01
R6099	0613952R01
R6100	0613952R01
R6101	0613952R01
R6102	0613952R01
R6103	0613952R01
R6104	0613952R01
R6105	0613952R01
R6106	0613952R01
R6107	0613952R01

Circuit Ref.	Motorola Part No.
R6108	0613952R01
R6109	0613952R01
R6110	0613952R01
R6111	0613952R01
R6112	0613952G67
R6113	0613952G67
R6114	0613952Q73
R6115	0613952Q73
R6116	0613952R66
R6117	0613952R66
S6001	40012062001
S6002	NOT PLACED
S6003	NOT PLACED
S6004	NOT PLACED
S6005	NOT PLACED
S6020	NOT PLACED
SH6000	NOT PLACED
U6000	5114014A03
U6001	51012327001
U6002	51012145002
VR6000	48012153001
VR6001	4813977A43
VR6002	4813977A43
VR6003	4813977A43
VR6004	4813979P10
VR6006	4813977A43
VR6008	4813977A50
VR6010	4813979P10
VR6011	4813979P10
VR6012	4813977A43
VR6020	NOT PLACED
VR6021	4813977A43
VR6022	4813977A43
VR6023	NOT PLACED
VR6024	NOT PLACED
Y6000	NOT PLACED

4.0 Color Display Control Head – PCB 84012211001-A/Schematics

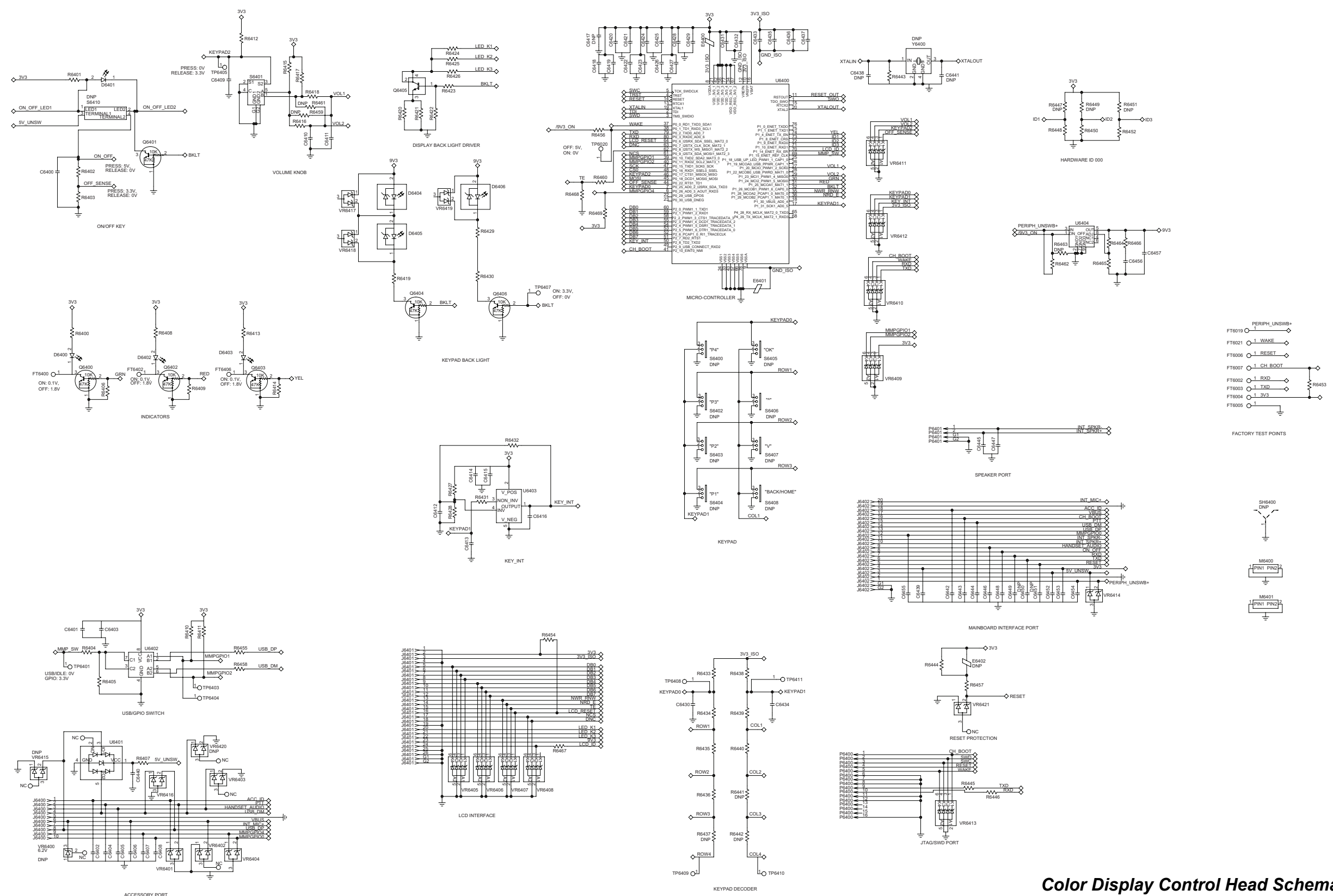


Top Side View



Bottom Side View

Color Display Control Head – PCB 84012211001-A



Color Display Control Head Schematic Diagram

5.0 Color Display Control Head Parts List

Circuit Ref.	Motorola Part No.
C6400	2113945B02
C6401	2113945B02
C6402	2113945A05
C6403	2113946B04
C6404	2113945A05
C6405	2113945A05
C6406	2113945A05
C6407	2113945A05
C6408	2113945A05
C6409	2113945B02
C6410	2113945B02
C6411	2113945B02
C6412	2113945A05
C6413	2113945A05
C6414	2113946B04
C6415	2113945B02
C6416	2113945A05
C6417	NOT PLACED
C6418	2113946B04
C6419	2113945B02
C6420	2113946B04
C6421	2113945B02
C6422	2113946B04
C6423	2113945B02
C6424	2113946B04
C6425	2113945B02
C6426	2113946B04
C6427	2113945B02
C6428	2113946B04
C6429	2113945B02
C6430	2113945B02
C6431	2113946B04
C6432	2113945B02
C6433	2113946B04
C6434	2113945B02

Circuit Ref.	Motorola Part No.
C6435	2113945B02
C6436	2113946B04
C6437	2113945B02
C6438	NOT PLACED
C6439	2113956A51
C6440	2113946B04
C6441	NOT PLACED
C6442	2113945A05
C6443	2113945A05
C6444	2113945A05
C6445	2113945A05
C6446	2113945A05
C6447	2113945A05
C6448	2113945A05
C6449	NOT PLACED
C6450	NOT PLACED
C6451	2113945A05
C6452	2113945A05
C6453	2113945A05
C6454	2113945A05
C6455	2113945A05
C6456	2113946J04
C6457	2113945Y02
D6400	4815809H04
D6401	4815809H04
D6402	4815809H02
D6403	4815809H03
D6404	48012173001
D6405	48012173001
D6406	48012173001
E6400	2485410Y02
E6401	2485410Y02
E6402	NOT PLACED
J6400	0964501H04
J6401	0916769H02
J6402	0915767H01
M6400	3915452H01
M6401	3915452H01

Circuit Ref.	Motorola Part No.
P6400	NOT PLACED
P6401	2815162H01
Q6400	4815261H01
Q6401	4815261H01
Q6402	4815261H01
Q6403	4815261H01
Q6404	4815261H01
Q6405	4813973B01
Q6406	4815261H01
R6400	0613952H47
R6401	0613952H47
R6402	0613952Q85
R6403	0613952Q93
R6404	0613952R66
R6405	0613952Q85
R6406	0613952R01
R6407	0613952Q73
R6408	0613952H47
R6409	0613952R01
R6410	0613952R09
R6411	0613952R09
R6412	0613952R01
R6413	0613952H47
R6414	0613952R01
R6415	0613952R01
R6416	0613952R66
R6417	0613952R01
R6418	0613952R66
R6419	0613952H53
R6420	0613952H25
R6421	0613952H25
R6422	0613952R01
R6423	0613952H92
R6424	0613952G67
R6425	0613952G67
R6426	0613952G67
R6427	0613952R18
R6428	0613952R43

Circuit Ref.	Motorola Part No.
R6429	0613952H53
R6430	0613952H53
R6431	0613952R01
R6432	0613952R49
R6433	0613952R18
R6434	0613952R04
R6435	0613952R09
R6436	0613952R17
R6437	NOT PLACED
R6438	0613952R18
R6439	0613952R04
R6440	0613952R09
R6441	NOT PLACED
R6442	NOT PLACED
R6443	0613952R66
R6444	0613952R66
R6445	0613952R66
R6446	0613952R66
R6447	NOT PLACED
R6448	0613952R01
R6449	NOT PLACED
R6450	0613952R01
R6451	NOT PLACED
R6452	0613952R01
R6453	0613952R17
R6454	0613952Q73
R6455	0613952Q73
R6456	0613952R66
R6457	0613952Q73
R6458	0613952Q73
R6459	NOT PLACED
R6460	0613952R66
R6461	NOT PLACED
R6462	0613952R17
R6463	NOT PLACED
R6464	0613952M85
R6465	0613952M09
R6466	0613952A01

Circuit Ref.	Motorola Part No.
R6467	0613952R01
R6468	0613952R01
R6469	0613952R09
S6400	NOT PLACED
S6401	40012062001
S6402	NOT PLACED
S6403	NOT PLACED
S6404	NOT PLACED
S6405	NOT PLACED
S6406	NOT PLACED
S6407	NOT PLACED
S6408	NOT PLACED
S6410	NOT PLACED
SH6400	NOT PLACED
U6400	51012180001
U6401	48012106001
U6402	51012327001
U6403	5115014H01
U6404	5171774H01
VR6400	NOT PLACED
VR6401	4813977A43
VR6402	4813977A43
VR6403	4813977A43
VR6404	4813977A43
VR6405	4813979P10
VR6406	4813979P10
VR6407	4813979P10
VR6408	4813979P10
VR6409	4813979P10
VR6410	4813979P10
VR6411	4813979P10
VR6412	4813979P10
VR6413	4813979P10
VR6414	4813977A50
VR6415	NOT PLACED
VR6416	48012153001
VR6417	4813977A43
VR6418	4813977A43

Circuit Ref.	Motorola Part No.
VR6419	4813977A43
VR6420	NOT PLACED
VR6421	4813977A43
Y6400	NOT PLACED



XPR 5350/XPR 5550 Mobile Radios

Chapter 4

Bluetooth[®] - GPS Expansion Board

Service Information

Issue: January, 2012

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Chapter 4 – Bluetooth-GPS Expansion Board Service Information

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Section 2 Bluetooth-GPS PCBs/Schematics/Parts Lists

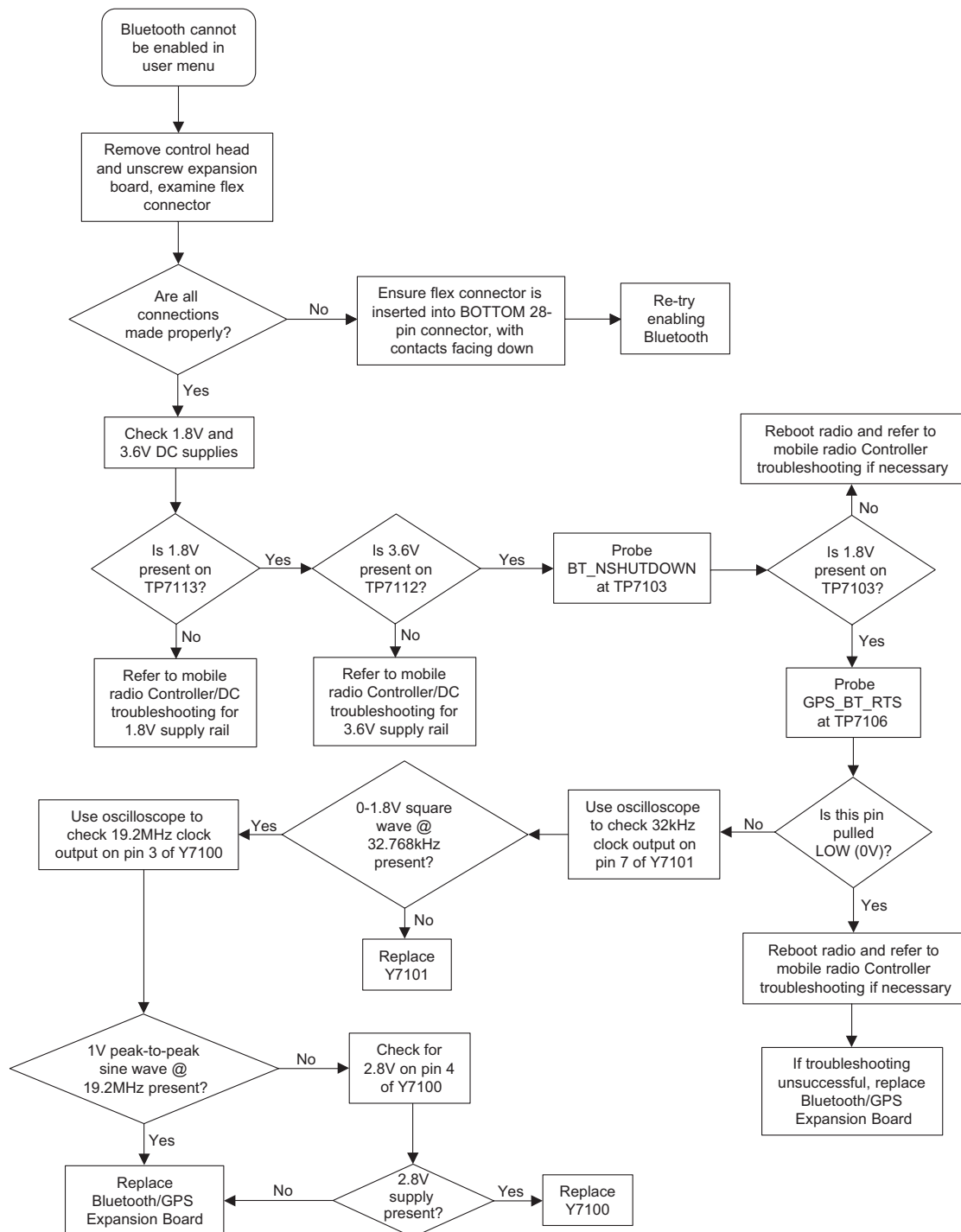
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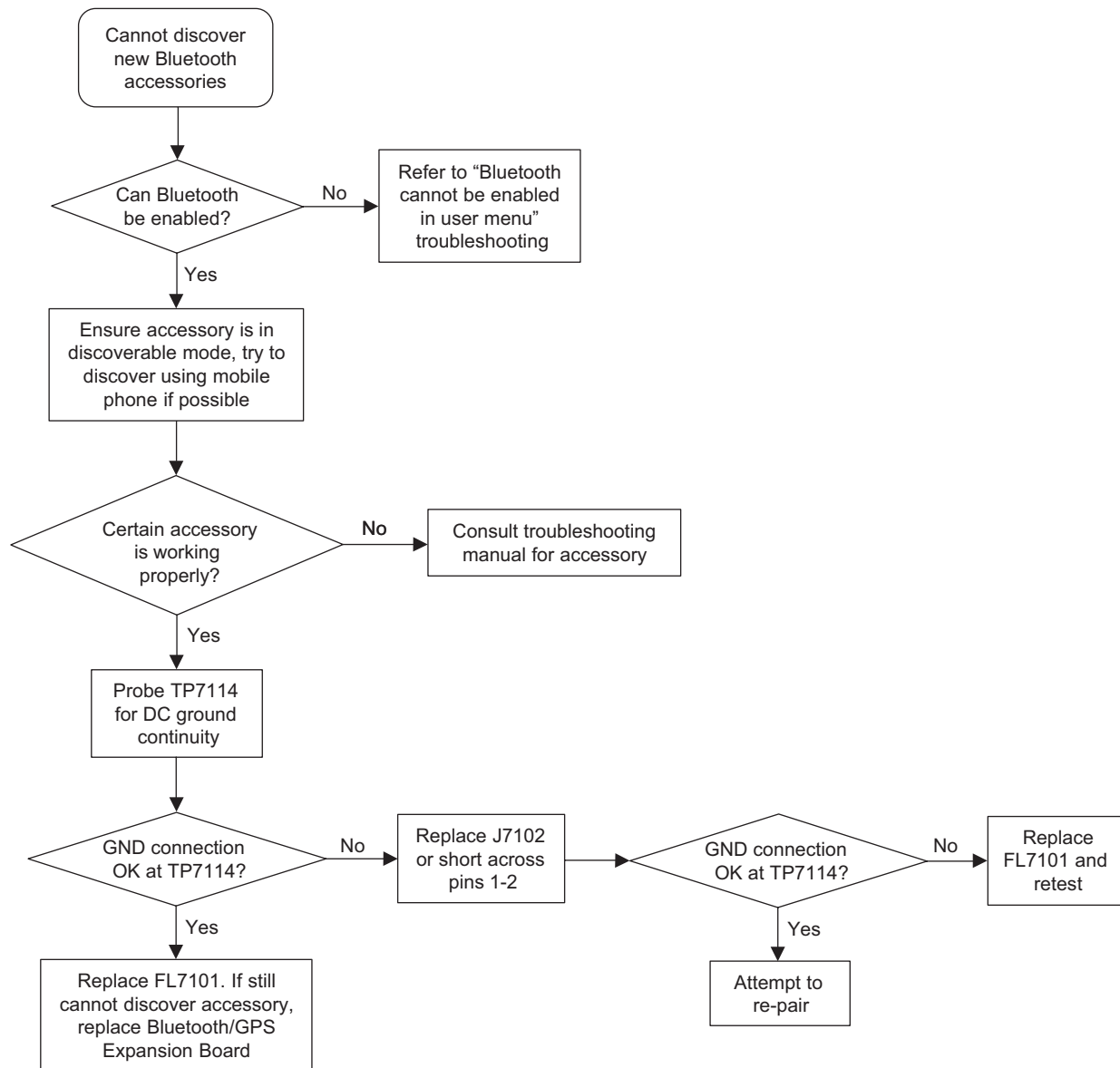
Section 1

TROUBLESHOOTING CHARTS

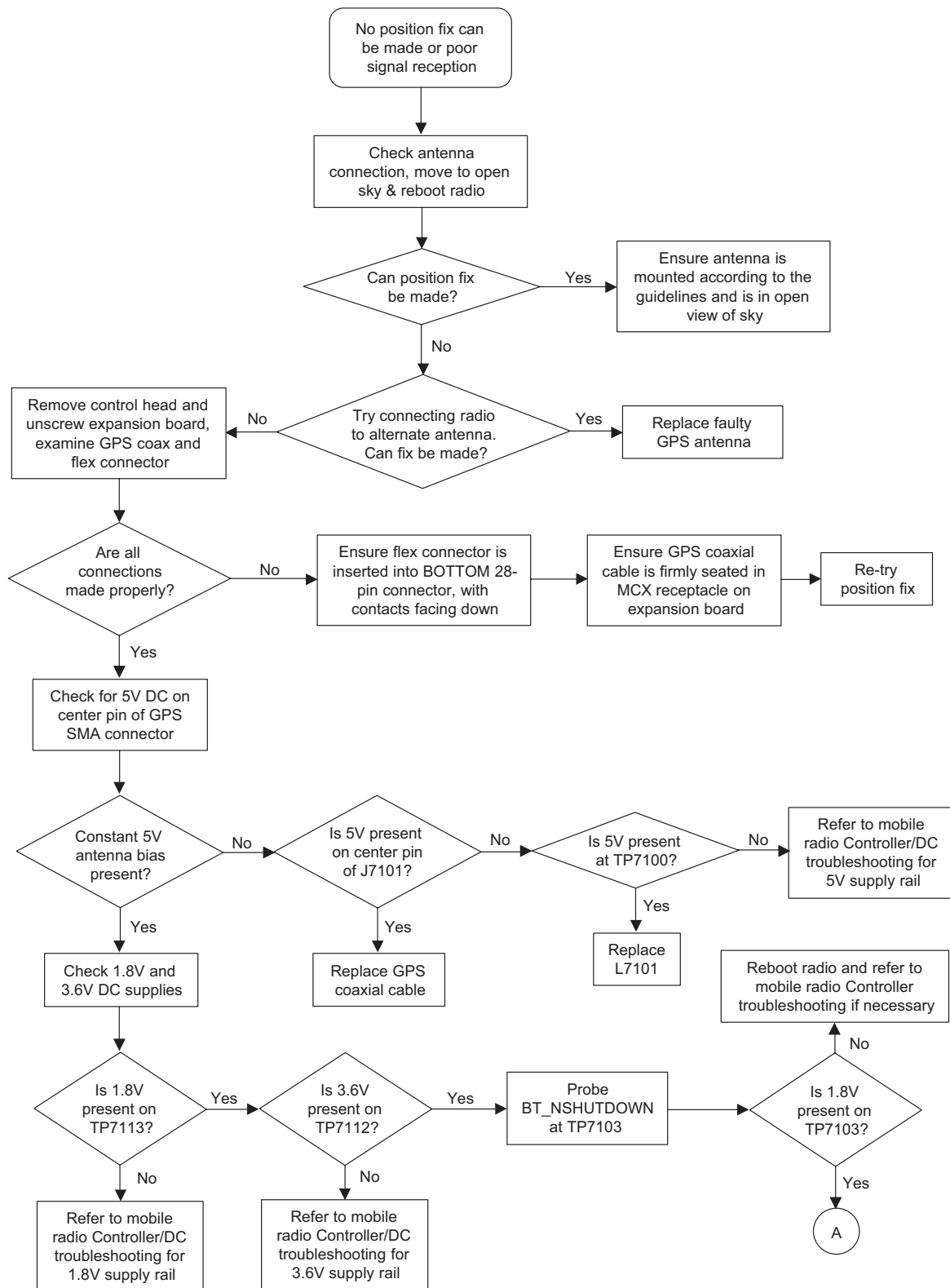
1.0 Bluetooth Troubleshooting Chart (Sheet 1 of 2)



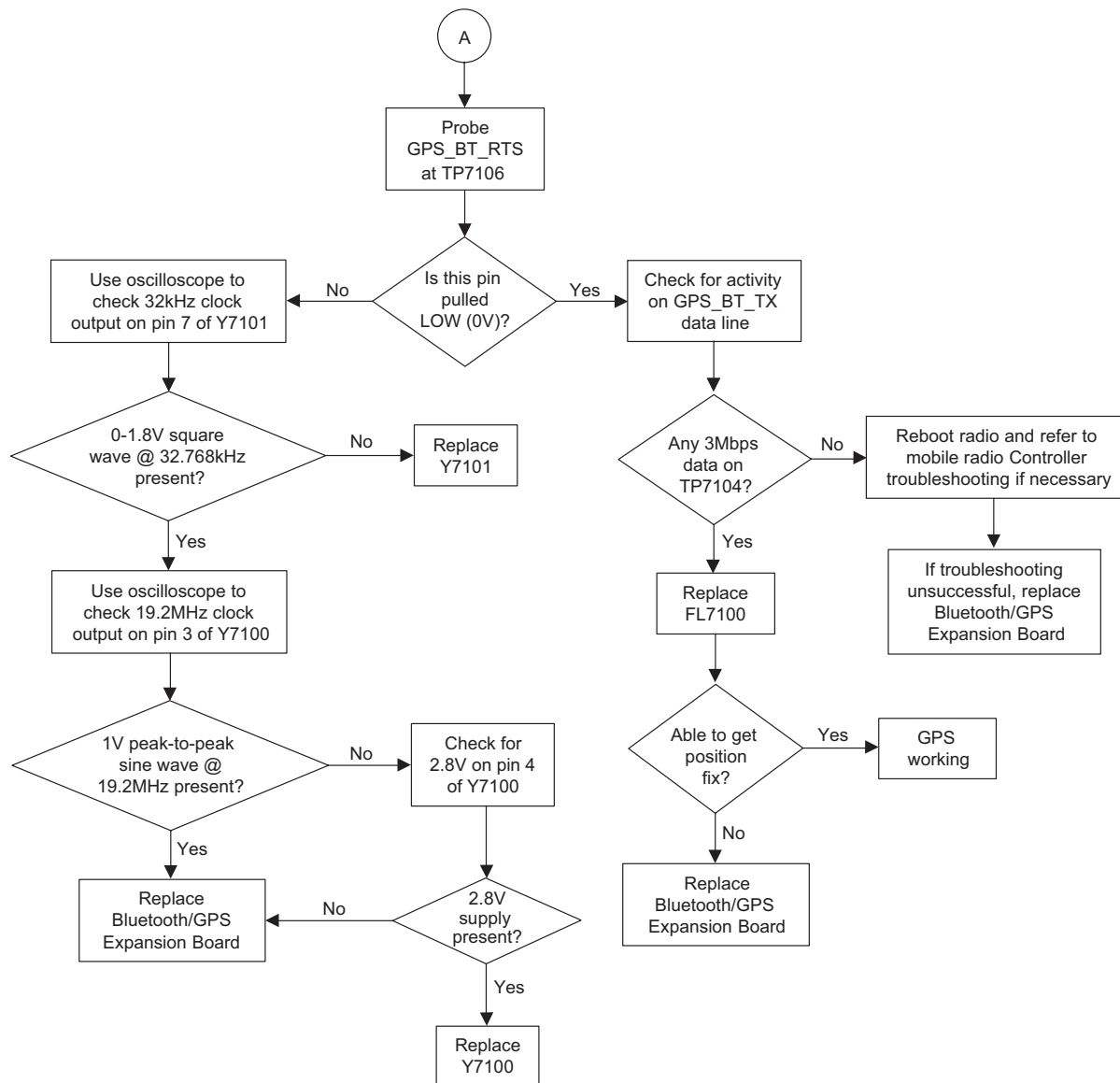
1.1 Bluetooth Troubleshooting Chart (Sheet 2 of 2)



2.0 GPS Troubleshooting Chart (Sheet 1 of 2)



2.1 GPS Troubleshooting Chart (Sheet 2 of 2)



Section 2

BLUETOOTH-GPS PCBS/SCHEMATICS/PARTS LISTS

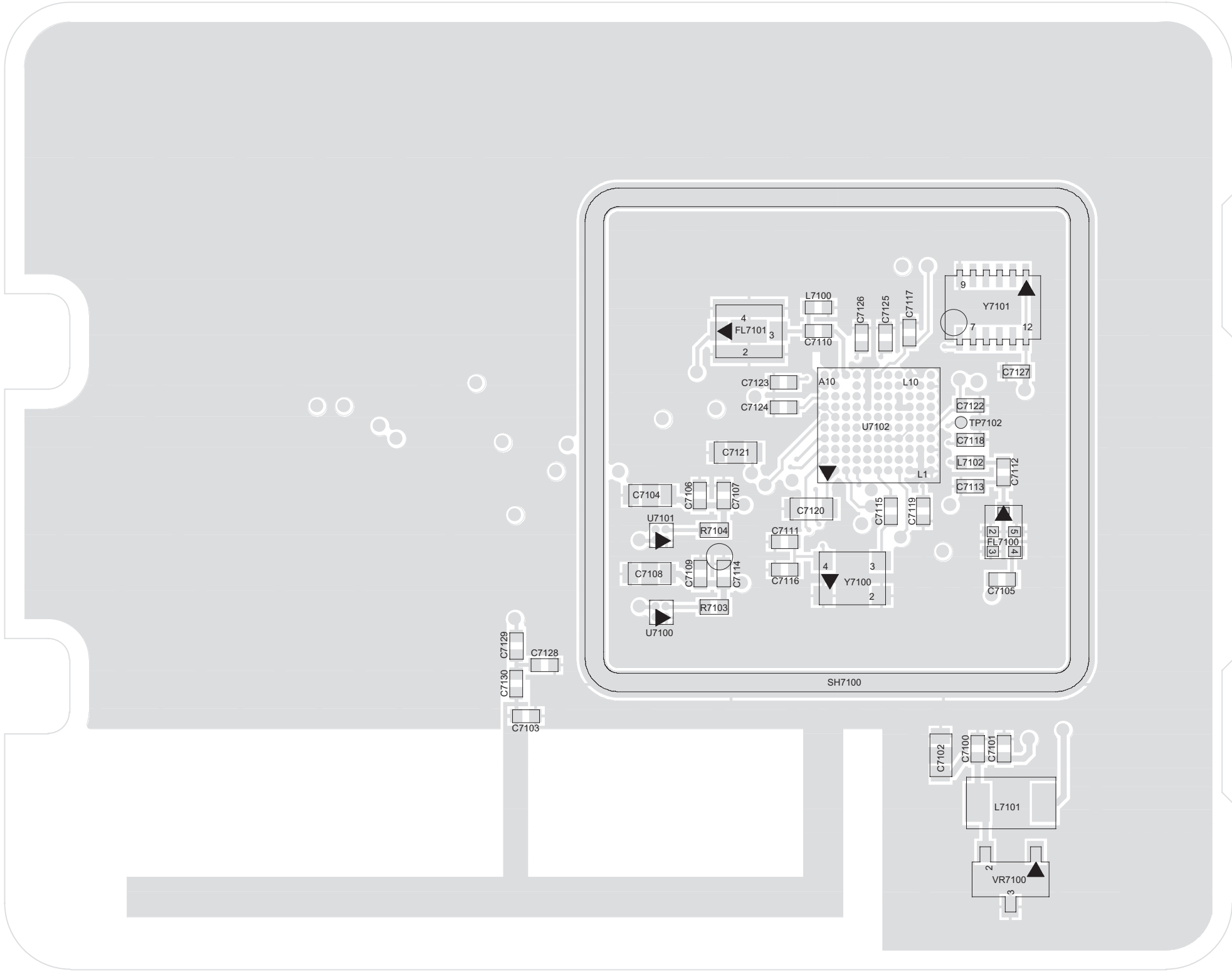
1.0 Allocation of Schematic and Circuit Board

Table 2-1 Bluetooth-GPS Schematic Diagram and Parts List

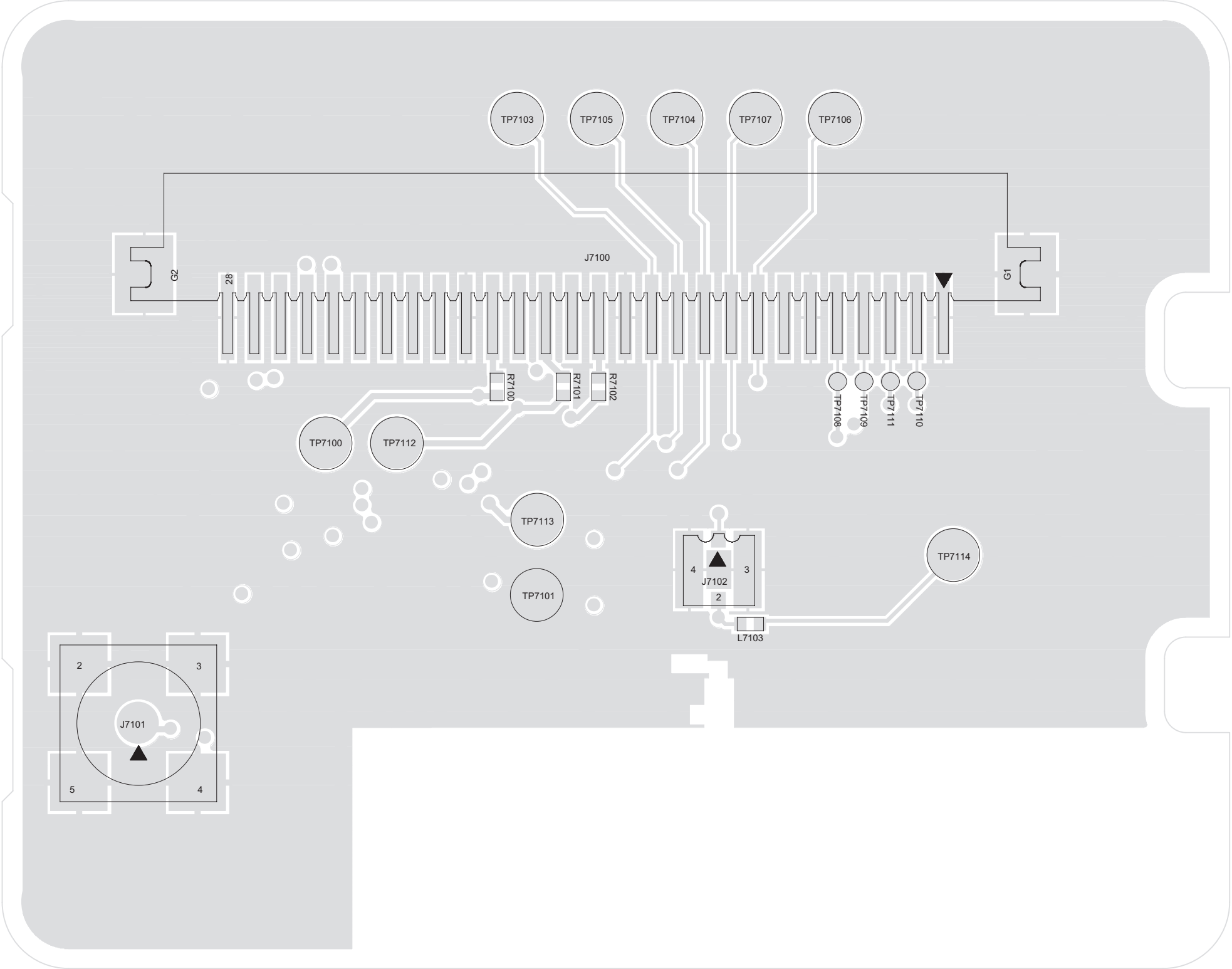
PCB: Bluetooth-GPS 84012172002-B Main Board Top Side 84012172002-B Main Board Bottom Side	Page 2-3 Page 2-4
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Parts List 84012172002-B	Page 2-6

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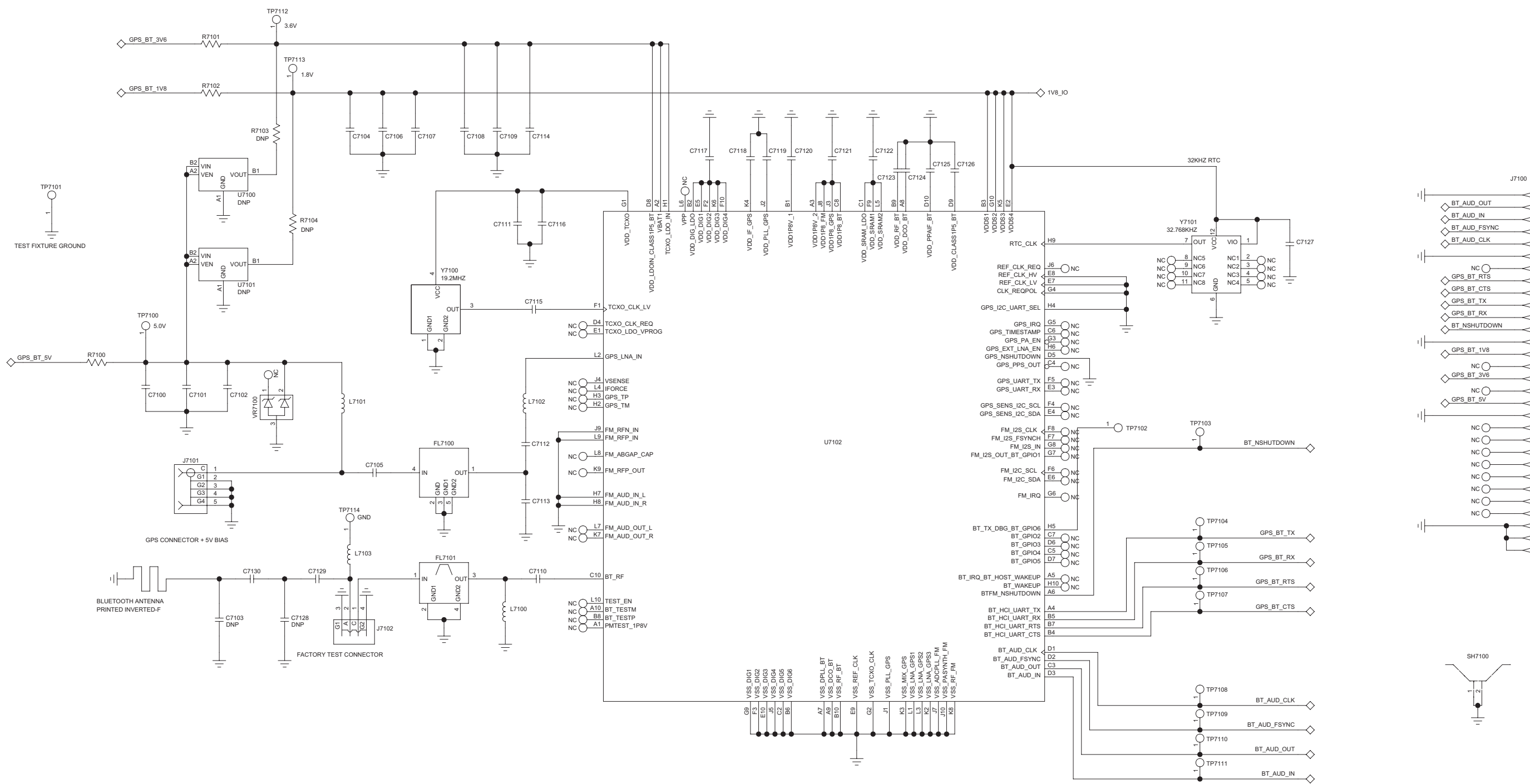
2.0 Bluetooth-GPS Expansion Board – PCB 84012172002-B/Schematic



Bluetooth-GPS Expansion Board – PCB 84012172002-B Top Side



Bluetooth-GPS Expansion Board – PCB 84012172002-B Bottom Side



Bluetooth-GPS Expansion Board Schematic Diagram

3.0 Bluetooth-GPS Expansion Board Parts List

Circuit Ref.	Motorola Part No.
C7100	2113944A28
C7101	2113944A52
C7102	2113946S35
C7103	NOT PLACED
C7104	2113946S35
C7105	2113944A28
C7106	2113945Y02
C7107	2113944A28
C7108	2113946S35
C7109	2113945Y02
C7110	2115153H41
C7111	2113944A28
C7112	2115153H41
C7113	2115153H03
C7114	2113944A28
C7115	2113944A52
C7116	2113945Y02
C7117	2113945Y02
C7118	2113945Y02
C7119	2113945Y02
C7120	2113946S35
C7121	2113946S35
C7122	2113945Y02
C7123	2113945Y02
C7124	2113945Y02
C7125	2113945Y02
C7126	2113945Y02
C7127	2113945Y02

Circuit Ref.	Motorola Part No.
C7128	NOT PLACED
C7129	2115153H26
C7130	2115153H26
FL7100	9180310L38
FL7101	9109674L58
J7100	09012053001
J7101	0909901V02
J7102	40012057001
L7100	2414017P10
L7101	2414032D17
L7102	2414017P14
L7103	2414017P17
R7100	0613952R66
R7101	0613952R66
R7102	0613952R66
R7103	NOT PLACED
R7104	NOT PLACED
SH7100	2686423Z02
U7100	NOT PLACED
U7101	NOT PLACED
U7102	51007377001
VR7100	4813977A43
Y7100	4875185M04
Y7101	93012017001



XPR 5350/XPR 5550 Mobile Radios

Chapter 5

Generic Option Board (GOB)

Service Information

Issue: January, 2012

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Chapter 5 – Generic Option Board (GOB) Service Information

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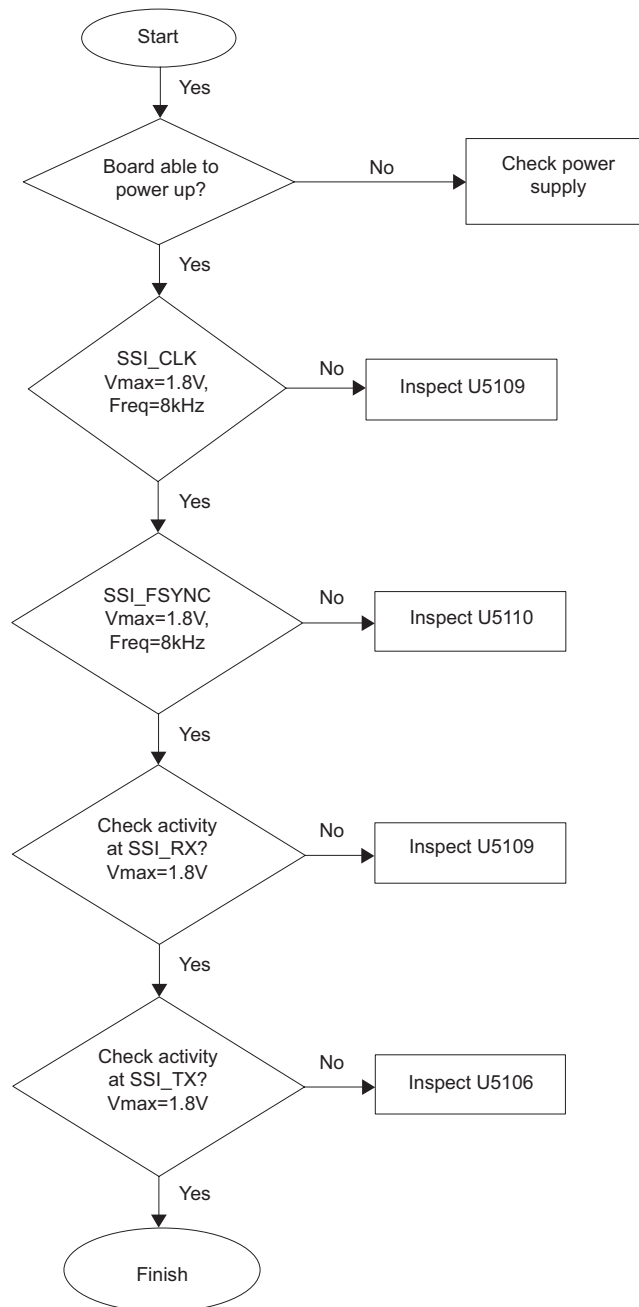
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Notes

Section 1

TROUBLESHOOTING CHART

1.0 Generic Option Board (GOB) Troubleshooting Chart



* To check SSI lines, GOB needs to connect with radio
* All the SSI lines must probe with oscilloscope

Notes

Section 2

GENERIC OPTION BOARD (GOB) PCBS/SCHEMATICS/ PARTS LIST

1.0 Allocation of Schematic and Circuit Board

Table 2-1 GOB Schematic Diagram and Parts List

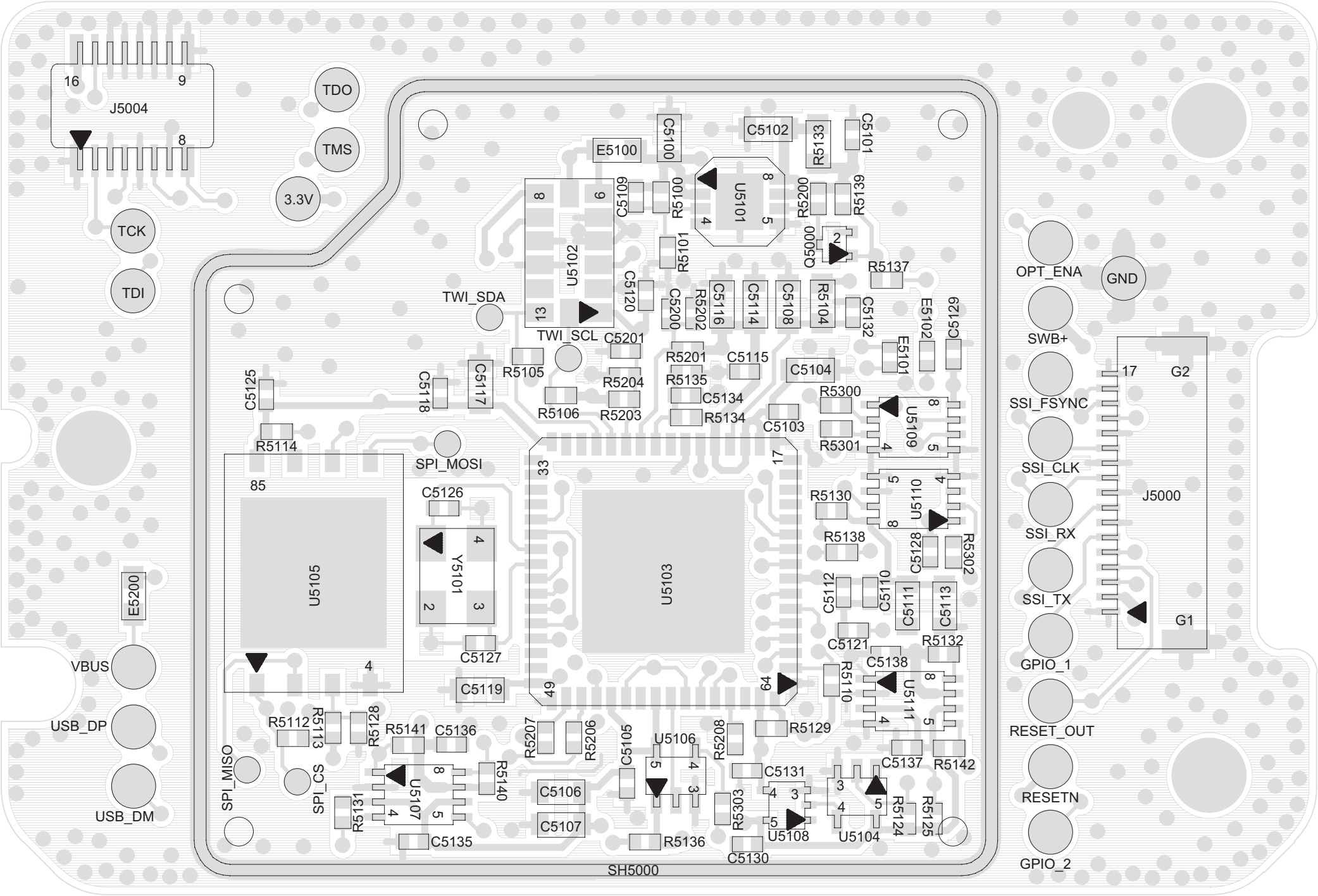
PCB: GOB 84012198001-A Main Board Top Side 84012198001-A Main Board Bottom Side	 Page 2-3 Page 2-4
Schematic GOB Schematic Diagram	Page 2-5
Parts List 84012198001-A	Page 2-6

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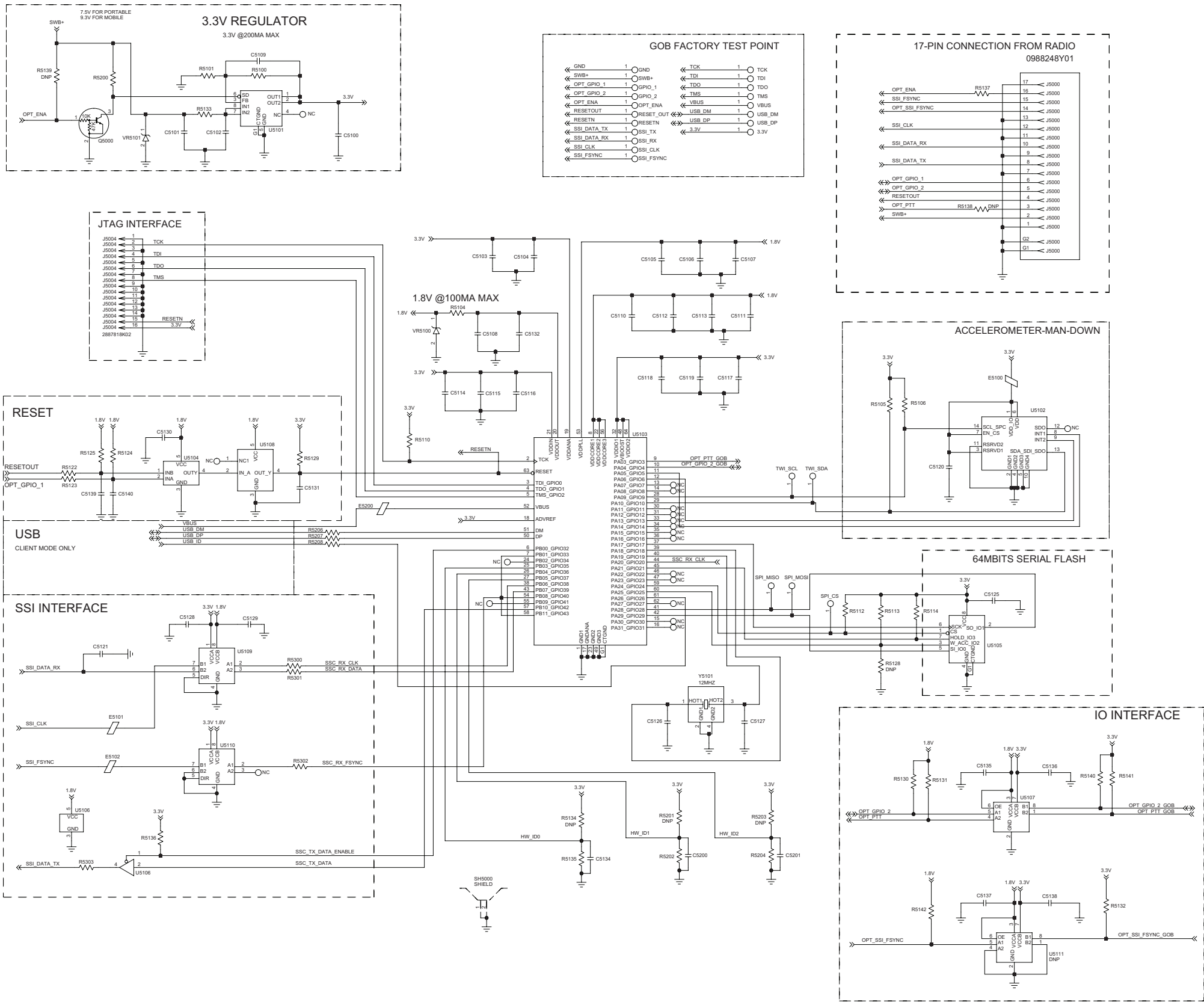
2.0 Generic Option Board (GOB) – PCB 84012198001-A/Schematic



GOB – PCB 84012198001-A Top Side



GOB – PCB 84012198001-A Bottom Side



GOB Schematic Diagram

3.0 GOB Parts List

Circuit Ref.	Motorola Part No.
C5100	2113946S35
C5101	2113945A05
C5102	2113946S35
C5103	2113945Y02
C5104	2113945D01
C5105	2113945A11
C5106	2113945D01
C5107	2113956B21
C5108	2113956B21
C5109	2113945A05
C5110	2113945A11
C5111	2113945D01
C5112	2113945Y02
C5113	2113956B21
C5114	2113956B21
C5115	2113945Y02
C5116	2113945D01
C5117	2113945D01
C5118	2113945Y02
C5119	2113956B21
C5120	2113945Y02
C5121	2113944A46
C5125	2113945Y02
C5126	2115153H22
C5127	2115153H22
C5128	2113945Y02
C5129	2113945Y02
C5130	2113945Y02
C5131	2113945Y02

Circuit Ref.	Motorola Part No.
C5132	2113945A05
C5134	2113945Y02
C5135	2113945Y02
C5136	2113945Y02
C5137	2113945Y02
C5138	2113945Y02
C5139	2113945Y02
C5140	2113945Y02
C5200	2113945Y02
C5201	2113945Y02
E5100	7686949J08
E5101	530004-001-00
E5102	530004-001-00
E5200	24001720002
J5000	09012068001
J5004	2887818K02
PASTE	11012015001
PCB	84012198001
Q5000	4816134H01
R5100	0613952P15
R5101	0613952N87
R5104	0613952G67
R5105	0613952R01
R5106	0613952R01
R5110	0613952R01
R5112	0613952R25
R5113	0613952R25
R5114	0613952R25
R5122	0613952Q25
R5123	0613952Q25

Circuit Ref.	Motorola Part No.
R5124	0613952R01
R5125	0613952R32
R5128	NOT PLACED
R5129	0613952R01
R5130	0613952R25
R5131	0613952R25
R5132	0613952R25
R5133	0613952G67
R5134	NOT PLACED
R5135	0613952R01
R5136	0613952R01
R5137	0613952R66
R5138	NOT PLACED
R5139	NOT PLACED
R5140	0613952R25
R5141	0613952R25
R5142	0613952R25
R5200	0613952R01
R5201	NOT PLACED
R5202	0613952R01
R5203	NOT PLACED
R5204	0613952R01
R5206	0613952K58
R5207	0613952K58
R5208	0613952R01
R5300	0613952Q33
R5301	0613952Q33
R5302	0613952Q33
R5303	0613952Q33
SH5000	26012099001

Circuit Ref.	Motorola Part No.
U5101	548447-001-00
U5102	5175772B43
U5103	51012009003
U5104	5186053Y60
U5105	51012336001
U5106	5188085K03
U5107	51012205001
U5108	5189153N01
U5109	5171767H01
U5110	5171767H01
U5111	NOT PLACED
VR5100	48012131001
VR5101	4815040H01
Y5101	93012000001
---	5482624Y02



XPR 5350/XPR 5550 Mobile Radios

Chapter 6

Controller

Service Information

Issue: January, 2012

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Chapter 6 – Controller Service Information

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Section 2 Controller Schematics/Parts Lists

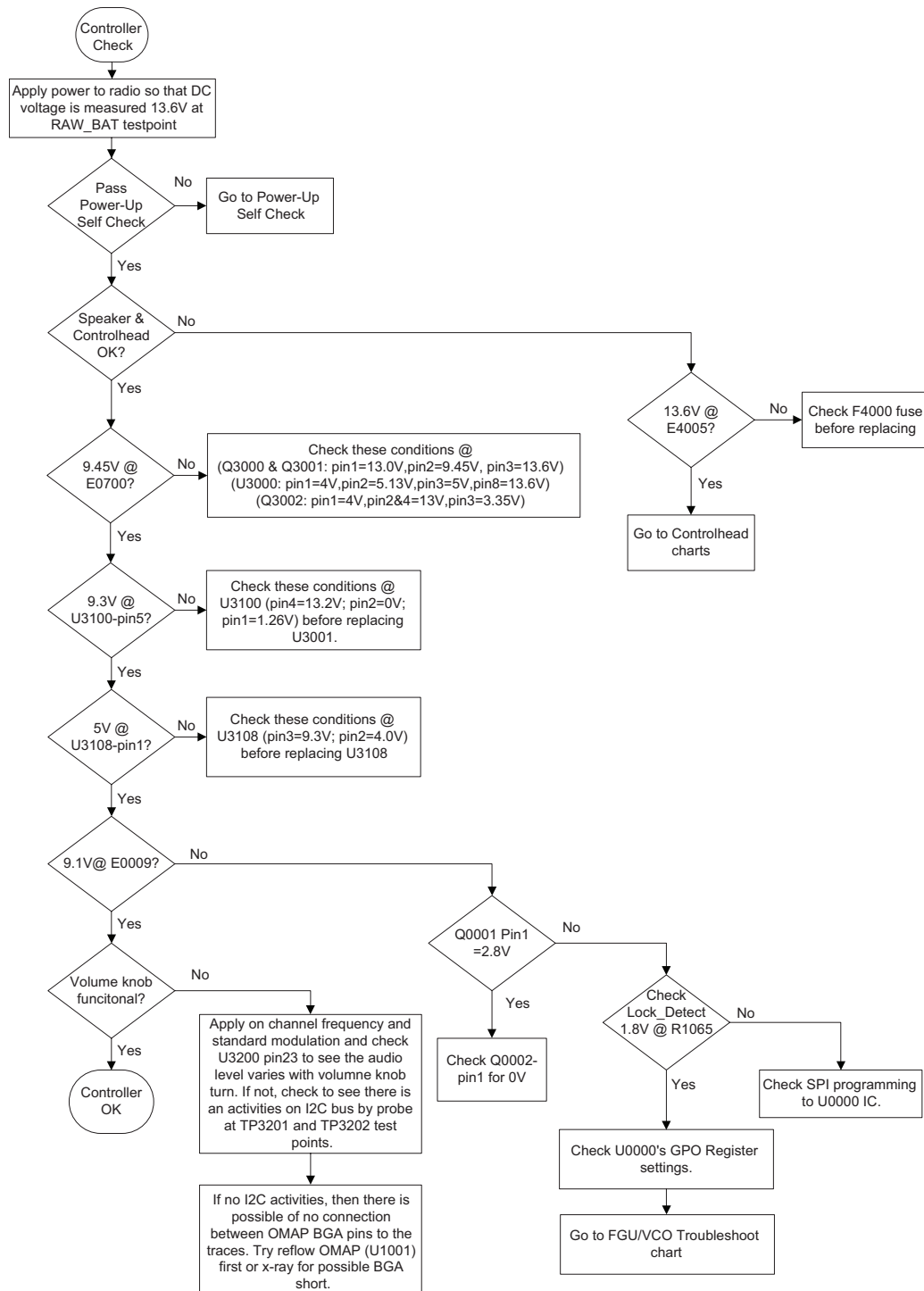
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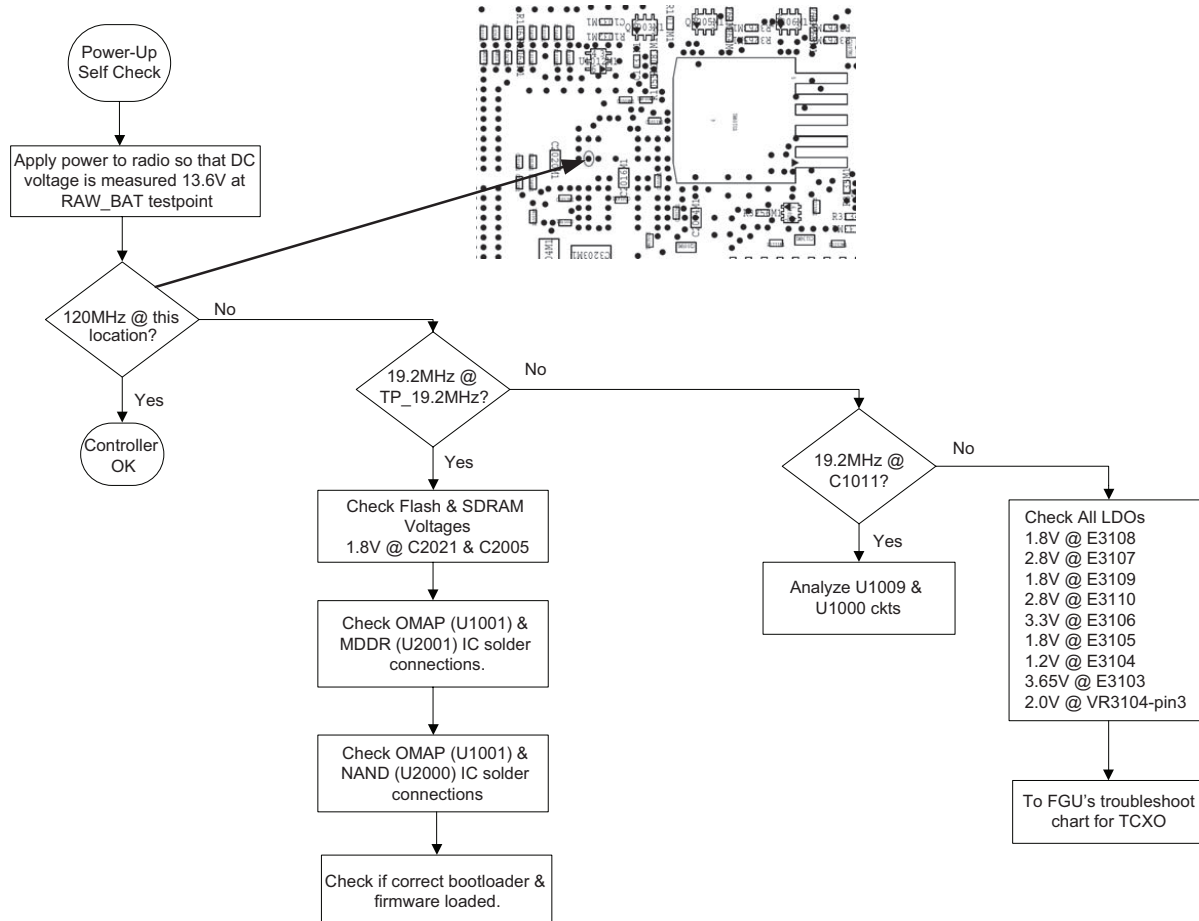
Section 1

TROUBLESHOOTING CHARTS

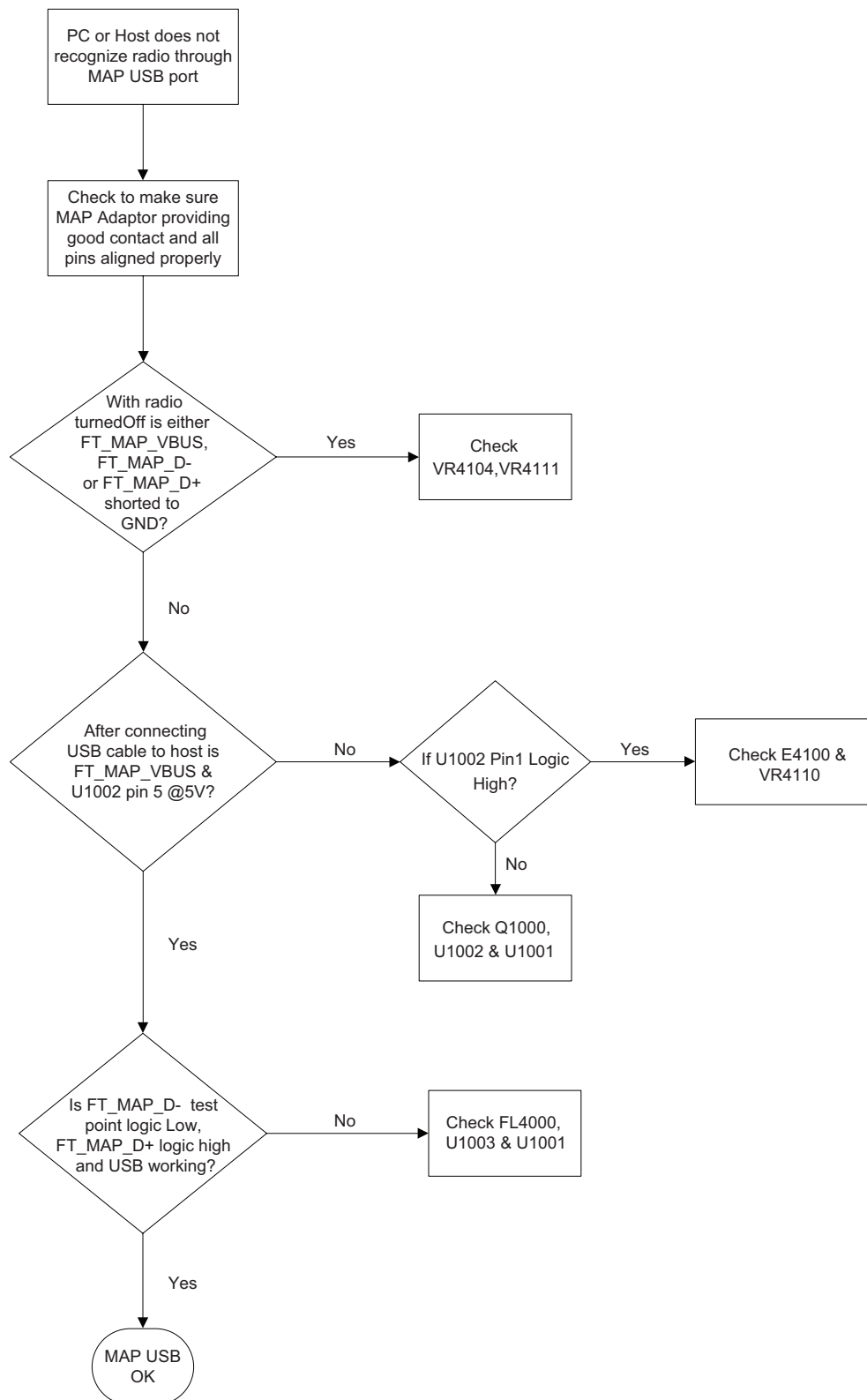
1.0 Controller Troubleshooting Chart



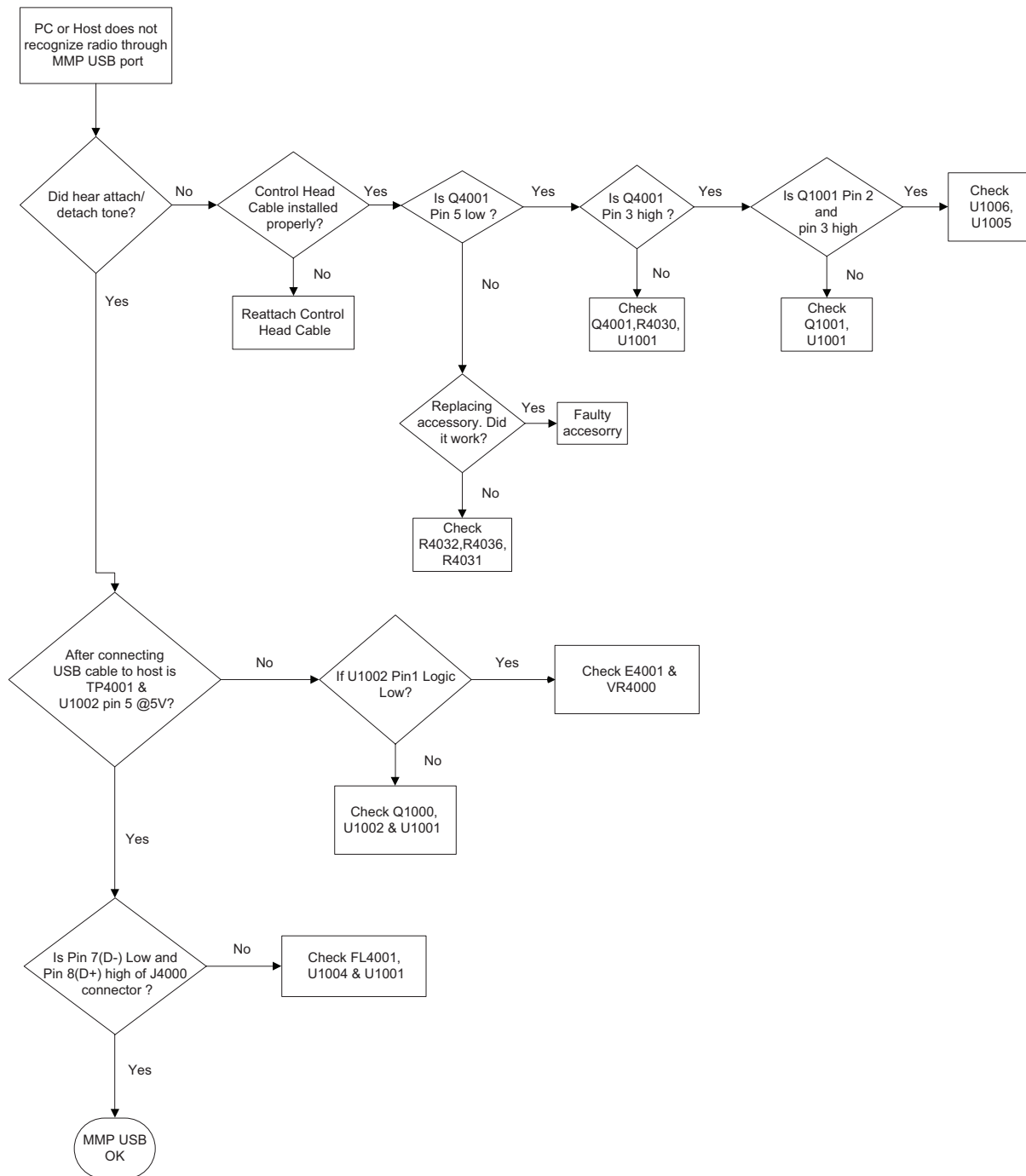
2.0 Power-Up Troubleshooting Chart



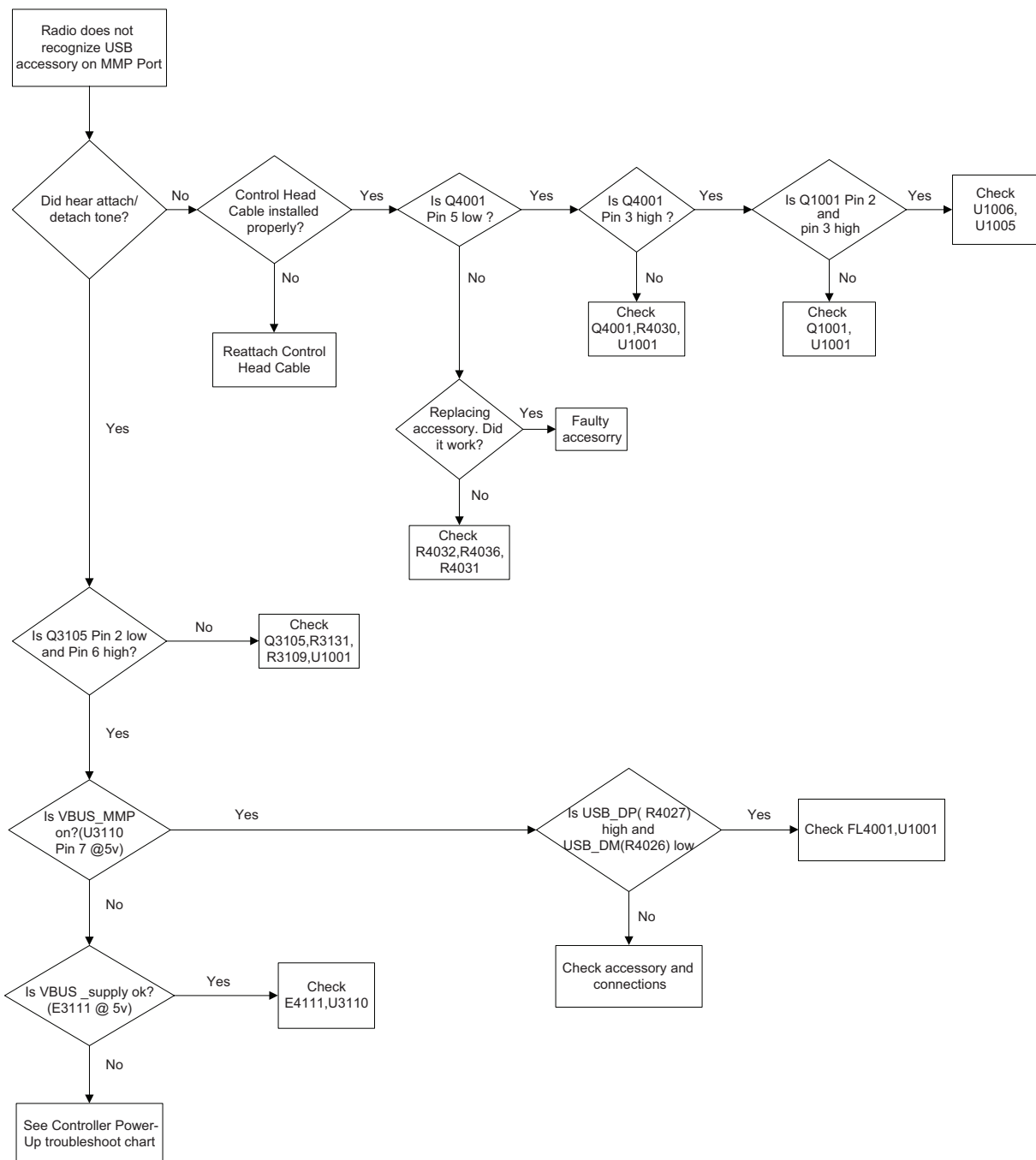
3.0 MAP USB (Device Mode) Troubleshooting Chart



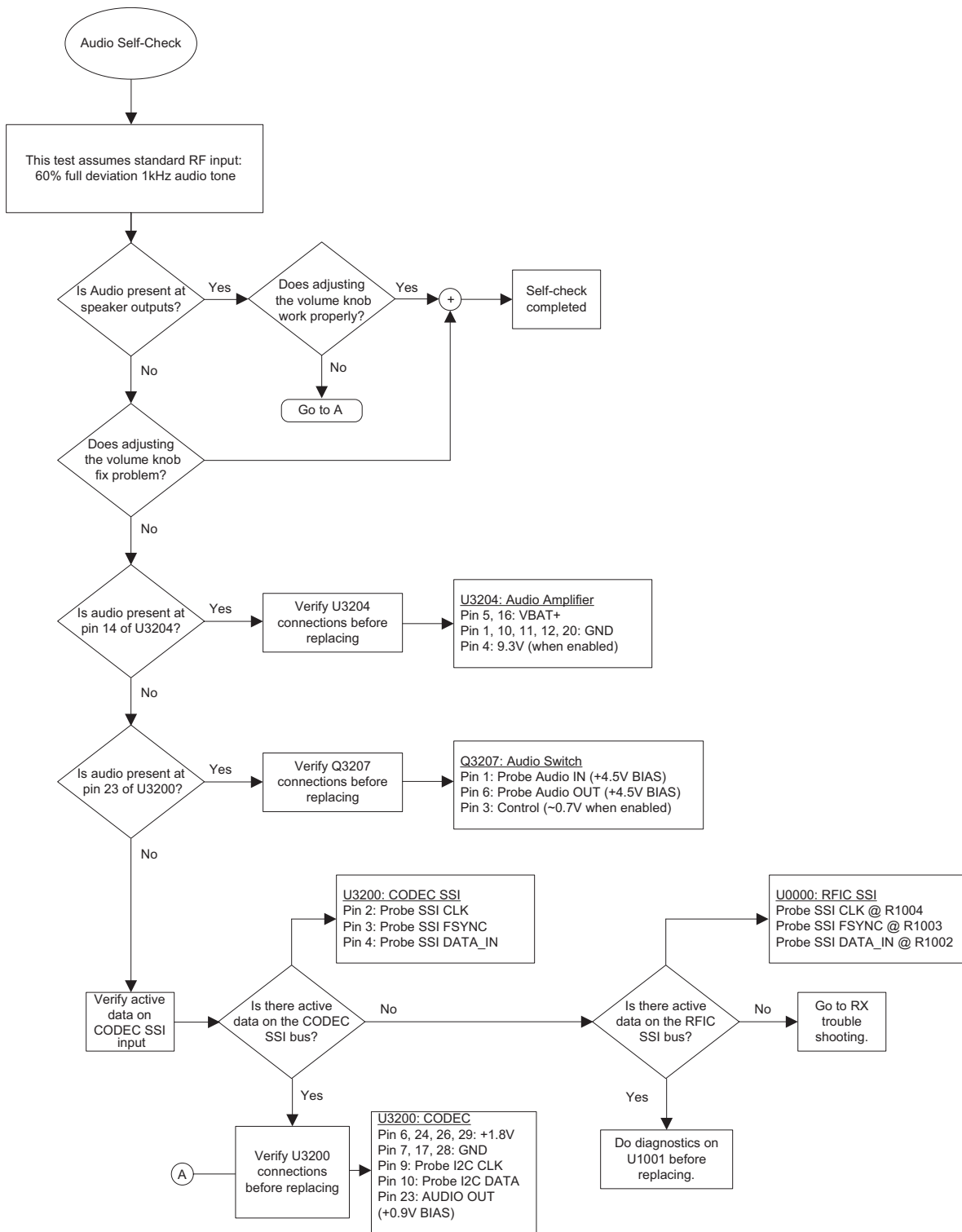
4.0 MMP USB (Device Mode) Troubleshooting Chart



5.0 MMP USB (Host Mode) Troubleshooting Chart



6.0 Audio Troubleshooting Chart



Section 2

CONTROLLER SCHEMATICS/PARTS LISTS

1.0 Allocation of Schematics and Parts Lists

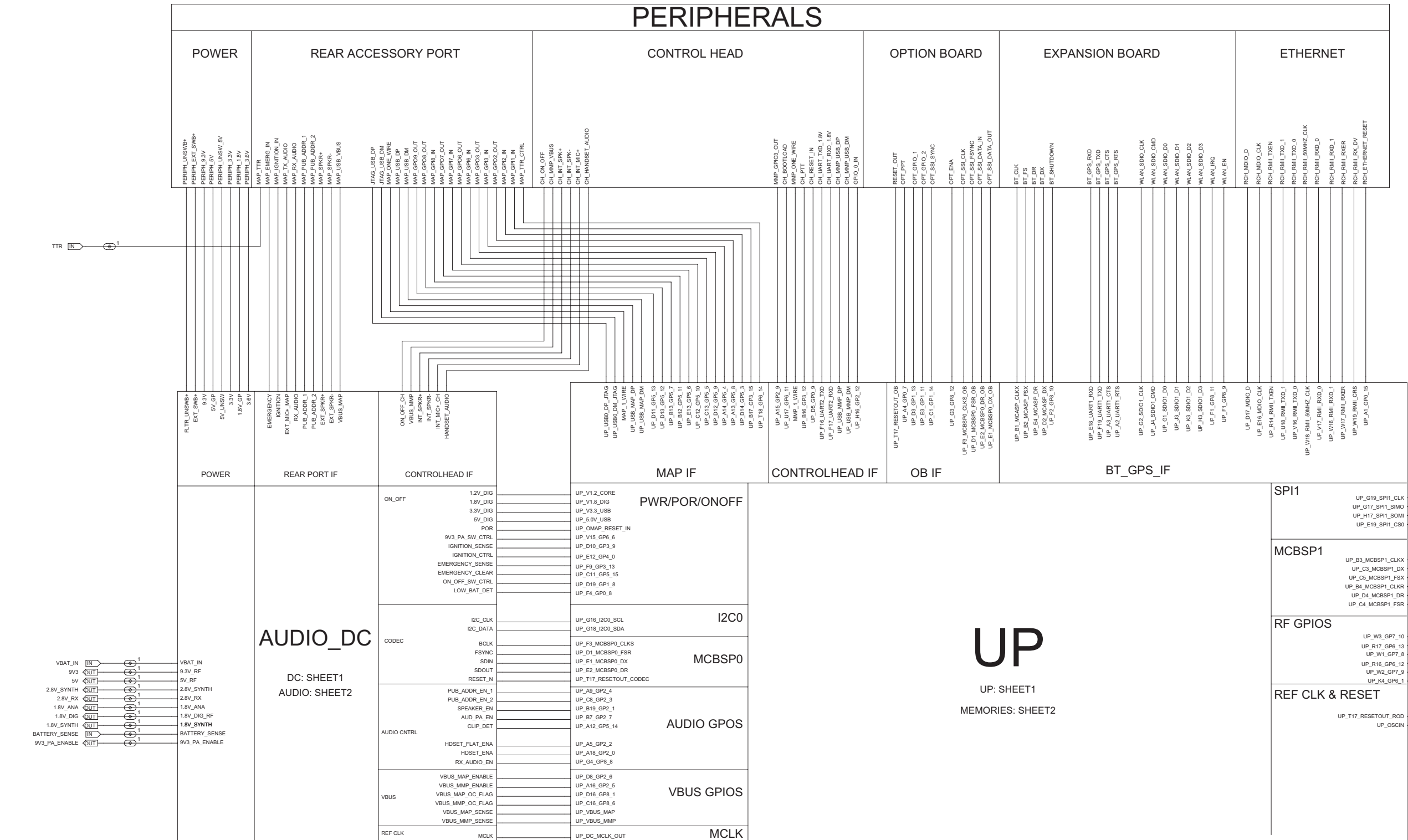
1.1 Controller Circuits

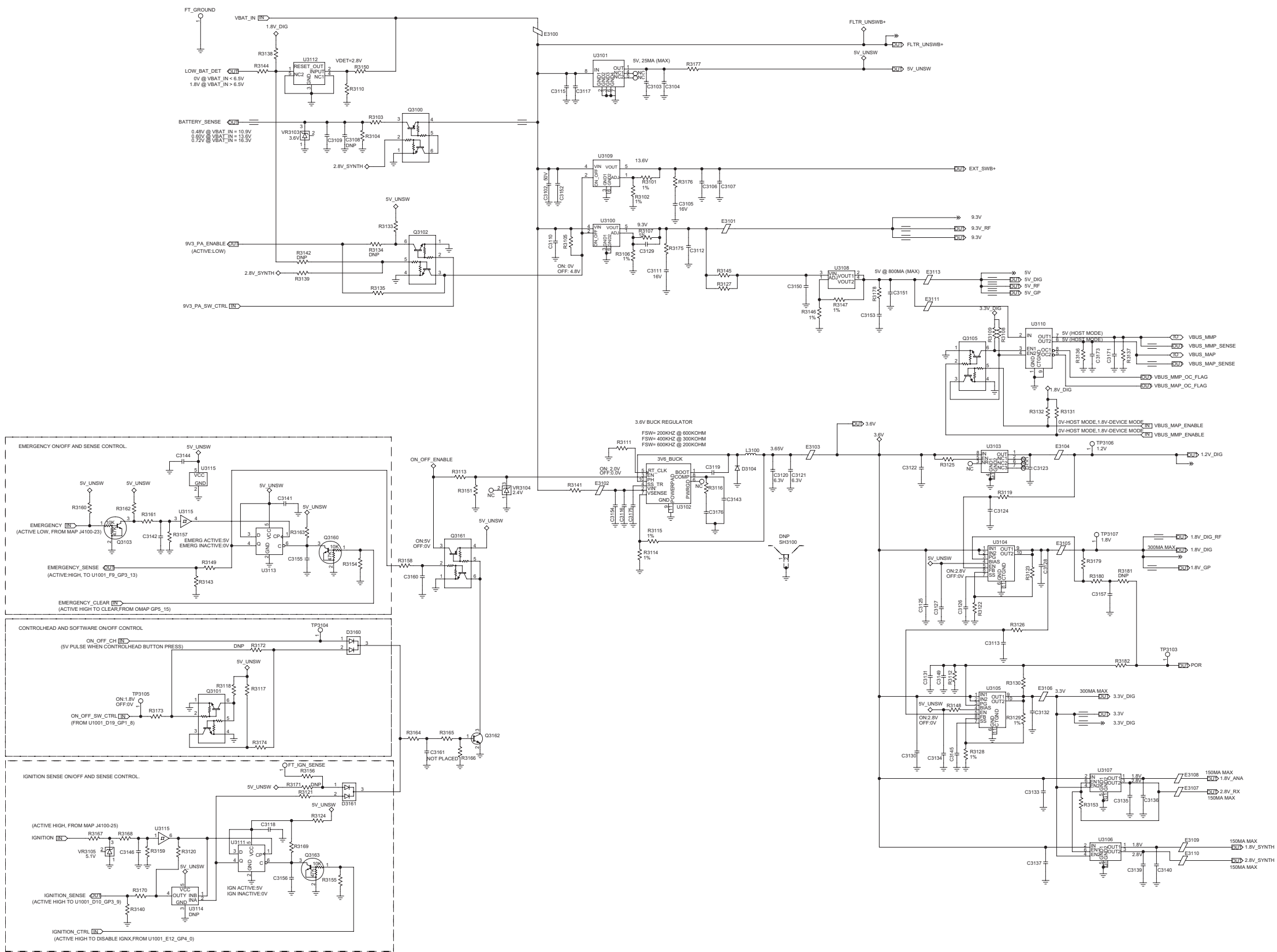
This Chapter shows the Schematics and the Parts Lists for the Controller circuits.

Table 2-1 Controller R1/R2 Schematic Diagrams and Parts Lists

Controller R1 used on PCB: 84012160001_A UHF (403–470 MHz), 25–40 W 84012209001_A UHF (403–470 MHz), 1–25 W Controller R2 used on PCB: 84012194001_A VHF (136–174 MHz), 25–45 W 84012210001_A VHF (136–174 MHz), 1–25 W	
SCHEMATICS Controller Top Level Controller DC Supply Controller Audio Controller Peripheral (sheet 1 of 2) Controller Peripheral (sheet 2 of 2) Controller Microprocessor Controller Memories	Page 2-3 Page 2-4 Page 2-5 Page 2-6 Page 2-7 Page 2-8 Page 2-9
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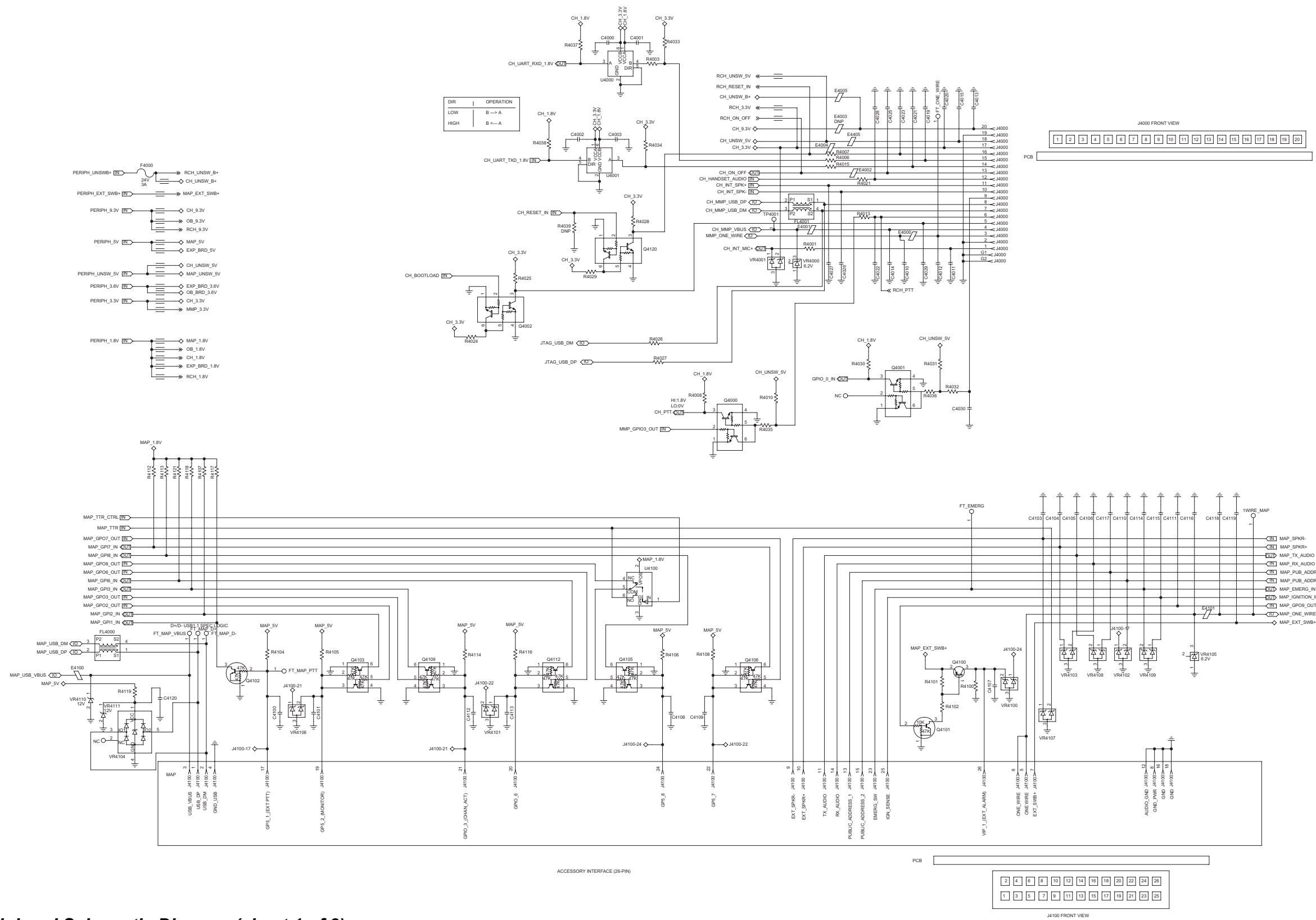
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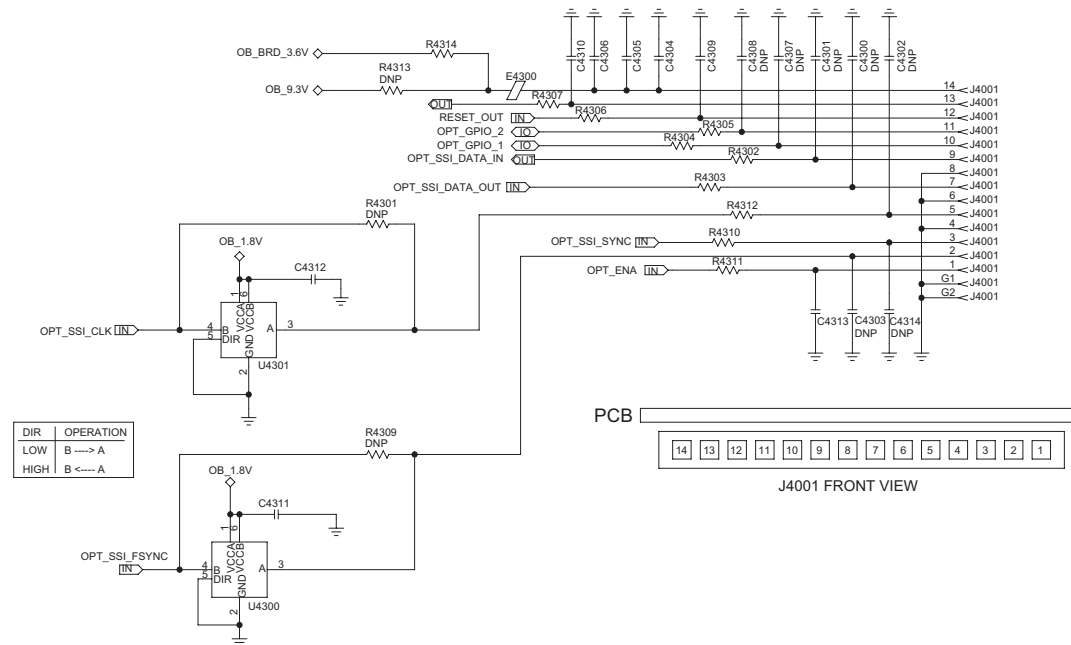
Controller DC Supply Schematic Diagram



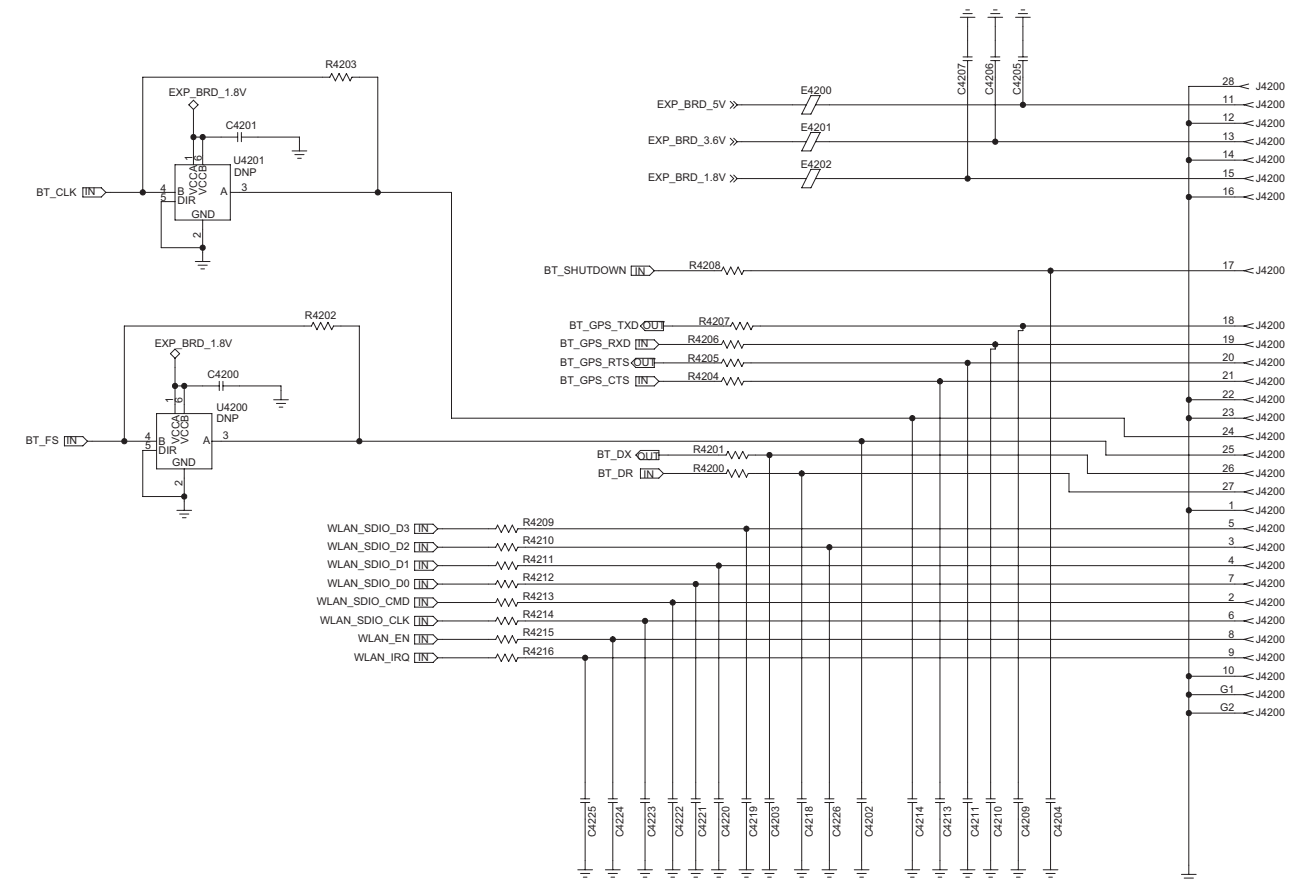


Controller Peripheral Schematic Diagram (sheet 1 of 2)

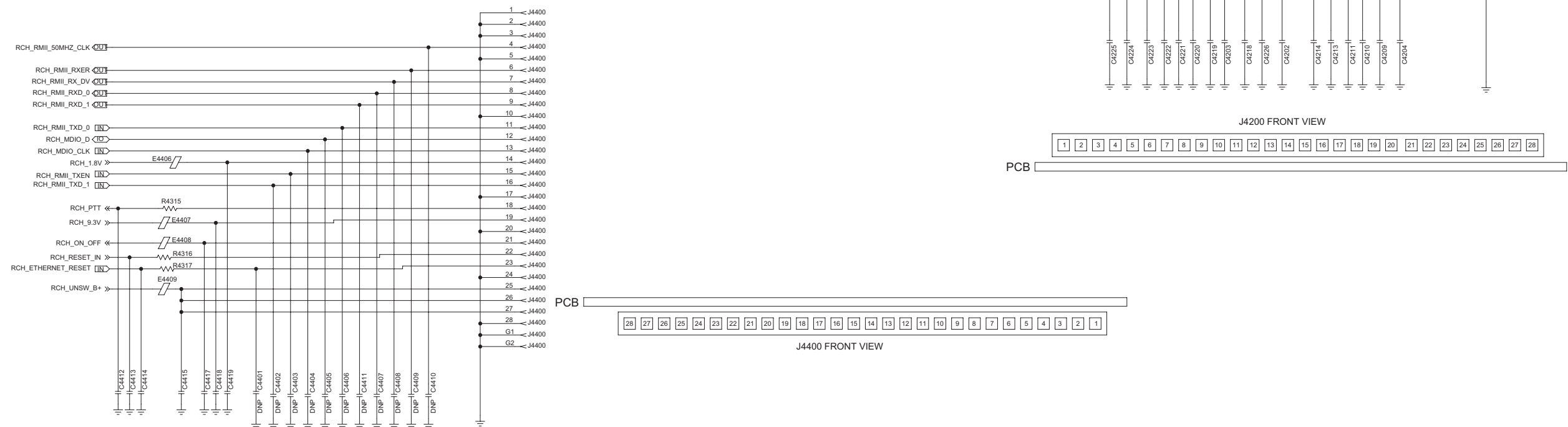
14-PIN OPTION BOARD INTERFACE

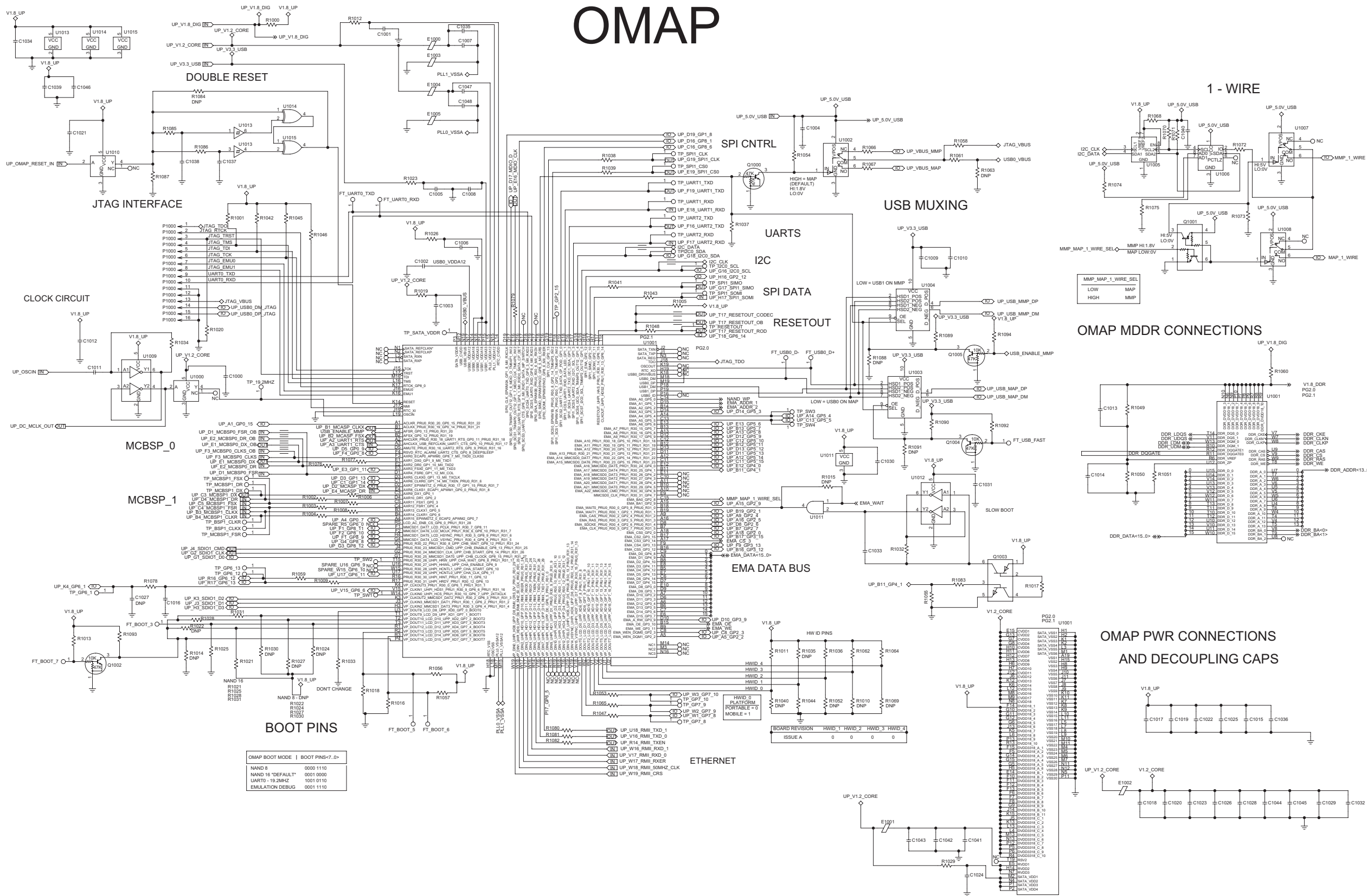


28 PIN BLUETOOTH GPS CONNECTOR

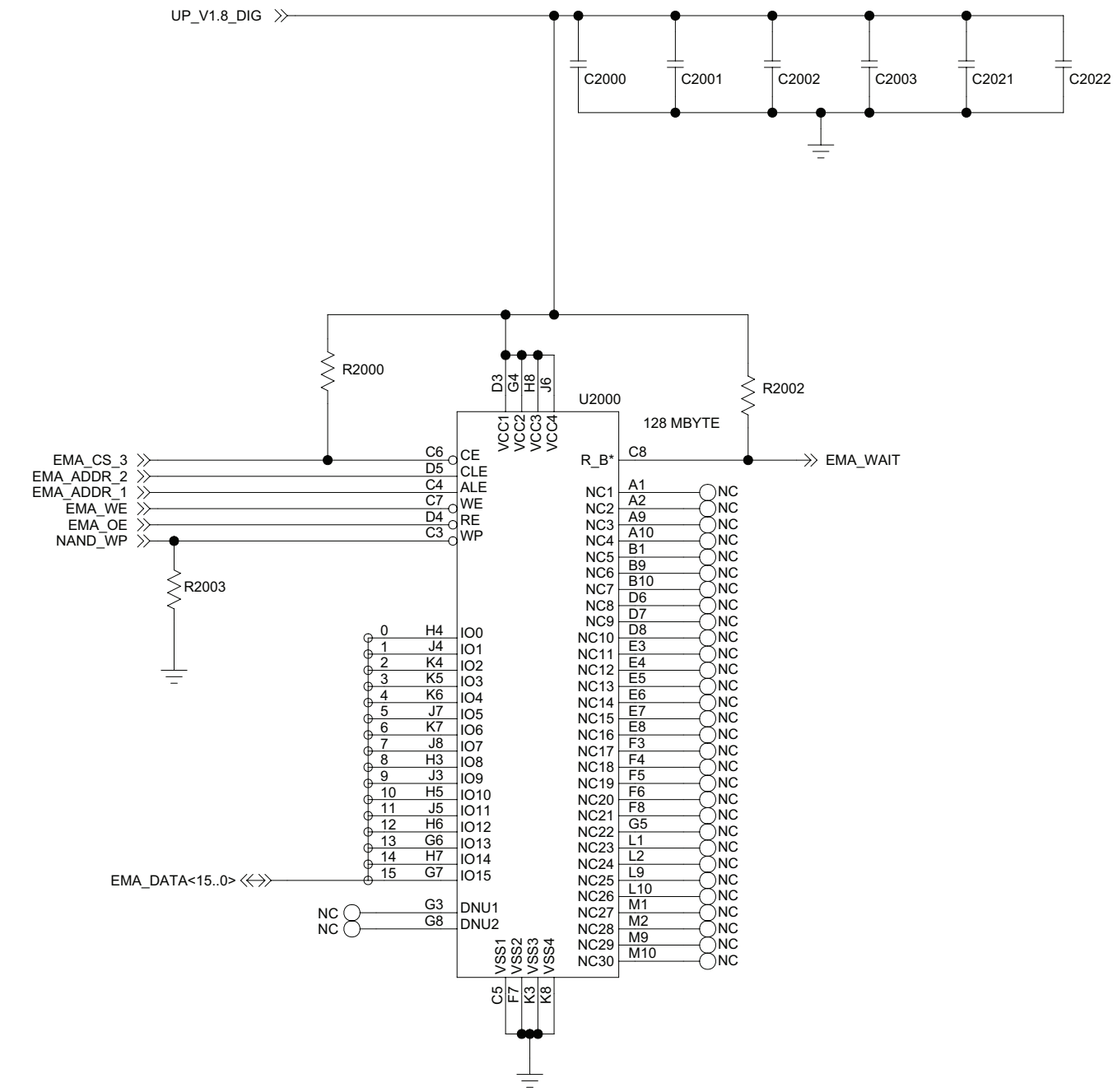


28 PIN ETHERNET CONNECTOR

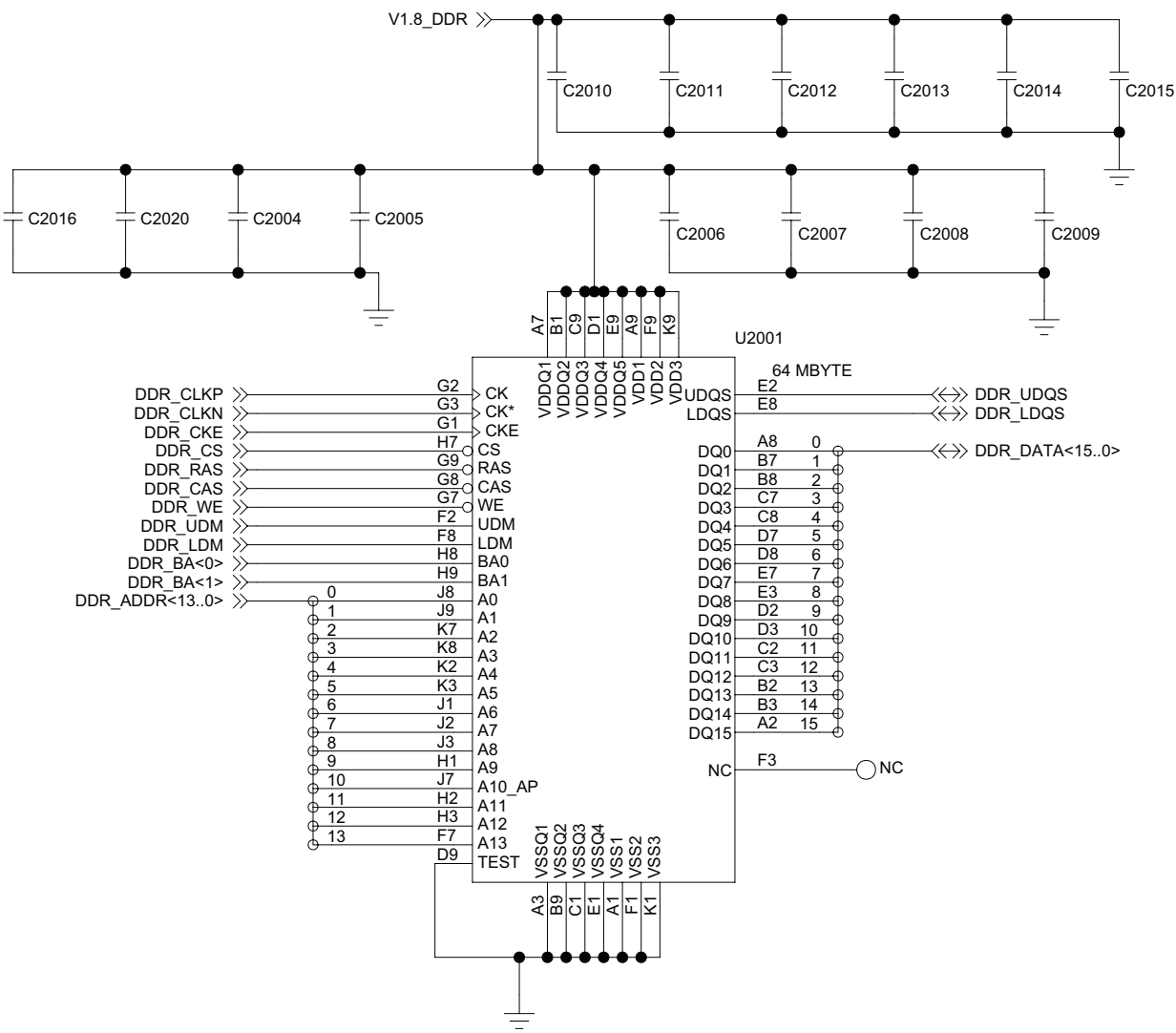




NAND



MDDR



Controller Memories Schematic Diagram

3.0 Controller R1 Parts List

Circuit Ref.	Motorola Part No.
C1000M1	2113945Y02
C1001M1	2113945Y02
C1002M1	2113946K03
C1003M1	2113945Y02
C1004M1	2113945Y02
C1005M1	2113945Y02
C1006M1	2113945Y02
C1007M1	2113945Y02
C1008M1	2113946D05
C1009M1	2113945Y02
C1010M1	2113945Y02
C1011M1	2113945B02
C1012M1	2113945Y02
C1013M1	2113945Y02
C1014M1	2113945Y02
C1015M1	2113945B02
C1016M1	2113944A44
C1017M1	2113944A40
C1018M1	2113944A40
C1019M1	2113944A40
C1020M1	2113944A40
C1021M1	2113945Y02
C1022M1	2113945Y02
C1023M1	2113945Y02
C1024M1	2113945Y02
C1025M1	2113945Y02
C1026M1	2113945Y02
C1027M1	NOT PLACED

Circuit Ref.	Motorola Part No.
C1028M1	2113945Y02
C1029M1	2113956B54
C1030M1	2113945Y02
C1031M1	2113945Y02
C1032M1	2113956B54
C1033M1	2113945A10
C1034M1	2113945Y02
C1035M1	2113945B02
C1036M1	2113946D05
C1037M1	2113945Y02
C1038M1	2113945Y02
C1039M1	2113945Y02
C1040M1	2113945Y02
C1041M1	2113945B02
C1042M1	2113945Y02
C1043M1	2113956B54
C1044M1	2113945B02
C1045M1	2113945B02
C1046M1	2113945Y02
C1047M1	2113945Y02
C1048M1	2113945B02
C2000M1	2113945Y02
C2001M1	2113945Y02
C2002M1	2113945B02
C2003M1	2113944A40
C2004M1	2113956B54
C2005M1	2113946D05
C2006M1	2113945Y02
C2007M1	2113945Y02
C2008M1	2113945B02

Circuit Ref.	Motorola Part No.
C2009M1	2113944A40
C2010M1	2113945Y02
C2011M1	2113945Y02
C2012M1	2113945Y02
C2013M1	2113945Y02
C2014M1	2113945B02
C2015M1	2113944A40
C2016M1	2113956B54
C2020M1	2113956B54
C2021M1	2113956D59
C2022M1	2113956D59
C3102M1	2171630Y01
C3103M1	2113944A44
C3104M1	2113946D05
C3105M1	2113946J04
C3106M1	2113945C31
C3107M1	2113944C38
C3108M1	NOT PLACED
C3109M1	2113944A44
C3110M1	2113944C06
C3111M1	2113946J04
C3112M1	2113945Y02
C3113M1	2113946S35
C3115M1	2113944C06
C3116M1	2113955D13
C3117M1	2113955D13
C3118M1	2113945Y02
C3119M1	2113945Y02
C3120M1	2113956E60
C3121M1	2113956D58

Circuit Ref.	Motorola Part No.
C3122M1	2113956A51
C3123M1	2113956A51
C3124M1	2113946D07
C3125M1	2113946D05
C3126M1	2113944C06
C3127M1	2113946S35
C3128M1	2113946D05
C3129M1	2113945Y02
C3130M1	2113946D05
C3131M1	2113946A02
C3132M1	2113946D05
C3133M1	2113946D05
C3134M1	2113946S35
C3135M1	2113956A51
C3136M1	21012095001
C3137M1	2113946D05
C3139M1	2113956A51
C3140M1	21012095001
C3141M1	2113945Y02
C3142M1	2113956B45
C3143M1	2115153H35
C3144M1	2113945Y02
C3145M1	2113944C06
C3146M1	2113956B45
C3149M1	2113956A51
C3150M1	2113956C37
C3151M1	2113945B02
C3152M1	2113944C06
C3153M1	2113946J04
C3154M1	2113955D13

Circuit Ref.	Motorola Part No.
C3155M1	2113945Y02
C3156M1	2113945Y02
C3157M1	2113945Y02
C3160M1	2113945Y02
C3161M1	NOT PLACED
C3171M1	2113946D07
C3173M1	2113946D07
C3175M1	2113946A01
C3176M1	2113944C48
C3200M1	2113944A44
C3201M1	2113944A44
C3202M1	NOT PLACED
C3203M1	2113955D37
C3204M1	2113955D37
C3205M1	2113944A44
C3206M1	2113944A44
C3207M1	NOT PLACED
C3208M1	2113956C37
C3209M1	2113945Y02
C3210M1	2113945Y02
C3211M1	2113945A11
C3212M1	2113955D37
C3213M1	2113945A03
C3214M1	2113955D37
C3215M1	2113956F49
C3216M1	2113945Y02
C3217M1	2113956B91
C3218M1	2113956A51
C3219M1	2113956A51
C3220M1	2113946F05

Circuit Ref.	Motorola Part No.
C3221M1	2113945Y02
C3222M1	2113956A51
C3223M1	2113945Y02
C3224M1	2113946F05
C3225M1	2113945Y02
C3226M1	NOT PLACED
C3227M1	2113946F05
C3228M1	2113945Y02
C3229M1	2113956A51
C3230M1	2113945Y02
C3231M1	2113945Y02
C3232M1	2113945Y02
C3233M1	2113945A09
C3234M1	2113945Y02
C3235M1	2113956B45
C3236M1	2113945C31
C3237M1	2171630Y01
C3238M1	2113945A09
C3239M1	2113945A09
C3240M1	2113956B91
C3241M1	2113956B91
C3242M1	2113945C31
C3243M1	2113955D37
C3244M1	2113956B91
C3245M1	2113955D37
C3246M1	2113945C31
C3247M1	2113945Y02
C3248M1	2113945Y02
C3249M1	2113956B91
C3250M1	2113956B91

Circuit Ref.	Motorola Part No.
C4000M1	2113945Y02
C4001M1	2113945Y02
C4002M1	2113945Y02
C4003M1	2113945Y02
C4010M1	2113944A44
C4011M1	2113944A44
C4012M1	2113944A44
C4013M1	2113944A44
C4014M1	2113944A44
C4015M1	2113944A44
C4019M1	2113944A44
C4020M1	2113944A44
C4021M1	2113944A44
C4022M1	2113944A44
C4023M1	2113944A44
C4025M1	2113944A44
C4026M1	2113944A44
C4027M1	2113944A44
C4028M1	2113944A44
C4029M1	2113944A44
C4030M1	2113944A44
C4100M1	2113944A44
C4101M1	2113944A44
C4103M1	2113944A44
C4104M1	2113944A44
C4105M1	2113944A44
C4106M1	2113944A44
C4107M1	2113944A44
C4108M1	2113944A44
C4109M1	2113944A44

Circuit Ref.	Motorola Part No.
C4110M1	2113944A44
C4111M1	2113944A44
C4112M1	2113944A44
C4113M1	2113944A44
C4114M1	2113944A44
C4115M1	2113944A44
C4116M1	2113944A44
C4117M1	2113944A44
C4118M1	2113944A44
C4119M1	2113944A44
C4120M1	2113945Y02
C4200M1	2113945Y02
C4201M1	2113945Y02
C4202M1	2113944A44
C4203M1	2113944A44
C4204M1	2113944A44
C4205M1	2113944A44
C4206M1	2113944A44
C4207M1	2113944A44
C4209M1	2113944A44
C4210M1	2113944A44
C4211M1	2113944A44
C4213M1	2113944A44
C4214M1	2113944A44
C4218M1	2113944A44
C4219M1	2113944A44
C4220M1	2113944A44
C4221M1	2113944A44
C4222M1	2113944A44
C4223M1	2113944A44

Circuit Ref.	Motorola Part No.
C4224M1	2113944A44
C4225M1	2113944A44
C4226M1	2113944A44
C4300M1	NOT PLACED
C4301M1	NOT PLACED
C4302M1	NOT PLACED
C4303M1	NOT PLACED
C4304M1	2113944A44
C4305M1	2115153H45
C4306M1	2115153H50
C4307M1	NOT PLACED
C4308M1	NOT PLACED
C4309M1	2113944A44
C4310M1	2113944A44
C4311M1	2113945Y02
C4312M1	2113945Y02
C4313M1	2113944A44
C4314M1	NOT PLACED
C4401M1	NOT PLACED
C4402M1	NOT PLACED
C4403M1	NOT PLACED
C4404M1	NOT PLACED
C4405M1	NOT PLACED
C4406M1	NOT PLACED
C4407M1	NOT PLACED
C4408M1	NOT PLACED
C4409M1	NOT PLACED
C4410M1	NOT PLACED
C4411M1	NOT PLACED
C4412M1	2113944A44

Circuit Ref.	Motorola Part No.
C4413M1	2113944A44
C4414M1	2113944A44
C4415M1	2113944A44
C4417M1	2113944A44
C4418M1	2113944A44
C4419M1	2113944A44
D3104M1	4885489Y01
D3160M1	4813978C02
D3161M1	4813978C02
E1000M1	7686949J15
E1001M1	7686949J15
E1002M1	7686949J15
E1003M1	7686949J15
E1004M1	7686949J15
E1005M1	7686949J15
E3100M1	24012040001
E3101M1	2485410Y02
E3102M1	2485410Y02
E3103M1	2485410Y02
E3104M1	7686949J22
E3105M1	7686949J22
E3106M1	7686949J22
E3107M1	7686949J22
E3108M1	7686949J22
E3109M1	7686949J22
E3110M1	7686949J22
E3111M1	7686949J22
E3113M1	7686949J22
E3200M1	24012040001
E3201M1	24012040001

Circuit Ref.	Motorola Part No.
E3202M1	2485449Y01
E3203M1	24012040001
E3204M1	24012040001
E4000M1	2485449Y01
E4001M1	2485449Y01
E4002M1	2485449Y01
E4003M1	NOT PLACED
E4004M1	24012040001
E4005M1	2485410Y02
E4100M1	7686949J14
E4101M1	2485449Y01
E4200M1	2485449Y01
E4201M1	2485449Y01
E4202M1	2485449Y01
E4300M1	2485449Y01
E4405M1	2485449Y01
E4406M1	7686949J22
E4407M1	7686949J22
E4408M1	2485449Y01
E4409M1	24012040001
F4000M1	6515076H01
FL4000M1	24012038001
FL4001M1	24012038001
J4000M1	0915767H01
J4001M1	0915556H01
J4100M1	0916017H01
J4200M1	09012053001
J4400M1	09012053001
L3100M1	24010070001
P1000M1	NOT PLACED

Circuit Ref.	Motorola Part No.
Q1000M1	4815263H01
Q1001M1	4815272H01
Q1002M1	4815261H01
Q1003M1	4815270H01
Q1004M1	4815261H01
Q1005M1	4815261H01
Q3100M1	4815272H01
Q3101M1	4809939C47
Q3102M1	4809939C47
Q3103M1	4816134H01
Q3105M1	4809939C47
Q3160M1	4816134H01
Q3161M1	4815272H01
Q3162M1	4813973M07
Q3163M1	4816134H01
Q3200M1	4815270H01
Q3201M1	4815272H01
Q3202M1	4815270H01
Q3203M1	4815270H01
Q3204M1	4815270H01
Q3205M1	4815270H01
Q3206M1	4815270H01
Q3207M1	4815270H01
Q3208M1	4815263H01
Q4000M1	4809939C47
Q4001M1	4809939C47
Q4002M1	4809939C47
Q4100M1	4816023H01
Q4101M1	4815261H01
Q4102M1	4815263H01

Circuit Ref.	Motorola Part No.
Q4103M1	48012114001
Q4105M1	48012114001
Q4106M1	48012114001
Q4109M1	48012114001
Q4112M1	48012114001
Q4120M1	4809939C47
R1000M1	0613952R66
R1001M1	0613952M66
R1002M1	0613952R66
R1003M1	0613952R66
R1004M1	0613952R66
R1005M1	0613952M66
R1006M1	0613952R66
R1007M1	0613952R66
R1008M1	0613952R66
R1009M1	0613952R66
R1010M1	0613952M66
R1011M1	0613952M66
R1012M1	0613952R66
R1013M1	0613952M66
R1014M1	NOT PLACED
R1015M1	NOT PLACED
R1016M1	0613952M66
R1017M1	0613952R01
R1018M1	0613952M66
R1019M1	0613952R66
R1020M1	0613952M66
R1021M1	0613952M66
R1022M1	NOT PLACED
R1023M1	0613952R66

Circuit Ref.	Motorola Part No.
R1024M1	NOT PLACED
R1025M1	0613952M66
R1026M1	0613952R66
R1027M1	NOT PLACED
R1028M1	0613952R66
R1029M1	0613952R66
R1030M1	NOT PLACED
R1031M1	0613952R66
R1032M1	0613952R01
R1033M1	0613952M66
R1034M1	0613952R17
R1035M1	NOT PLACED
R1036M1	NOT PLACED
R1037M1	0613952M66
R1038M1	0613952R66
R1039M1	0613952R66
R1040M1	NOT PLACED
R1041M1	0613952R66
R1042M1	0613952M66
R1043M1	0613952R66
R1044M1	0613952M66
R1045M1	0613952M66
R1046M1	0613952M66
R1047M1	0613952R66
R1048M1	0613952R66
R1049M1	0613952Q73
R1050M1	0613952Q73
R1051M1	0613952K68
R1052M1	0613952M66
R1053M1	0613952R66

Circuit Ref.	Motorola Part No.
R1054M1	0613952M66
R1055M1	0613952Q77
R1056M1	NOT PLACED
R1057M1	NOT PLACED
R1058M1	0613952M66
R1059M1	0613952R66
R1060M1	0613952R66
R1061M1	0613952R66
R1062M1	NOT PLACED
R1063M1	NOT PLACED
R1064M1	NOT PLACED
R1065M1	0613952R66
R1066M1	0613952M66
R1067M1	0613952M66
R1068M1	0613952R32
R1069M1	0613952M66
R1070M1	0613952Q77
R1071M1	0613952Q77
R1072M1	0613952Q49
R1073M1	0613952R01
R1074M1	0613952R66
R1075M1	0613952R66
R1076M1	0613952R66
R1077M1	0613952R66
R1078M1	0613952R66
R1079M1	0613952R66
R1080M1	0613952R66
R1081M1	0613952R66
R1082M1	0613952R66
R1083M1	0613952R01

Circuit Ref.	Motorola Part No.
R1084M1	NOT PLACED
R1085M1	0613952R14
R1086M1	0613952N64
R1087M1	0613952R41
R1088M1	NOT PLACED
R1089M1	0613952R05
R1090M1	0613952R05
R1091M1	NOT PLACED
R1092M1	0613952M43
R1093M1	0613952Q73
R1094M1	0613952M66
R2000M1	0613952M66
R2002M1	0613952M66
R2003M1	0613952M30
R3101M1	0613952Z66
R3102M1	0613952M66
R3103M1	0613952N62
R3104M1	0613952M30
R3105M1	0613952R01
R3106M1	0613952M09
R3107M1	0613952M85
R3108M1	0613952R17
R3109M1	0613952R17
R3110M1	0613952N55
R3111M1	0613952R32
R3112M1	0613952P12
R3113M1	0613952R17
R3114M1	0613952N01
R3115M1	0613952Z63
R3116M1	0613952E83

Circuit Ref.	Motorola Part No.
R3117M1	0613952Q73
R3118M1	0613952R10
R3119M1	0613952Q73
R3120M1	0613952R66
R3121M1	0613952R66
R3122M1	0613952M43
R3123M1	0613952M54
R3124M1	0613952R66
R3125M1	0613952R66
R3126M1	0613952R66
R3127M1	0613959Y09
R3128M1	0613952M10
R3129M1	0613952M58
R3130M1	0613952R25
R3131M1	0613952R01
R3132M1	0613952R01
R3133M1	0613952R29
R3134M1	NOT PLACED
R3135M1	0613952R66
R3136M1	0613952R17
R3137M1	0613952R17
R3138M1	0613952R17
R3139M1	0613952R66
R3140M1	0613952Q91
R3141M1	0613959Y13
R3142M1	NOT PLACED
R3143M1	0613952Q91
R3144M1	0613952R66
R3145M1	0613959Y09
R3146M1	0613952M85

Circuit Ref.	Motorola Part No.
R3147M1	0613952M43
R3148M1	0613952R66
R3149M1	0613952R01
R3150M1	0613952N62
R3151M1	0613952R25
R3153M1	0613952R66
R3154M1	0613952Q89
R3155M1	0613952Q89
R3156M1	0613952R17
R3157M1	0613952R01
R3158M1	0613952R66
R3159M1	0613952R01
R3160M1	0613952Q89
R3161M1	0613952Q73
R3162M1	0613952Q85
R3163M1	0613952R01
R3164M1	0613952Q75
R3165M1	0613952R01
R3166M1	0613952R17
R3167M1	0613952R01
R3168M1	0613952Q73
R3169M1	0613952R01
R3170M1	0613952R01
R3171M1	NOT PLACED
R3172M1	NOT PLACED
R3173M1	0613952R66
R3174M1	0613952R66
R3175M1	0613952A01
R3176M1	0613952A01
R3177M1	0613952R66

Circuit Ref.	Motorola Part No.
R3178M1	0615871H01
R3179M1	0613952R17
R3180M1	0613952R01
R3181M1	NOT PLACED
R3182M1	0613952R66
R3200M1	0613952C44
R3201M1	0613952Q49
R3202M1	0613952C44
R3203M1	0613952Q49
R3204M1	0613952C44
R3205M1	0613952C44
R3206M1	0613952R01
R3207M1	0613952R01
R3208M1	0613952N30
R3209M1	0613952R03
R3210M1	0613952Q67
R3211M1	0613952N30
R3212M1	0613952R03
R3213M1	0613952Q42
R3214M1	0613952J25
R3215M1	0613952R01
R3216M1	0613952R17
R3217M1	0613952R01
R3218M1	0613952R01
R3219M1	NOT PLACED
R3220M1	0613952R01
R3221M1	NOT PLACED
R3222M1	0613952R01
R3223M1	0613952R66
R3224M1	NOT PLACED

Circuit Ref.	Motorola Part No.
R3225M1	NOT PLACED
R3226M1	0613952R01
R3229M1	0613952R01
R3230M1	0613952R10
R3231M1	0613952R10
R3232M1	0613952R10
R3233M1	0613952R01
R3234M1	NOT PLACED
R3235M1	0613952R01
R3236M1	0613952R10
R3237M1	NOT PLACED
R3238M1	0613952R01
R3239M1	0613952Q49
R3240M1	0613952R01
R3241M1	0613952M54
R3242M1	0613952R01
R3243M1	0613952R01
R3244M1	0613952R10
R3245M1	NOT PLACED
R3246M1	0613952R01
R3247M1	0613952Q49
R3248M1	0613952R66
R3249M1	0613952R66
R3250M1	0613952R66
R3251M1	0613952R66
R3252M1	0613952R66
R3253M1	0613952R66
R3254M1	0613952R01
R3255M1	0613952R66
R3256M1	0613952M66

Circuit Ref.	Motorola Part No.
R3257M1	0613952R01
R3258M1	0613952M66
R3259M1	0613952M66
R3260M1	0613952M66
R3261M1	0613952R01
R3262M1	0613952R10
R3263M1	NOT PLACED
R3264M1	0613952R01
R3265M1	0613952M66
R3266M1	0613952R01
R3267M1	NOT PLACED
R3268M1	0613952R01
R3269M1	0613952M66
R3270M1	0613952R01
R3271M1	NOT PLACED
R3272M1	0613952R01
R3273M1	0613952M66
R3274M1	0613952R10
R3275M1	0613952R10
R3276M1	0613952R10
R3277M1	0613952R10
R3278M1	0613952R01
R3279M1	NOT PLACED
R3280M1	NOT PLACED
R3281M1	NOT PLACED
R3282M1	0613952R66
R3283M1	0613952R66
R3284M1	NOT PLACED
R3285M1	NOT PLACED
R3286M1	0613952R66

Circuit Ref.	Motorola Part No.
R3287M1	0613952R66
R3288M1	0613952R01
R3289M1	0613952R01
R3290M1	NOT PLACED
R3291M1	NOT PLACED
R4001M1	0613952R66
R4003M1	0613952R66
R4006M1	0613952Q37
R4007M1	0613952Q37
R4008M1	0613952R01
R4010M1	0613952R01
R4013M1	0613952Q42
R4015M1	0613952Q37
R4021M1	0613952R66
R4024M1	0613952R01
R4025M1	0613952R01
R4026M1	0613952R66
R4027M1	0613952R66
R4028M1	0613952R01
R4029M1	0613952R01
R4030M1	0613952R01
R4031M1	0613952R01
R4032M1	0613952R66
R4033M1	0613952M43
R4034M1	0613952M43
R4035M1	0613952R66
R4036M1	0613952R66
R4037M1	0613952R01
R4038M1	0613952R01
R4039M1	NOT PLACED

Circuit Ref.	Motorola Part No.
R4100M1	0613952R01
R4101M1	0613952Q77
R4102M1	0613958H83
R4104M1	0613952Q89
R4105M1	0613952Q89
R4106M1	0613952Q89
R4107M1	0613952R01
R4108M1	0613952Q89
R4112M1	0613952R01
R4113M1	0613952R01
R4114M1	0613952Q89
R4116M1	0613952Q89
R4117M1	0613952R01
R4118M1	0613952R01
R4119M1	0613952Q64
R4121M1	0613952R01
R4200M1	0613952R66
R4201M1	0613952R66
R4202M1	0613952R66
R4203M1	0613952R66
R4204M1	0613952R66
R4205M1	0613952R66
R4206M1	0613952R66
R4207M1	0613952R66
R4208M1	0613952R66
R4209M1	0613952R66
R4210M1	0613952R66
R4211M1	0613952R66
R4212M1	0613952R66
R4213M1	0613952R66

Circuit Ref.	Motorola Part No.
R4214M1	0613952R66
R4215M1	0613952R66
R4216M1	0613952R66
R4301M1	NOT PLACED
R4302M1	0613952R66
R4303M1	0613952R66
R4304M1	0613952R66
R4305M1	0613952R66
R4306M1	0613952R66
R4307M1	0613952R66
R4309M1	NOT PLACED
R4310M1	0613952R66
R4311M1	0613952R66
R4312M1	0613952R66
R4313M1	NOT PLACED
R4314M1	0613952R66
R4315M1	0613952R66
R4316M1	0613952R66
R4317M1	0613952R66
SH3100M1	NOT PLACED
U1000M1	5171320H01
U1001M1	51012295001
U1002M1	5189139P01
U1003M1	5175772B56
U1004M1	5175772B56
U1005M1	5164852H47
U1006M1	5185493Y01
U1007M1	5189139P01
U1008M1	5189139P01
U1009M1	5115001H02

Circuit Ref.	Motorola Part No.
U1010M1	5171320H01
U1011M1	5186311J72
U1012M1	5115001H02
U1013M1	5185937Y01
U1014M1	51012296001
U1015M1	51012296001
U2000M1	51012239002
U2001M1	51012058002
U3100M1	0104039J08
U3101M1	5114014A03
U3102M1	51012069001
U3103M1	51012142001
U3104M1	5114610F01
U3105M1	5114610F01
U3106M1	51012140001
U3107M1	51012140001
U3108M1	51012138001
U3109M1	5164015H94
U3110M1	51012208001
U3111M1	5188690V02
U3112M1	5114004A35
U3113M1	5188690V02
U3114M1	NOT PLACED
U3115M1	5185937Y01
U3200M1	51009415001
U3201M1	5114016A18
U3204M1	51009509001
U3205M1	5114016A18
U4000M1	51012082001
U4001M1	51012082001

Circuit Ref.	Motorola Part No.
U4100M1	5189139P01
U4200M1	NOT PLACED
U4201M1	NOT PLACED
U4300M1	51012082001
U4301M1	51012082001
VR3103M1	48012095001
VR3104M1	48012095002
VR3105M1	4813977M10
VR3200M1	48012106001
VR3201M1	4813977A48
VR3202M1	4813977A48
VR4000M1	4813977M13
VR4001M1	4813977A48
VR4100M1	4813977A48
VR4101M1	4813977A48
VR4102M1	4813977A48
VR4103M1	4813977A48
VR4104M1	48012106001
VR4105M1	4813977M13
VR4106M1	4813977A48
VR4107M1	4813977A48
VR4108M1	4813977A48
VR4109M1	4813977A50
VR4110M1	4815040H01
VR4111M1	4815040H01

Note: The suffix “M1”, “M2”, etc. from the Circuit Ref is removed from the schematics and overlays.

4.0 Controller R2 Parts List

Circuit Ref.	Motorola Part No.
C1000M1	2113945Y02
C1001M1	2113945Y02
C1002M1	2113946K03
C1003M1	2113945Y02
C1004M1	2113945Y02
C1005M1	2113945Y02
C1006M1	2113945Y02
C1007M1	2113945Y02
C1008M1	2113946D05
C1009M1	2113945Y02
C1010M1	2113945Y02
C1011M1	2113945B02
C1012M1	2113945Y02
C1013M1	2113945Y02
C1014M1	2113945Y02
C1015M1	2113945B02
C1016M1	2113944A44
C1017M1	2113944A40
C1018M1	2113944A40
C1019M1	2113944A40
C1020M1	2113944A40
C1021M1	2113945Y02
C1022M1	2113945Y02
C1023M1	2113945Y02
C1024M1	2113945Y02
C1025M1	2113945Y02
C1026M1	2113945Y02
C1027M1	NOT PLACED

Circuit Ref.	Motorola Part No.
C1028M1	2113945Y02
C1029M1	2113956B54
C1030M1	NOT PLACED
C1031M1	NOT PLACED
C1032M1	2113956B54
C1033M1	NOT PLACED
C1034M1	NOT PLACED
C1035M1	2113945B02
C1036M1	2113946D05
C1037M1	NOT PLACED
C1038M1	NOT PLACED
C1039M1	NOT PLACED
C1040M1	2113945Y02
C1041M1	2113945B02
C1042M1	2113945Y02
C1043M1	2113956B54
C1044M1	2113945B02
C1045M1	2113945B02
C1046M1	NOT PLACED
C1047M1	2113945Y02
C1048M1	2113945B02
C2000M1	2113945Y02
C2001M1	2113945Y02
C2002M1	2113945B02
C2003M1	2113944A40
C2004M1	2113956B54
C2005M1	2113946D05
C2006M1	2113945Y02
C2007M1	2113945Y02
C2008M1	2113945B02

Circuit Ref.	Motorola Part No.
C2009M1	2113944A40
C2010M1	2113945Y02
C2011M1	2113945Y02
C2012M1	2113945Y02
C2013M1	2113945Y02
C2014M1	2113945B02
C2015M1	2113944A40
C2016M1	2113956B54
C2020M1	2113956B54
C2021M1	2113956D59
C2022M1	2113956D59
C3102M1	2171630Y01
C3103M1	2113944A44
C3104M1	2113946D05
C3105M1	2113946J04
C3106M1	2113945C31
C3107M1	2113944C38
C3108M1	NOT PLACED
C3109M1	2113944A44
C3110M1	2113944C06
C3111M1	2113946J04
C3112M1	2113945Y02
C3113M1	2113946S35
C3115M1	2113944C06
C3116M1	2113955D13
C3117M1	2113955D13
C3118M1	2113945Y02
C3119M1	2113945Y02
C3120M1	2113956E60
C3121M1	2113956D58

Circuit Ref.	Motorola Part No.
C3122M1	2113956A51
C3123M1	2113956A51
C3124M1	2113946D07
C3125M1	2113946D05
C3126M1	2113944C06
C3127M1	2113946S35
C3128M1	2113946D05
C3129M1	2113945Y02
C3130M1	2113946D05
C3131M1	2113946A02
C3132M1	2113946D05
C3133M1	2113946D05
C3134M1	2113946S35
C3135M1	2113956A51
C3136M1	21012095001
C3137M1	2113946D05
C3139M1	2113956A51
C3140M1	21012095001
C3141M1	2113945Y02
C3142M1	2113956B45
C3143M1	2115153H35
C3144M1	2113945Y02
C3145M1	2113944C06
C3146M1	2113956B45
C3149M1	2113956A51
C3150M1	2113956C37
C3151M1	2113945B02
C3152M1	2113944C06
C3153M1	2113946J04
C3154M1	2113955D13

Circuit Ref.	Motorola Part No.
C3155M1	2113945Y02
C3156M1	2113945Y02
C3157M1	2113945Y02
C3160M1	2113945Y02
C3161M1	NOT PLACED
C3171M1	2113946D07
C3173M1	2113946D07
C3175M1	2113946A01
C3176M1	2113944C48
C3200M1	2113944A44
C3201M1	2113944A44
C3202M1	NOT PLACED
C3203M1	2113955D37
C3204M1	2113955D37
C3205M1	2113944A44
C3206M1	2113944A44
C3207M1	NOT PLACED
C3208M1	2113956C37
C3209M1	2113945Y02
C3210M1	2113945Y02
C3211M1	2113945A11
C3212M1	2113955D37
C3213M1	2113945A03
C3214M1	2113955D37
C3215M1	2113956F49
C3216M1	2113945Y02
C3217M1	2113956B91
C3218M1	2113956A51
C3219M1	2113956A51
C3220M1	2113946F05

Circuit Ref.	Motorola Part No.
C3221M1	2113945Y02
C3222M1	2113956A51
C3223M1	2113945Y02
C3224M1	2113946F05
C3225M1	2113945Y02
C3226M1	NOT PLACED
C3227M1	2113946F05
C3228M1	2113945Y02
C3229M1	2113956A51
C3230M1	2113945Y02
C3231M1	2113945Y02
C3232M1	2113945Y02
C3233M1	2113945A09
C3234M1	2113945Y02
C3235M1	2113956B45
C3236M1	2113945C31
C3237M1	2171630Y01
C3238M1	2113945A09
C3239M1	2113945A09
C3240M1	2113956B91
C3241M1	2113956B91
C3242M1	2113945C31
C3243M1	2113955D37
C3244M1	2113956B91
C3245M1	2113955D37
C3246M1	2113945C31
C3247M1	2113945Y02
C3248M1	2113945Y02
C3249M1	2113956B91
C3250M1	2113956B91

Circuit Ref.	Motorola Part No.
C4000M1	2113945Y02
C4001M1	2113945Y02
C4002M1	2113945Y02
C4003M1	2113945Y02
C4010M1	2113944A44
C4011M1	2113944A44
C4012M1	2113944A44
C4013M1	2113944A44
C4014M1	2113944A44
C4015M1	2113944A44
C4019M1	2113944A44
C4020M1	2113944A44
C4021M1	2113944A44
C4022M1	2113944A44
C4023M1	2113944A44
C4025M1	2113944A44
C4026M1	2113944A44
C4027M1	2113944A44
C4028M1	2113944A44
C4029M1	2113944A44
C4030M1	2113944A44
C4100M1	2113944A44
C4101M1	2113944A44
C4103M1	2113944A44
C4104M1	2113944A44
C4105M1	2113944A44
C4106M1	2113944A44
C4107M1	2113944A44
C4108M1	2113944A44
C4109M1	2113944A44

Circuit Ref.	Motorola Part No.
C4110M1	2113944A44
C4111M1	2113944A44
C4112M1	2113944A44
C4113M1	2113944A44
C4114M1	2113944A44
C4115M1	2113944A44
C4116M1	2113944A44
C4117M1	2113944A44
C4118M1	2113944A44
C4119M1	2113944A44
C4120M1	2113945Y02
C4200M1	2113945Y02
C4201M1	2113945Y02
C4202M1	2113944A44
C4203M1	2113944A44
C4204M1	2113944A44
C4205M1	2113944A44
C4206M1	2113944A44
C4207M1	2113944A44
C4209M1	2113944A44
C4210M1	2113944A44
C4211M1	2113944A44
C4213M1	2113944A44
C4214M1	2113944A44
C4218M1	2113944A44
C4219M1	2113944A44
C4220M1	2113944A44
C4221M1	2113944A44
C4222M1	2113944A44
C4223M1	2113944A44

Circuit Ref.	Motorola Part No.
C4224M1	2113944A44
C4225M1	2113944A44
C4226M1	2113944A44
C4300M1	NOT PLACED
C4301M1	NOT PLACED
C4302M1	NOT PLACED
C4303M1	NOT PLACED
C4304M1	2113944A44
C4305M1	2115153H45
C4306M1	2115153H50
C4307M1	NOT PLACED
C4308M1	NOT PLACED
C4309M1	2113944A44
C4310M1	2113944A44
C4311M1	2113945Y02
C4312M1	2113945Y02
C4313M1	2113944A44
C4314M1	NOT PLACED
C4401M1	NOT PLACED
C4402M1	NOT PLACED
C4403M1	NOT PLACED
C4404M1	NOT PLACED
C4405M1	NOT PLACED
C4406M1	NOT PLACED
C4407M1	NOT PLACED
C4408M1	NOT PLACED
C4409M1	NOT PLACED
C4410M1	NOT PLACED
C4411M1	NOT PLACED
C4412M1	2113944A44

Circuit Ref.	Motorola Part No.
C4413M1	2113944A44
C4414M1	2113944A44
C4415M1	2113944A44
C4417M1	2113944A44
C4418M1	2113944A44
C4419M1	2113944A44
D3104M1	4885489Y01
D3160M1	4813978C02
D3161M1	4813978C02
E1000M1	7686949J15
E1001M1	7686949J15
E1002M1	7686949J15
E1003M1	7686949J15
E1004M1	7686949J15
E1005M1	7686949J15
E3100M1	24012040001
E3101M1	2485410Y02
E3102M1	2485410Y02
E3103M1	2485410Y02
E3104M1	7686949J22
E3105M1	7686949J22
E3106M1	7686949J22
E3107M1	7686949J22
E3108M1	7686949J22
E3109M1	7686949J22
E3110M1	7686949J22
E3111M1	7686949J22
E3113M1	7686949J22
E3200M1	24012040001
E3201M1	24012040001

Circuit Ref.	Motorola Part No.
E3202M1	2485449Y01
E3203M1	24012040001
E3204M1	24012040001
E4000M1	2485449Y01
E4001M1	2485449Y01
E4002M1	2485449Y01
E4003M1	NOT PLACED
E4004M1	24012040001
E4005M1	2485410Y02
E4100M1	7686949J14
E4101M1	2485449Y01
E4200M1	2485449Y01
E4201M1	2485449Y01
E4202M1	2485449Y01
E4300M1	2485449Y01
E4405M1	2485449Y01
E4406M1	7686949J22
E4407M1	7686949J22
E4408M1	2485449Y01
E4409M1	24012040001
F4000M1	6515076H01
FL4000M1	24012038001
FL4001M1	24012038001
J4000M1	0915767H01
J4001M1	0915556H01
J4100M1	0916017H01
J4200M1	09012053001
J4400M1	09012053001
L3100M1	24010070001
P1000M1	NOT PLACED

Circuit Ref.	Motorola Part No.
Q1000M1	4815263H01
Q1001M1	4815272H01
Q1002M1	4815261H01
Q1003M1	NOT PLACED
Q1004M1	4815261H01
Q1005M1	4815261H01
Q3100M1	4815272H01
Q3101M1	4809939C47
Q3102M1	4809939C47
Q3103M1	4816134H01
Q3105M1	4809939C47
Q3160M1	4816134H01
Q3161M1	4815272H01
Q3162M1	4813973M07
Q3163M1	4816134H01
Q3200M1	4815270H01
Q3201M1	4815272H01
Q3202M1	4815270H01
Q3203M1	4815270H01
Q3204M1	4815270H01
Q3205M1	4815270H01
Q3206M1	4815270H01
Q3207M1	4815270H01
Q3208M1	4815263H01
Q4000M1	4809939C47
Q4001M1	4809939C47
Q4002M1	4809939C47
Q4100M1	4816023H01
Q4101M1	4815261H01
Q4102M1	4815263H01

Circuit Ref.	Motorola Part No.
Q4103M1	48012114001
Q4105M1	48012114001
Q4106M1	48012114001
Q4109M1	48012114001
Q4112M1	48012114001
Q4120M1	4809939C47
R1000M1	0613952R66
R1001M1	0613952M66
R1002M1	0613952R66
R1003M1	0613952R66
R1004M1	0613952R66
R1005M1	0613952M66
R1006M1	0613952R66
R1007M1	0613952R66
R1008M1	0613952R66
R1009M1	0613952R66
R1010M1	0613952M66
R1011M1	0613952M66
R1012M1	0613952R66
R1013M1	0613952M66
R1014M1	NOT PLACED
R1015M1	0613952R66
R1016M1	NOT PLACED
R1017M1	NOT PLACED
R1018M1	NOT PLACED
R1019M1	0613952R66
R1020M1	0613952M66
R1021M1	0613952M66
R1022M1	NOT PLACED
R1023M1	0613952R66

Circuit Ref.	Motorola Part No.
R1024M1	NOT PLACED
R1025M1	0613952M66
R1026M1	0613952R66
R1027M1	NOT PLACED
R1028M1	0613952R66
R1029M1	0613952R66
R1030M1	NOT PLACED
R1031M1	0613952R66
R1032M1	NOT PLACED
R1033M1	0613952M66
R1034M1	0613952R17
R1035M1	NOT PLACED
R1036M1	NOT PLACED
R1037M1	0613952M66
R1038M1	0613952R66
R1039M1	0613952R66
R1040M1	NOT PLACED
R1041M1	0613952R66
R1042M1	0613952M66
R1043M1	0613952R66
R1044M1	0613952M66
R1045M1	0613952M66
R1046M1	0613952M66
R1047M1	0613952R66
R1048M1	0613952R66
R1049M1	0613952Q73
R1050M1	0613952Q73
R1051M1	0613952K68
R1052M1	0613952M66
R1053M1	0613952R66

Circuit Ref.	Motorola Part No.
R1054M1	0613952M66
R1055M1	NOT PLACED
R1056M1	0613952M66
R1057M1	0613952M66
R1058M1	0613952M66
R1059M1	0613952R66
R1060M1	0613952R66
R1061M1	0613952R66
R1062M1	NOT PLACED
R1063M1	NOT PLACED
R1064M1	NOT PLACED
R1065M1	0613952R66
R1066M1	0613952M66
R1067M1	0613952M66
R1068M1	0613952R32
R1069M1	0613952M66
R1070M1	0613952Q77
R1071M1	0613952Q77
R1072M1	0613952Q49
R1073M1	0613952R01
R1074M1	0613952R66
R1075M1	0613952R66
R1076M1	0613952R66
R1077M1	0613952R66
R1078M1	0613952R66
R1079M1	0613952R66
R1080M1	0613952Q32
R1081M1	0613952Q32
R1082M1	0613952Q32
R1083M1	NOT PLACED

Circuit Ref.	Motorola Part No.
R1084M1	0613952R66
R1085M1	NOT PLACED
R1086M1	NOT PLACED
R1087M1	NOT PLACED
R1088M1	NOT PLACED
R1089M1	0613952R05
R1090M1	0613952R05
R1091M1	NOT PLACED
R1092M1	0613952M43
R1093M1	0613952Q73
R1094M1	0613952M66
R2000M1	0613952M66
R2002M1	0613952M66
R2003M1	0613952M30
R3101M1	0613952Z66
R3102M1	0613952M66
R3103M1	0613952N62
R3104M1	0613952M30
R3105M1	0613952R01
R3106M1	0613952M09
R3107M1	0613952M85
R3108M1	0613952R17
R3109M1	0613952R17
R3110M1	0613952N55
R3111M1	0613952R32
R3112M1	0613952P12
R3113M1	0613952R17
R3114M1	0613952N01
R3115M1	0613952Z63
R3116M1	0613952E83

Circuit Ref.	Motorola Part No.
R3117M1	0613952Q73
R3118M1	0613952R10
R3119M1	0613952Q73
R3120M1	0613952R66
R3121M1	0613952R66
R3122M1	0613952M43
R3123M1	0613952M54
R3124M1	0613952R66
R3125M1	0613952R66
R3126M1	0613952R66
R3127M1	0613959Y09
R3128M1	0613952M10
R3129M1	0613952M58
R3130M1	0613952R25
R3131M1	0613952R01
R3132M1	0613952R01
R3133M1	0613952R29
R3134M1	NOT PLACED
R3135M1	0613952R66
R3136M1	0613952R17
R3137M1	0613952R17
R3138M1	0613952R17
R3139M1	0613952R66
R3140M1	0613952Q91
R3141M1	0613959Y13
R3142M1	NOT PLACED
R3143M1	0613952Q91
R3144M1	0613952R66
R3145M1	0613959Y09
R3146M1	0613952M85

Circuit Ref.	Motorola Part No.
R3147M1	0613952M43
R3148M1	0613952R66
R3149M1	0613952R01
R3150M1	0613952N62
R3151M1	0613952R25
R3153M1	0613952R66
R3154M1	0613952Q89
R3155M1	0613952Q89
R3156M1	0613952R17
R3157M1	0613952R01
R3158M1	0613952R66
R3159M1	0613952R01
R3160M1	0613952Q89
R3161M1	0613952Q73
R3162M1	0613952Q85
R3163M1	0613952R01
R3164M1	0613952Q75
R3165M1	0613952R01
R3166M1	0613952R17
R3167M1	0613952R01
R3168M1	0613952Q73
R3169M1	0613952R01
R3170M1	0613952R01
R3171M1	NOT PLACED
R3172M1	NOT PLACED
R3173M1	0613952R66
R3174M1	0613952R66
R3175M1	0689774Y02
R3176M1	0613952A01
R3177M1	0613952R66

Circuit Ref.	Motorola Part No.
R3178M1	0615871H01
R3179M1	0613952R17
R3180M1	0613952R01
R3181M1	NOT PLACED
R3182M1	0613952R66
R3200M1	0613952C44
R3201M1	0613952Q49
R3202M1	0613952C44
R3203M1	0613952Q49
R3204M1	0613952C44
R3205M1	0613952C44
R3206M1	0613952R01
R3207M1	0613952R01
R3208M1	0613952N30
R3209M1	0613952R03
R3210M1	0613952Q67
R3211M1	0613952N30
R3212M1	0613952R03
R3213M1	0613952Q42
R3214M1	0613952J25
R3215M1	0613952R01
R3216M1	0613952R17
R3217M1	0613952R01
R3218M1	0613952R01
R3219M1	NOT PLACED
R3220M1	0613952R01
R3221M1	NOT PLACED
R3222M1	0613952R01
R3223M1	0613952R66
R3224M1	NOT PLACED

Circuit Ref.	Motorola Part No.
R3225M1	NOT PLACED
R3226M1	0613952R01
R3229M1	0613952R01
R3230M1	0613952R10
R3231M1	0613952R10
R3232M1	0613952R10
R3233M1	0613952R01
R3234M1	NOT PLACED
R3235M1	0613952R01
R3236M1	0613952R10
R3237M1	NOT PLACED
R3238M1	0613952R01
R3239M1	0613952Q49
R3240M1	0613952R01
R3241M1	0613952M54
R3242M1	0613952R01
R3243M1	0613952R01
R3244M1	0613952R10
R3245M1	NOT PLACED
R3246M1	0613952R01
R3247M1	0613952Q49
R3248M1	0613952R66
R3249M1	0613952R66
R3250M1	0613952R66
R3251M1	0613952R66
R3252M1	0613952R66
R3253M1	0613952R66
R3254M1	0613952R01
R3255M1	0613952R66
R3256M1	0613952M66

Circuit Ref.	Motorola Part No.
R3257M1	0613952R01
R3258M1	0613952M66
R3259M1	0613952M66
R3260M1	0613952M66
R3261M1	0613952R01
R3262M1	0613952R10
R3263M1	NOT PLACED
R3264M1	0613952R01
R3265M1	0613952M66
R3266M1	0613952R01
R3267M1	NOT PLACED
R3268M1	0613952R01
R3269M1	0613952M66
R3270M1	0613952R01
R3271M1	NOT PLACED
R3272M1	0613952R01
R3273M1	0613952M66
R3274M1	0613952R10
R3275M1	0613952R10
R3276M1	0613952R10
R3277M1	0613952R10
R3278M1	0613952R01
R3279M1	NOT PLACED
R3280M1	NOT PLACED
R3281M1	NOT PLACED
R3282M1	0613952R66
R3283M1	0613952R66
R3284M1	NOT PLACED
R3285M1	NOT PLACED
R3286M1	0613952R66

Circuit Ref.	Motorola Part No.
R3287M1	0613952R66
R3288M1	0613952R01
R3289M1	0613952R01
R3290M1	NOT PLACED
R3291M1	NOT PLACED
R4001M1	0613952R66
R4003M1	0613952R66
R4006M1	0613952Q37
R4007M1	0613952Q37
R4008M1	0613952R01
R4010M1	0613952R01
R4013M1	0613952Q42
R4015M1	0613952Q37
R4021M1	0613952R66
R4024M1	0613952R01
R4025M1	0613952R01
R4026M1	0613952R66
R4027M1	0613952R66
R4028M1	0613952R01
R4029M1	0613952R01
R4030M1	0613952R01
R4031M1	0613952R01
R4032M1	0613952R66
R4033M1	0613952M43
R4034M1	0613952M43
R4035M1	0613952R66
R4036M1	0613952R66
R4037M1	0613952R01
R4038M1	0613952R01
R4039M1	NOT PLACED

Circuit Ref.	Motorola Part No.
R4100M1	0613952R01
R4101M1	0613952Q77
R4102M1	0613958H83
R4104M1	0613952Q89
R4105M1	0613952Q89
R4106M1	0613952Q89
R4107M1	0613952R01
R4108M1	0613952Q89
R4112M1	0613952R01
R4113M1	0613952R01
R4114M1	0613952Q89
R4116M1	0613952Q89
R4117M1	0613952R01
R4118M1	0613952R01
R4119M1	0613952Q64
R4121M1	0613952R01
R4200M1	0613952R66
R4201M1	0613952R66
R4202M1	0613952R66
R4203M1	0613952R66
R4204M1	0613952R66
R4205M1	0613952R66
R4206M1	0613952R66
R4207M1	0613952R66
R4208M1	0613952R66
R4209M1	0613952R66
R4210M1	0613952R66
R4211M1	0613952R66
R4212M1	0613952R66
R4213M1	0613952R66

Circuit Ref.	Motorola Part No.
R4214M1	0613952R66
R4215M1	0613952R66
R4216M1	0613952R66
R4301M1	NOT PLACED
R4302M1	0613952R66
R4303M1	0613952R66
R4304M1	0613952R66
R4305M1	0613952R66
R4306M1	0613952R66
R4307M1	0613952R66
R4309M1	NOT PLACED
R4310M1	0613952R66
R4311M1	0613952R66
R4312M1	0613952R66
R4313M1	NOT PLACED
R4314M1	0613952R66
R4315M1	0613952R66
R4316M1	0613952R66
R4317M1	0613952R66
SH3100M1	NOT PLACED
U1000M1	5171320H01
U1001M1	51012295001
U1002M1	5189139P01
U1003M1	5175772B56
U1004M1	5175772B56
U1005M1	5164852H47
U1006M1	5185493Y01
U1007M1	5189139P01
U1008M1	5189139P01
U1009M1	5115001H02

Circuit Ref.	Motorola Part No.
U1010M1	5171320H01
U1011M1	NOT PLACED
U1012M1	NOT PLACED
U1013M1	NOT PLACED
U1014M1	NOT PLACED
U1015M1	NOT PLACED
U2000M1	51012239002
U2001M1	51012058002
U3100M1	0104039J08
U3101M1	5114014A03
U3102M1	51012069001
U3103M1	51012142001
U3104M1	5114610F01
U3105M1	5114610F01
U3106M1	51012140001
U3107M1	51012140001
U3108M1	51012138001
U3109M1	5164015H94
U3110M1	51012208001
U3111M1	5188690V02
U3112M1	5114004A35
U3113M1	5188690V02
U3114M1	NOT PLACED
U3115M1	5185937Y01
U3200M1	51009415001
U3201M1	5114016A18
U3204M1	51009509001
U3205M1	5114016A18
U4000M1	51012082001
U4001M1	51012082001

Circuit Ref.	Motorola Part No.
U4100M1	5189139P01
U4200M1	NOT PLACED
U4201M1	NOT PLACED
U4300M1	51012082001
U4301M1	51012082001
VR3103M1	48012095001
VR3104M1	48012095002
VR3105M1	4813977M10
VR3200M1	48012106001
VR3201M1	4813977A48
VR3202M1	4813977A48
VR4000M1	4813977M13
VR4001M1	4813977A48
VR4100M1	4813977A48
VR4101M1	4813977A48
VR4102M1	4813977A48
VR4103M1	4813977A48
VR4104M1	48012106001
VR4105M1	4813977M13
VR4106M1	4813977A48
VR4107M1	4813977A48
VR4108M1	4813977A48
VR4109M1	4813977A50
VR4110M1	4815040H01
VR4111M1	4815040H01

Note: The suffix “M1”, “M2”, etc. from the Circuit Ref is removed from the schematics and overlays.

Notes



XPR 5350/XPR 5550 Mobile Radios

Chapter 7

VHF (136–174 MHz)

1–25W

Service Information

Issue: January, 2012

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Chapter 7 – VHF Low Power Service Information

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Section 2 VHF PCB/Schematics/Parts List

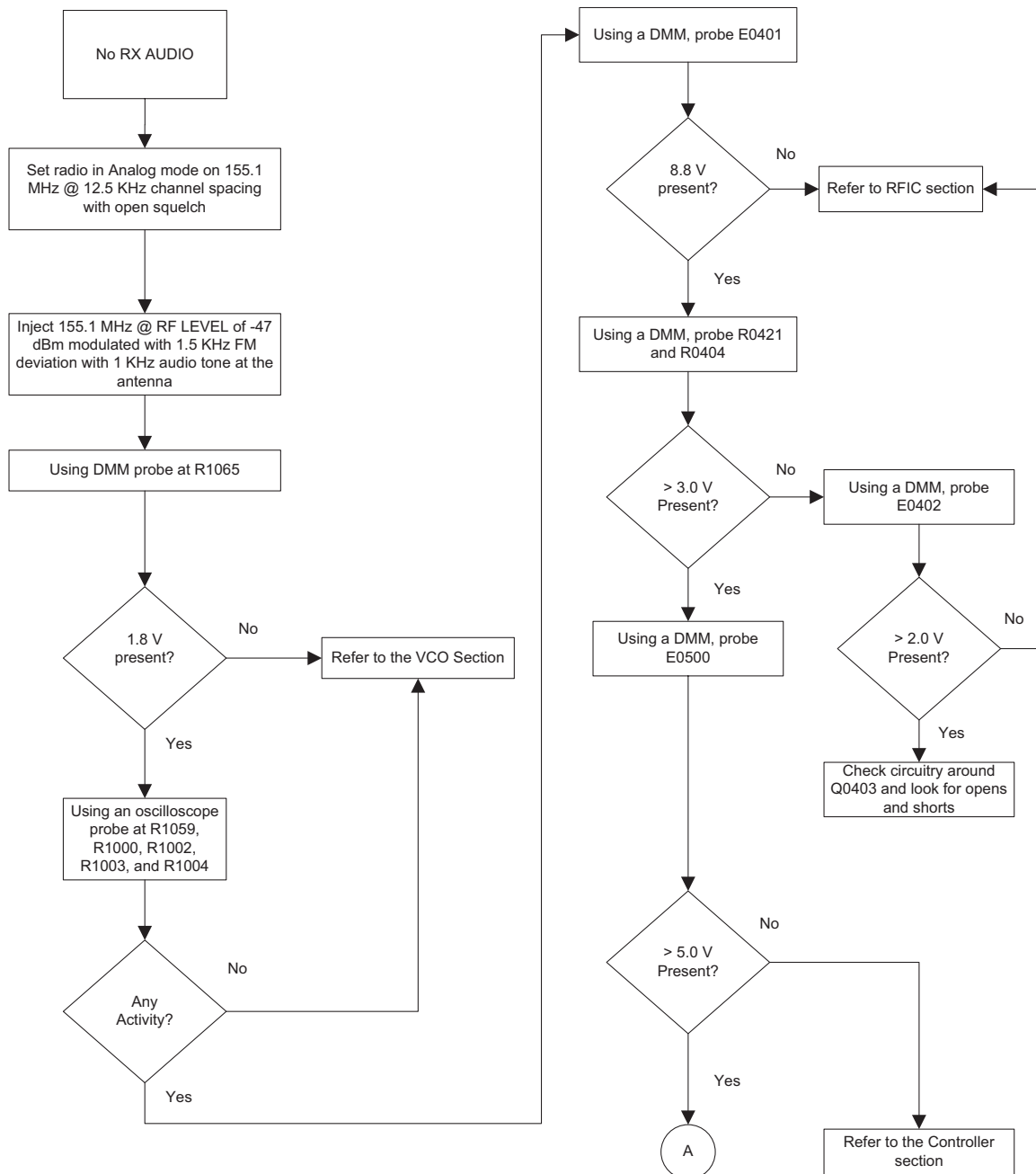
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Notes

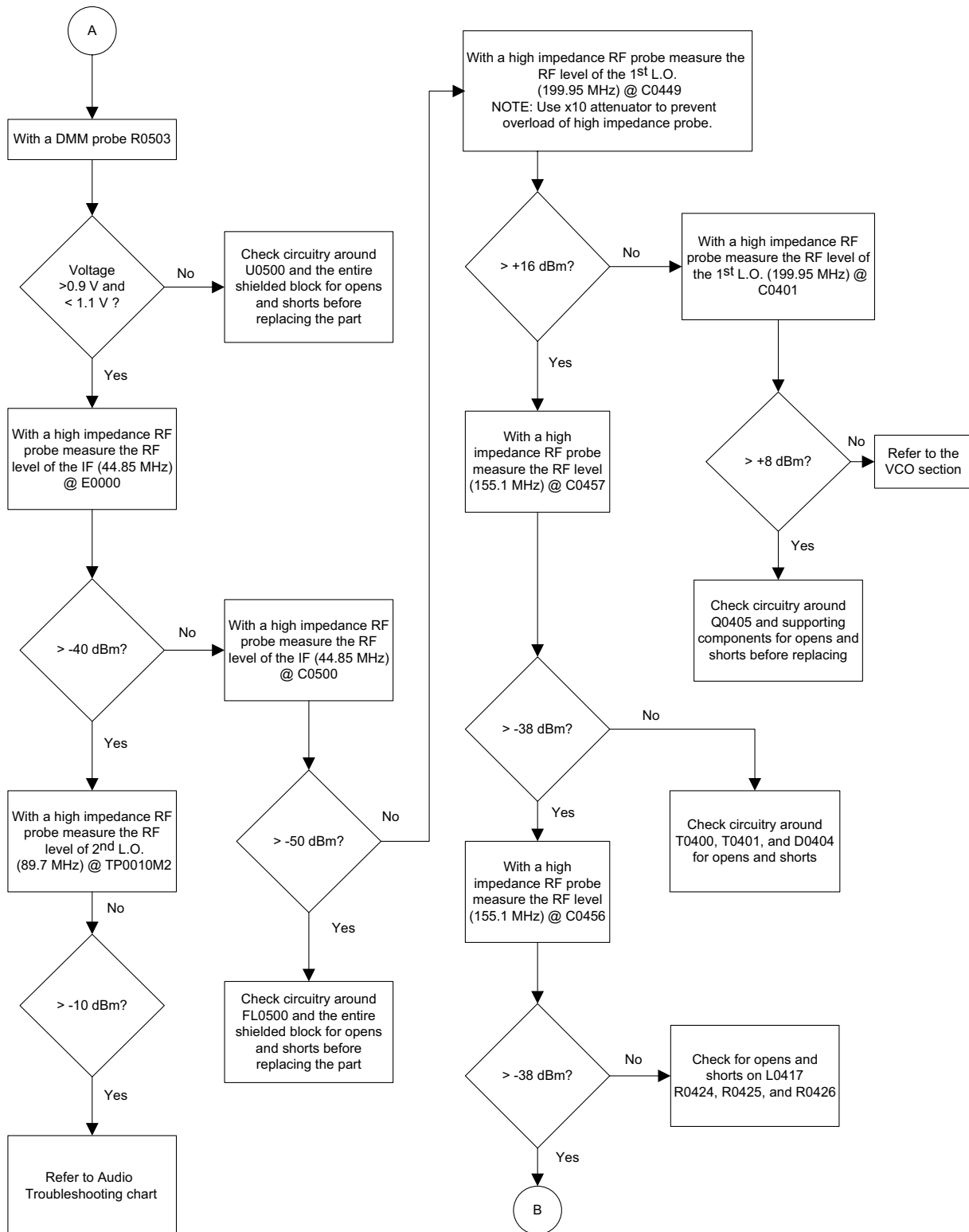
Section 1

TROUBLESHOOTING CHARTS

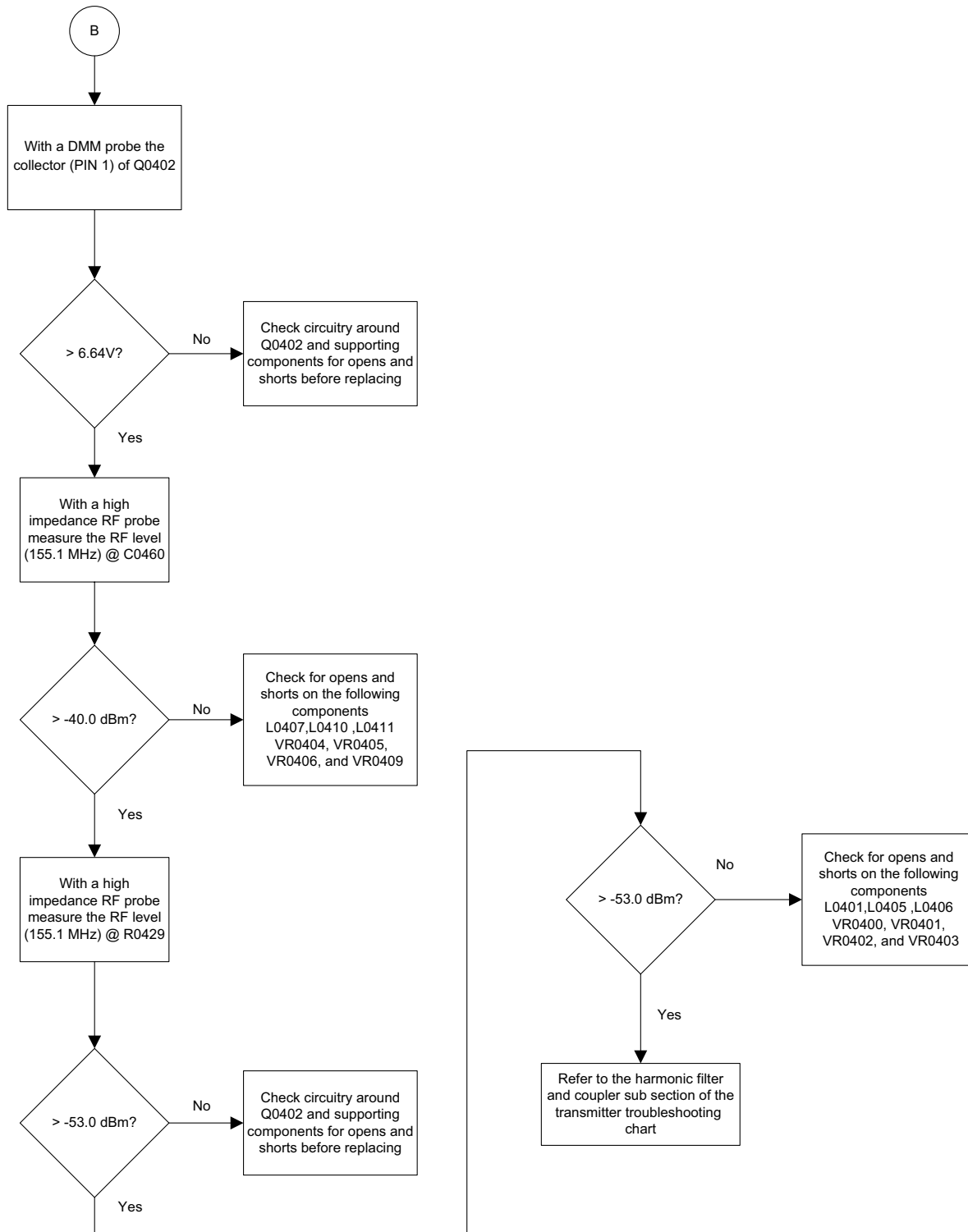
1.0 Troubleshooting Flow Chart for Receiver (Sheet 1 of 3)



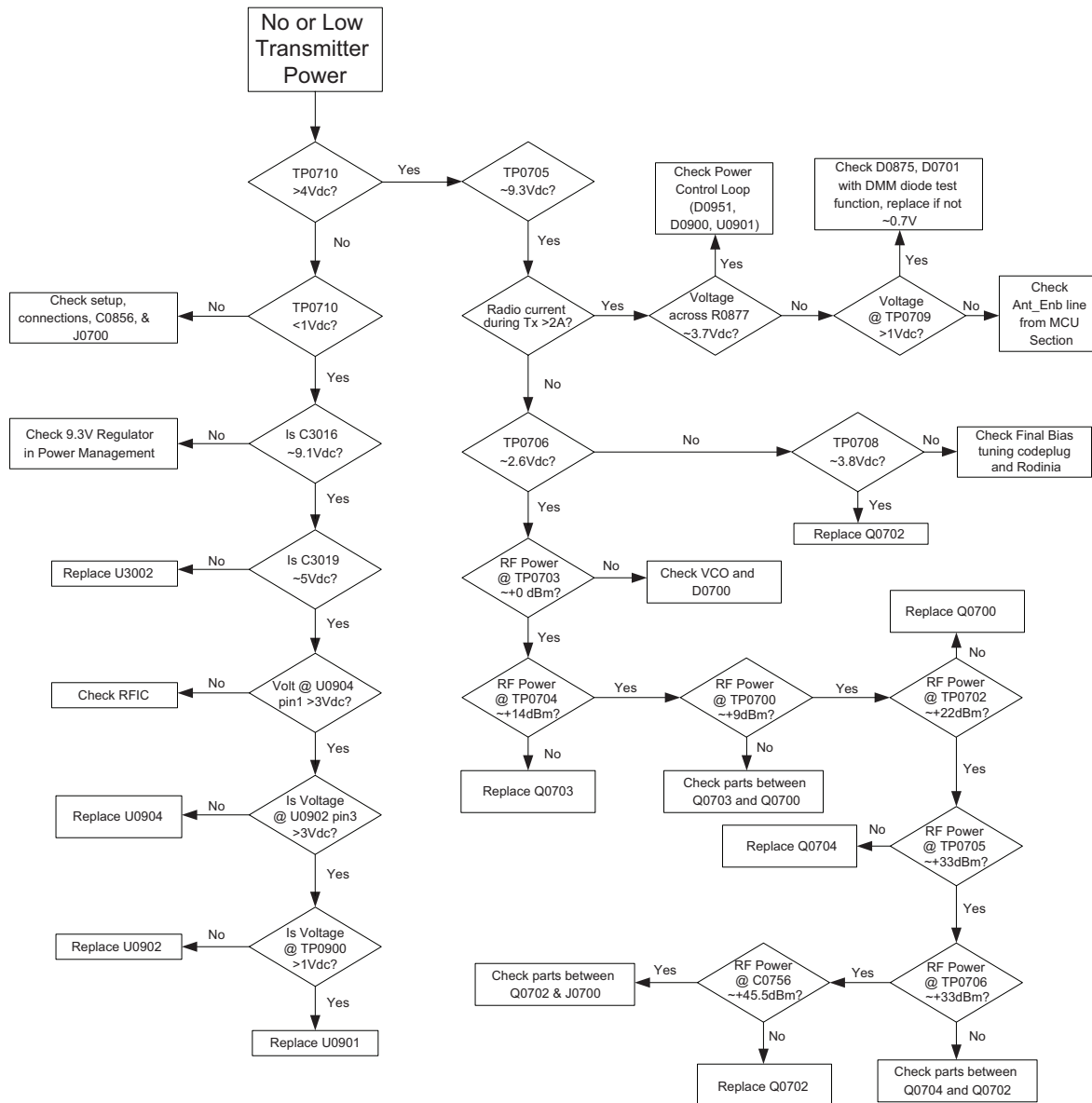
1.1 Troubleshooting Flow Chart for Receiver (Sheet 2 of 3)



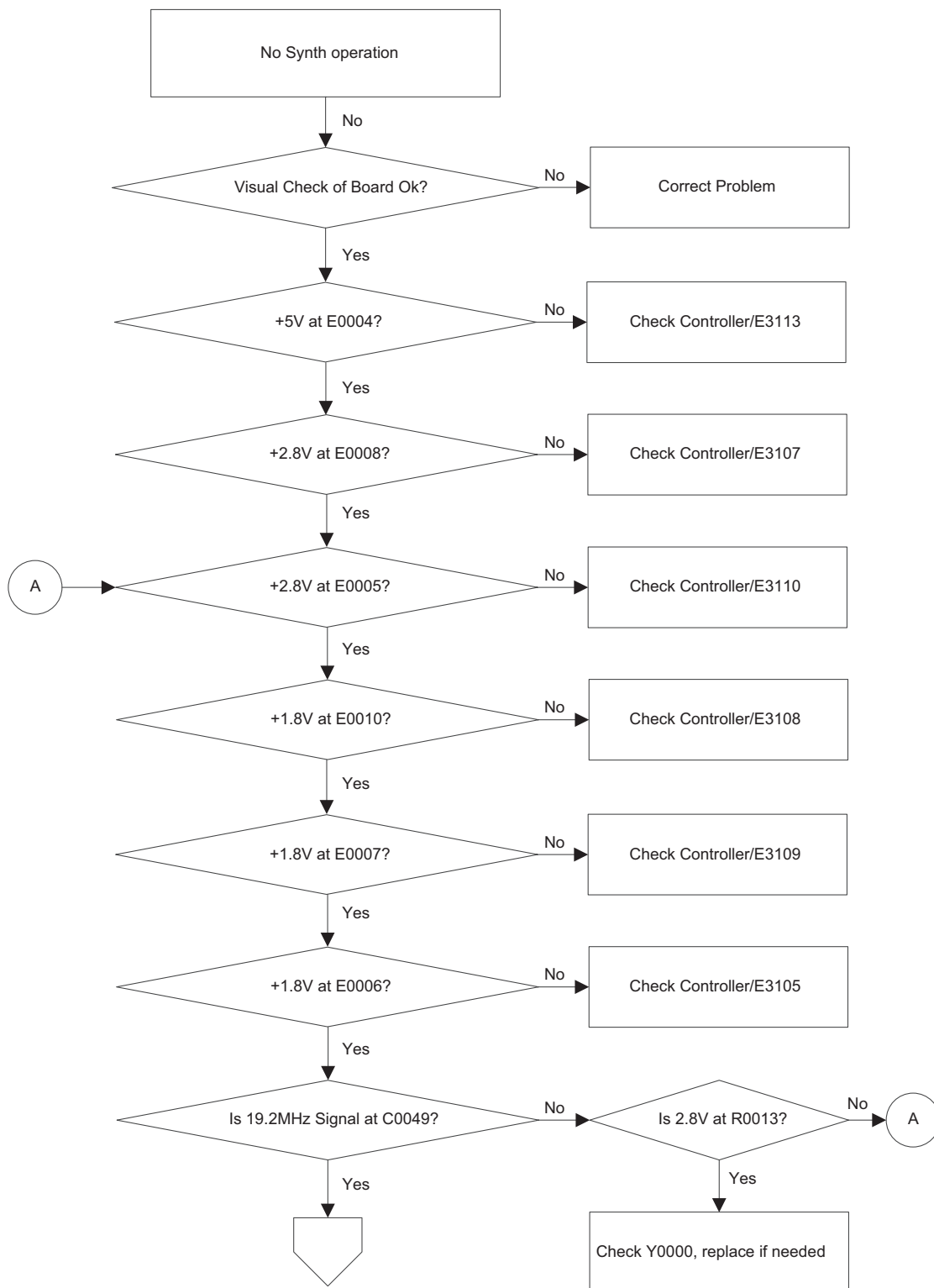
1.2 Troubleshooting Flow Chart for Receiver (Sheet 3 of 3)



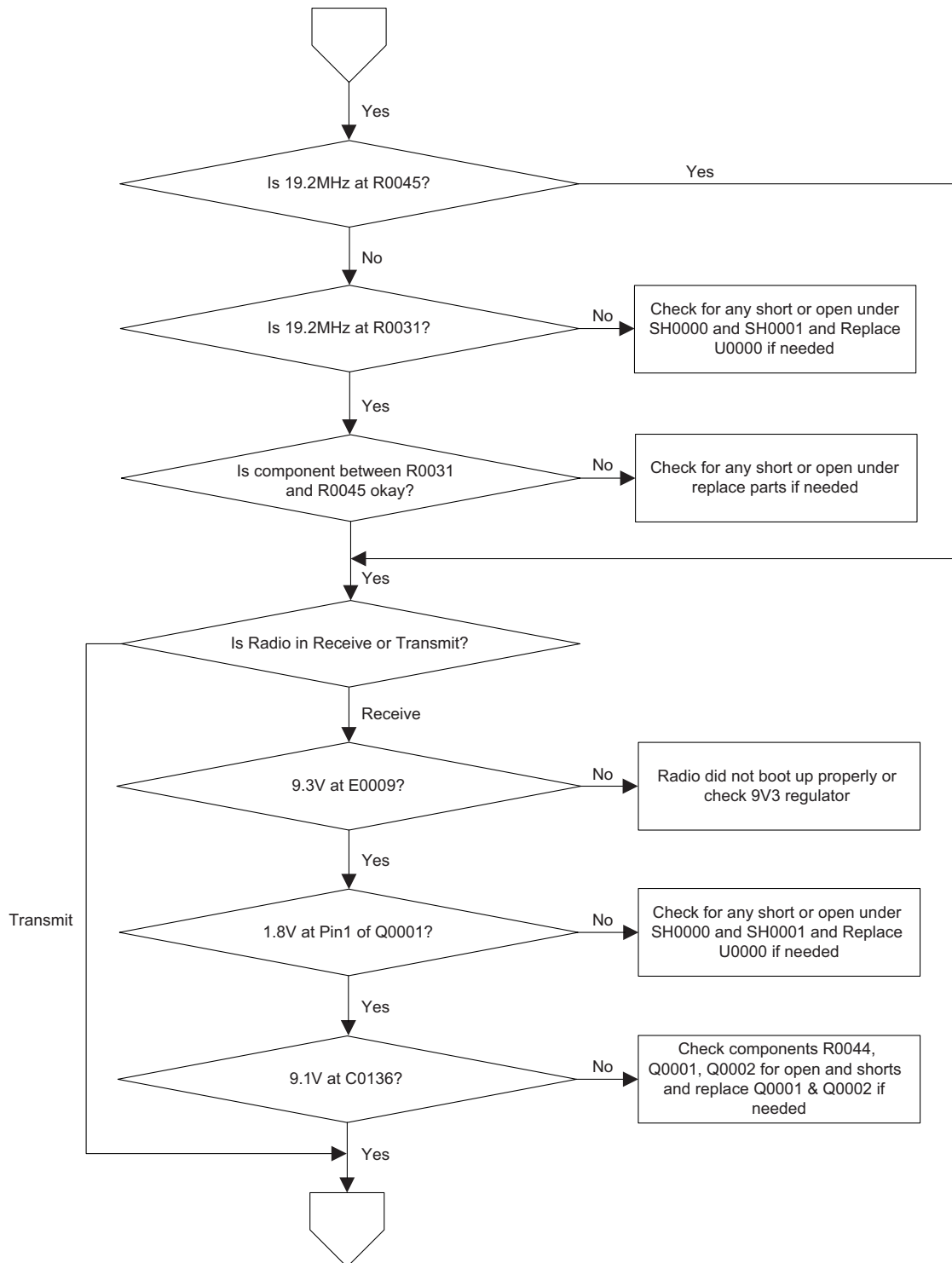
2.0 Troubleshooting Flow Chart for 25W Transmitter



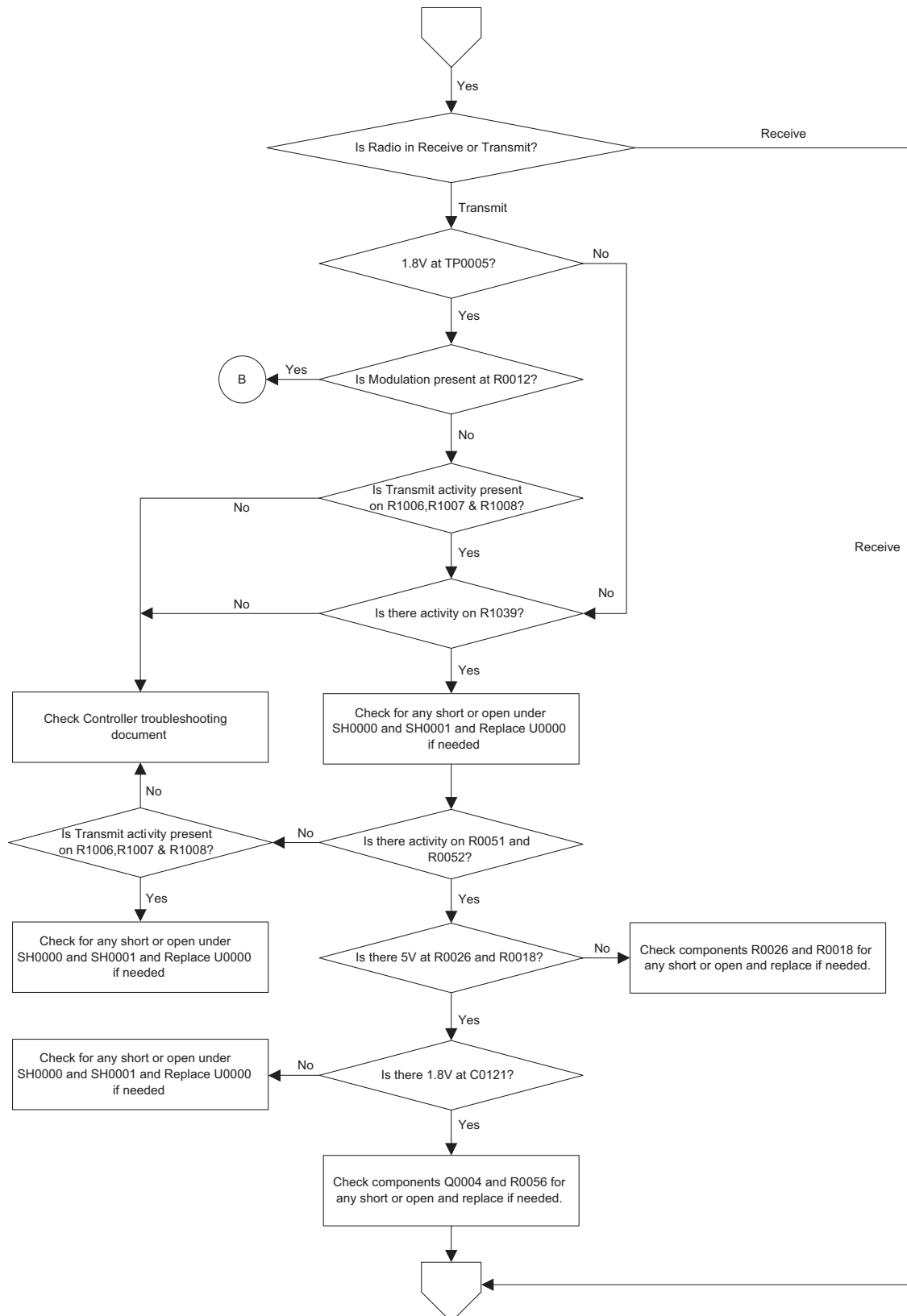
3.0 Troubleshooting Flow Chart for RFIC (Sheet 1 of 5)



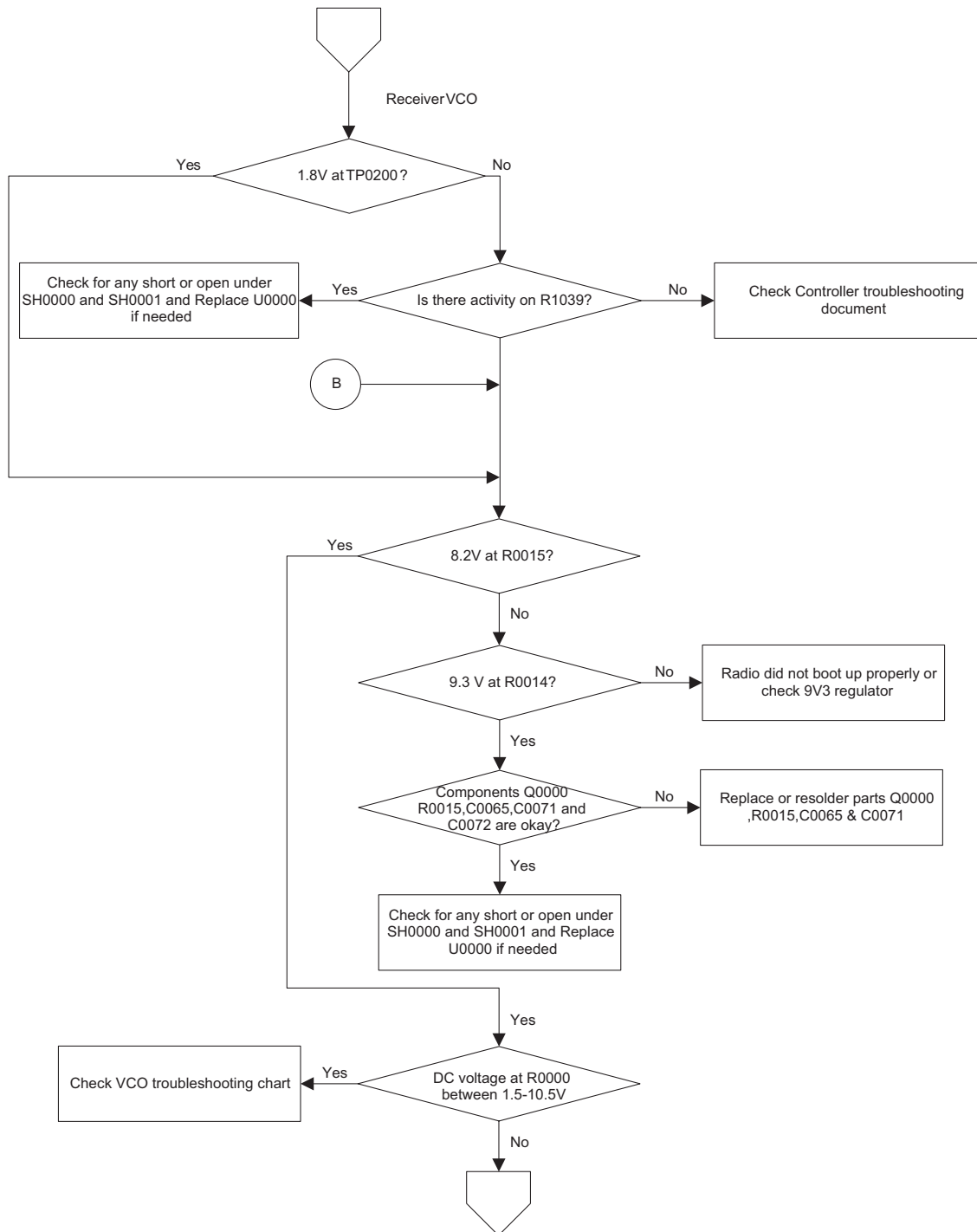
3.1 Troubleshooting Flow Chart for RFIC (Sheet 2 of 5)



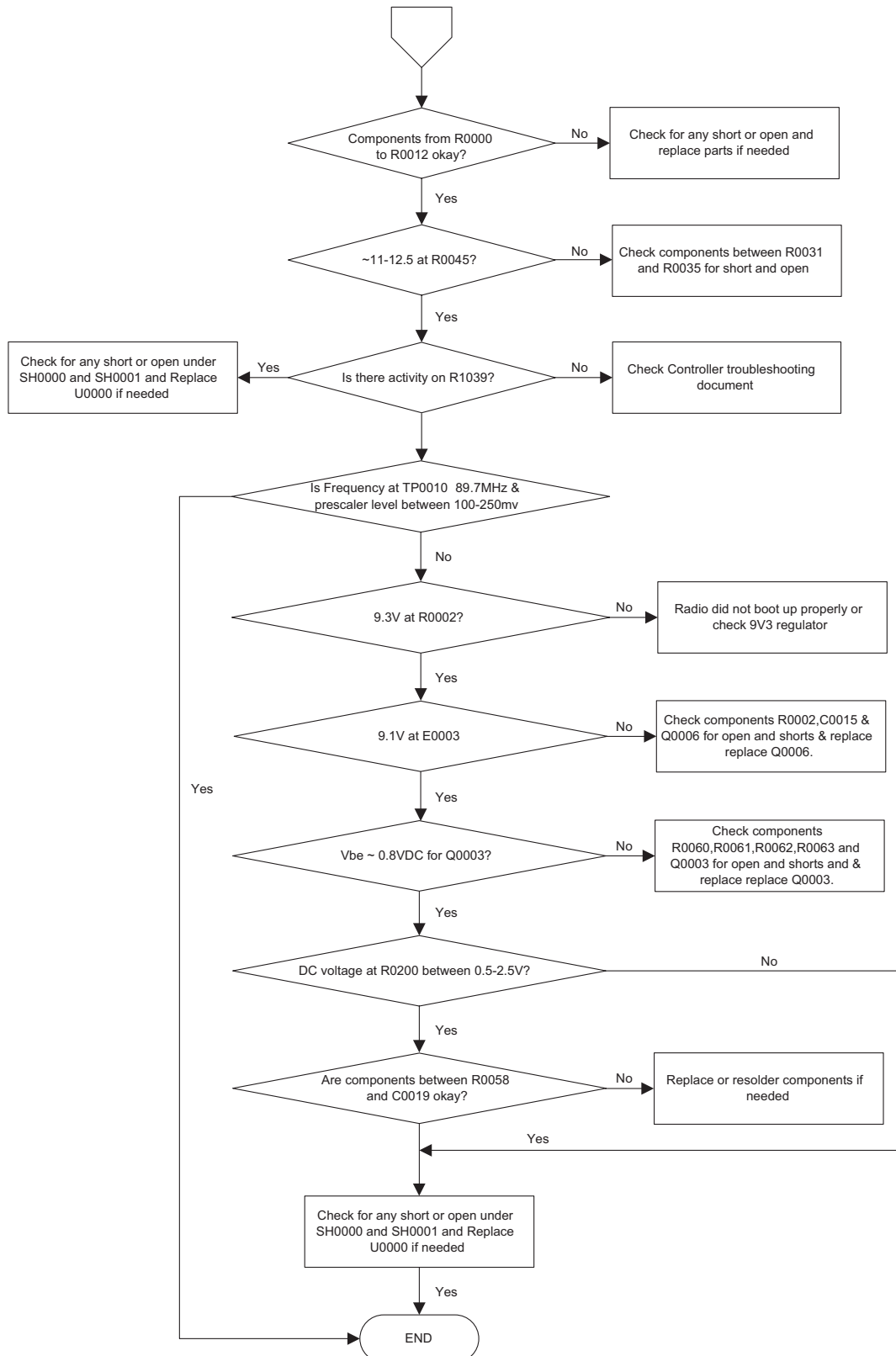
3.2 Troubleshooting Flow Chart for RFIC (Sheet 3 of 5)



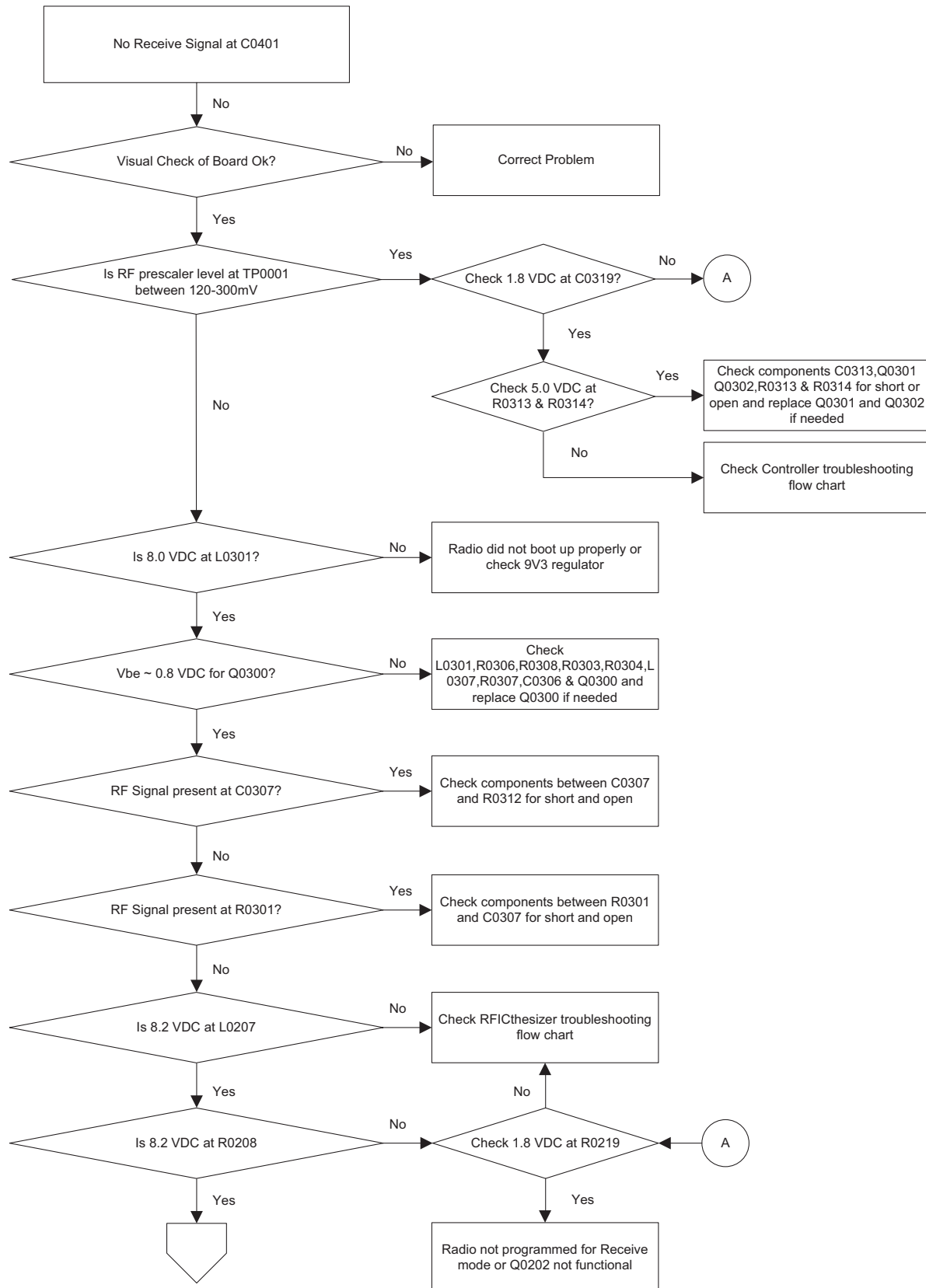
3.3 Troubleshooting Flow Chart for RFIC (Sheet 4 of 5)



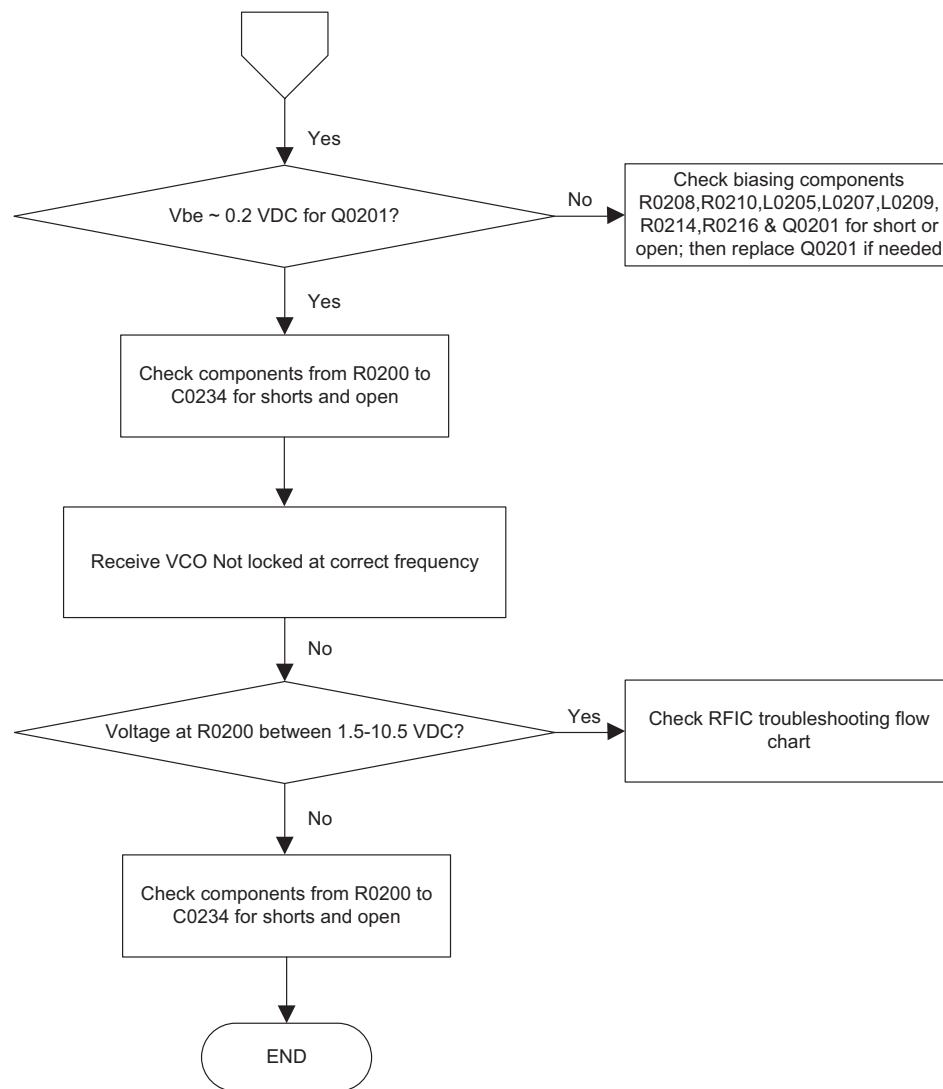
3.4 Troubleshooting Flow Chart for RFIC (Sheet 5 of 5)



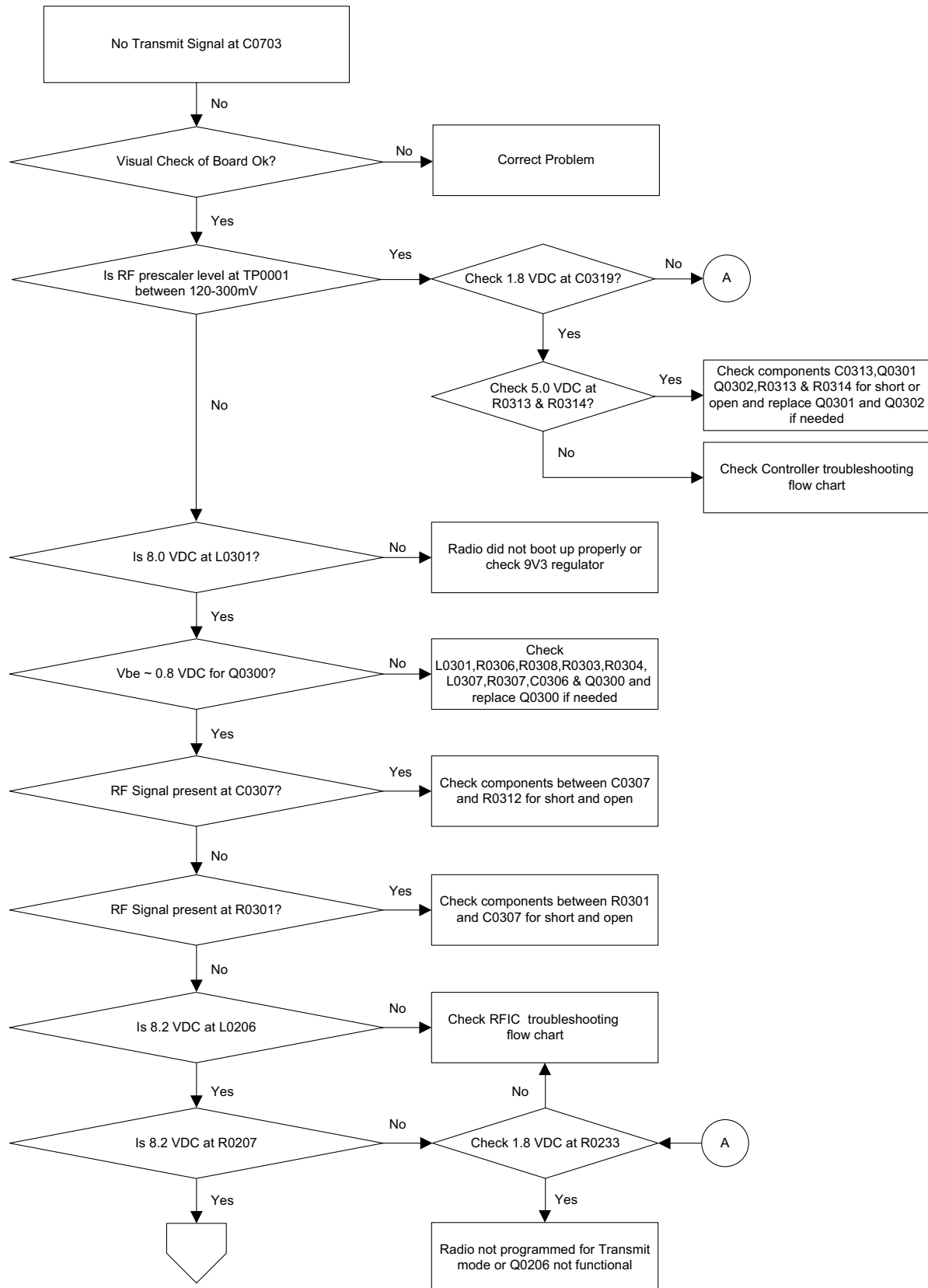
4.0 Troubleshooting Flow Chart for Rx VCO (Sheet 1 of 2)



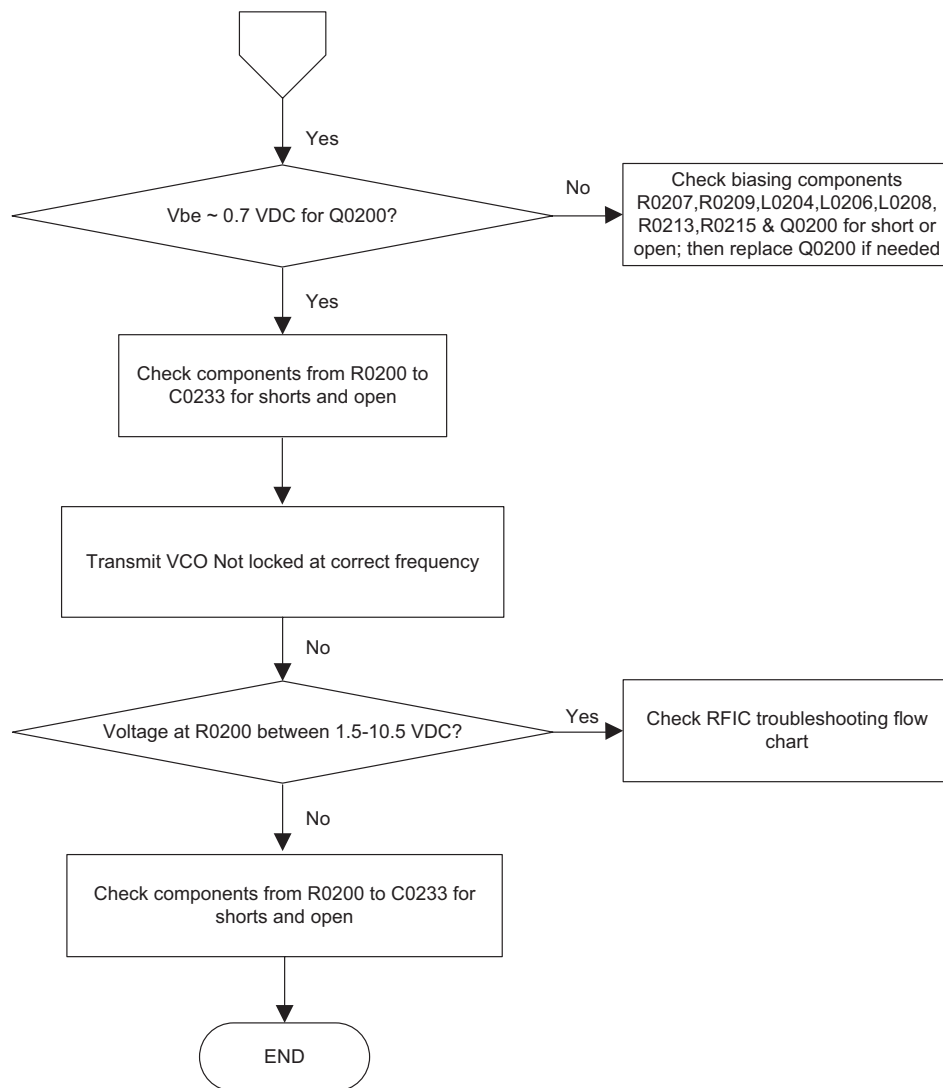
4.1 Troubleshooting Flow Chart for Rx VCO (Sheet 2 of 2)



5.0 Troubleshooting Flow Chart for Tx VCO (Sheet 1 of 2)



5.1 Troubleshooting Flow Chart for Tx VCO (Sheet 2 of 2)



Notes

Section 2

VHF PCB/SCHEMATICS/PARTS LIST

1.0 Allocation of Schematics and Circuit Boards

1.1 VHF 25W Circuits

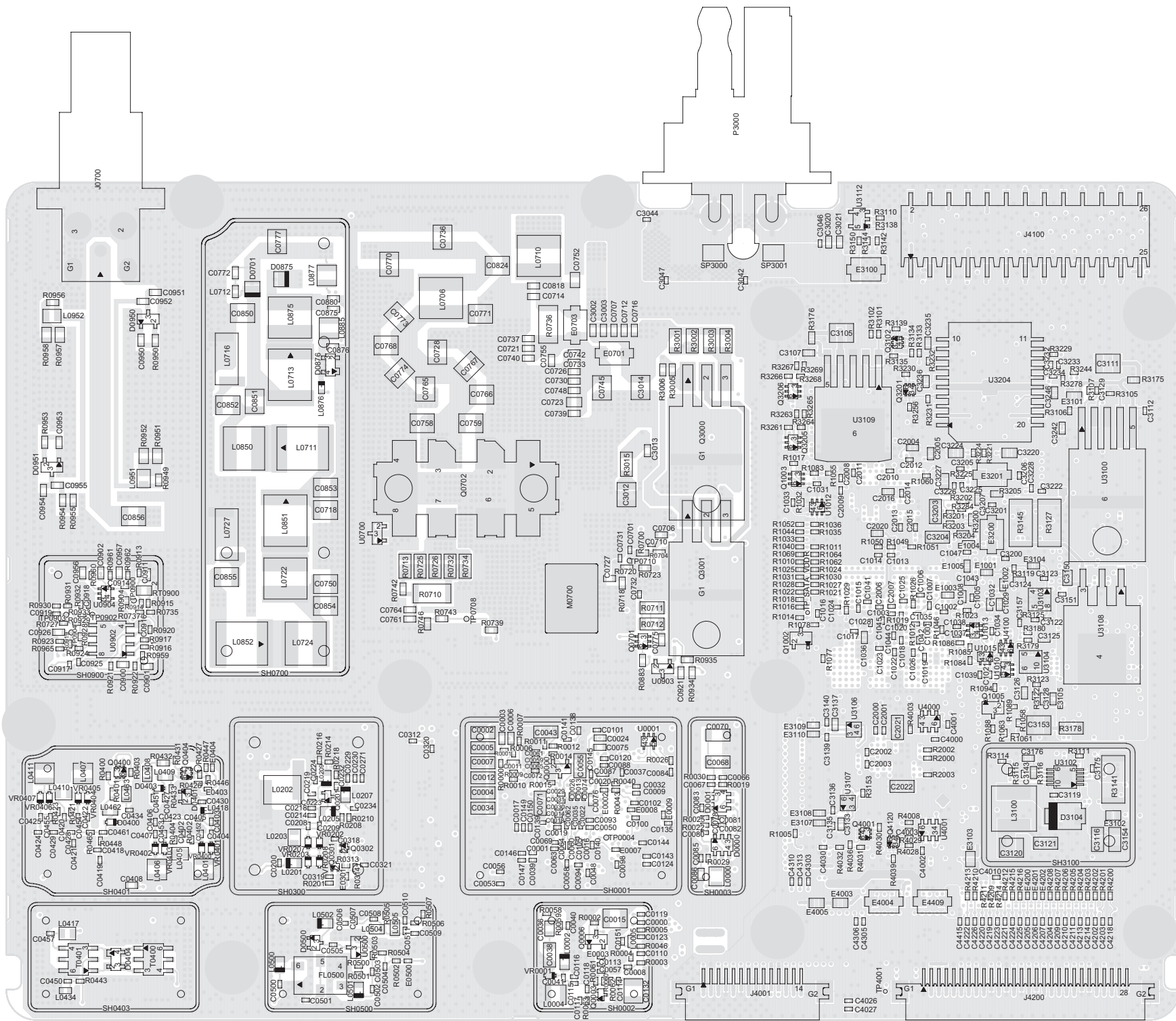
The VHF circuits are contained on the Printed Circuit Board (PCB) which also contains the Controller circuits. This chapter shows the schematics for the VHF 25W circuits only, refer to the Controller section for details of the related Controller circuits. The PCB component layouts and the Parts List in this chapter show both the Controller and VHF 25W circuit components. The VHF 25W schematics and the related PCB and parts list are shown in the table below.

Table 2-1 VHF 1–25W Schematic Diagrams and Parts List

PCB : 84012210001-A Main Board Top Side 84012210001-A Main Board Bottom Side	Page 2-3 Page 2-4
SCHEMATICS Overall Receiver Front- End Receiver IF Amp Transmitter Power Amplifier Power Control Transmitter Power Amplifier DC Distribution RFIC Receiver VCO Transmit VCO VCO Buffer	Page 2-5 Page 2-6 Page 2-7 Page 2-8 Page 2-9 Page 2-10 Page 2-11 Page 2-12 Page 2-13 Page 2-14
Parts List 84012210001-A (VHF 25W Only)	Page 2-15

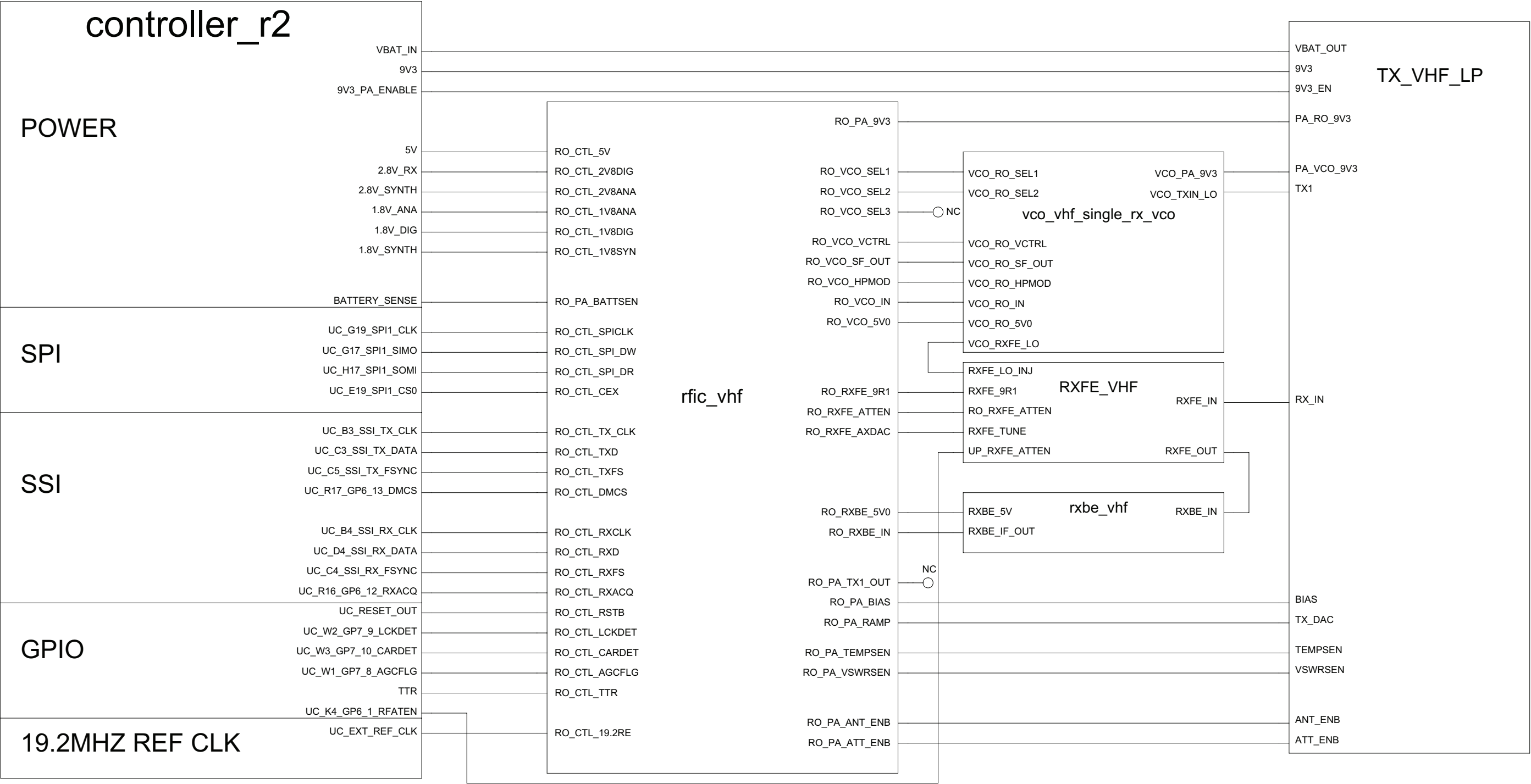
Notes

2.0 VHF (136–174 MHz) 1–25W PCB/Schematics/Parts List



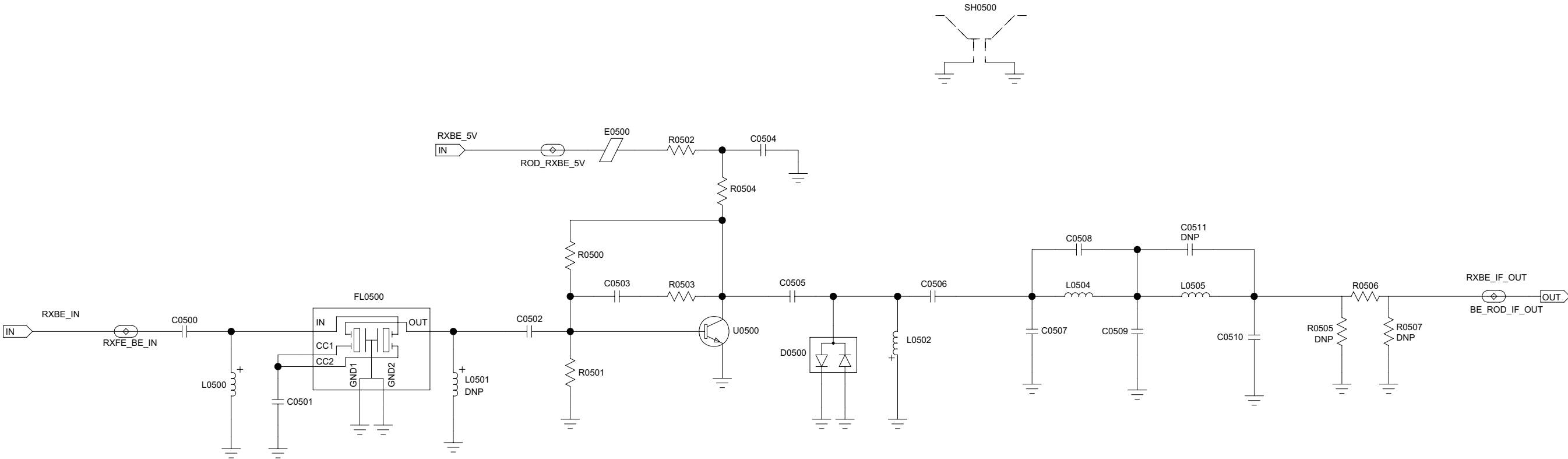
VHF (136–174 MHz) 1–25W 84012210001-A Top Side





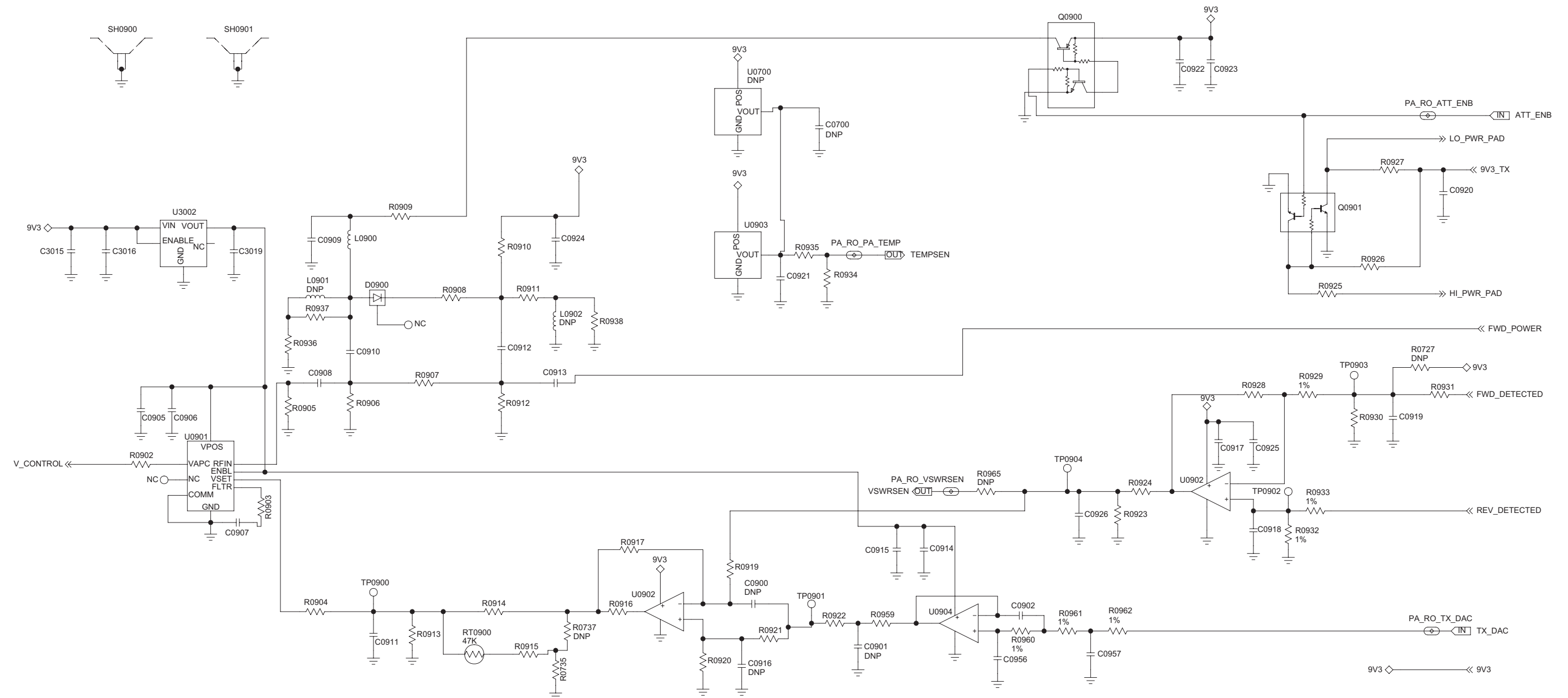
VHF (136–174 MHz) 1–25W Overall Schematic Diagram



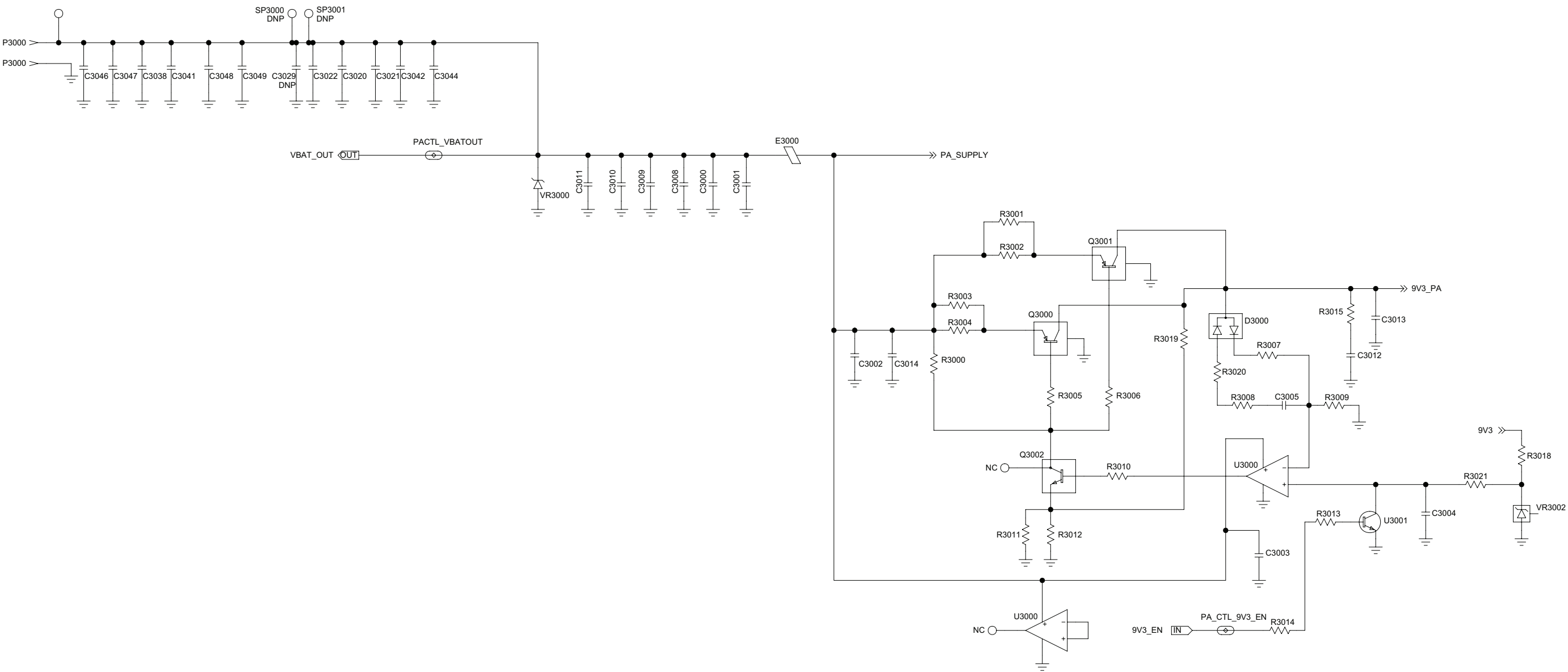


VHF (136–174 MHz) 1–25W Receiver IF Amp Schematic Diagram



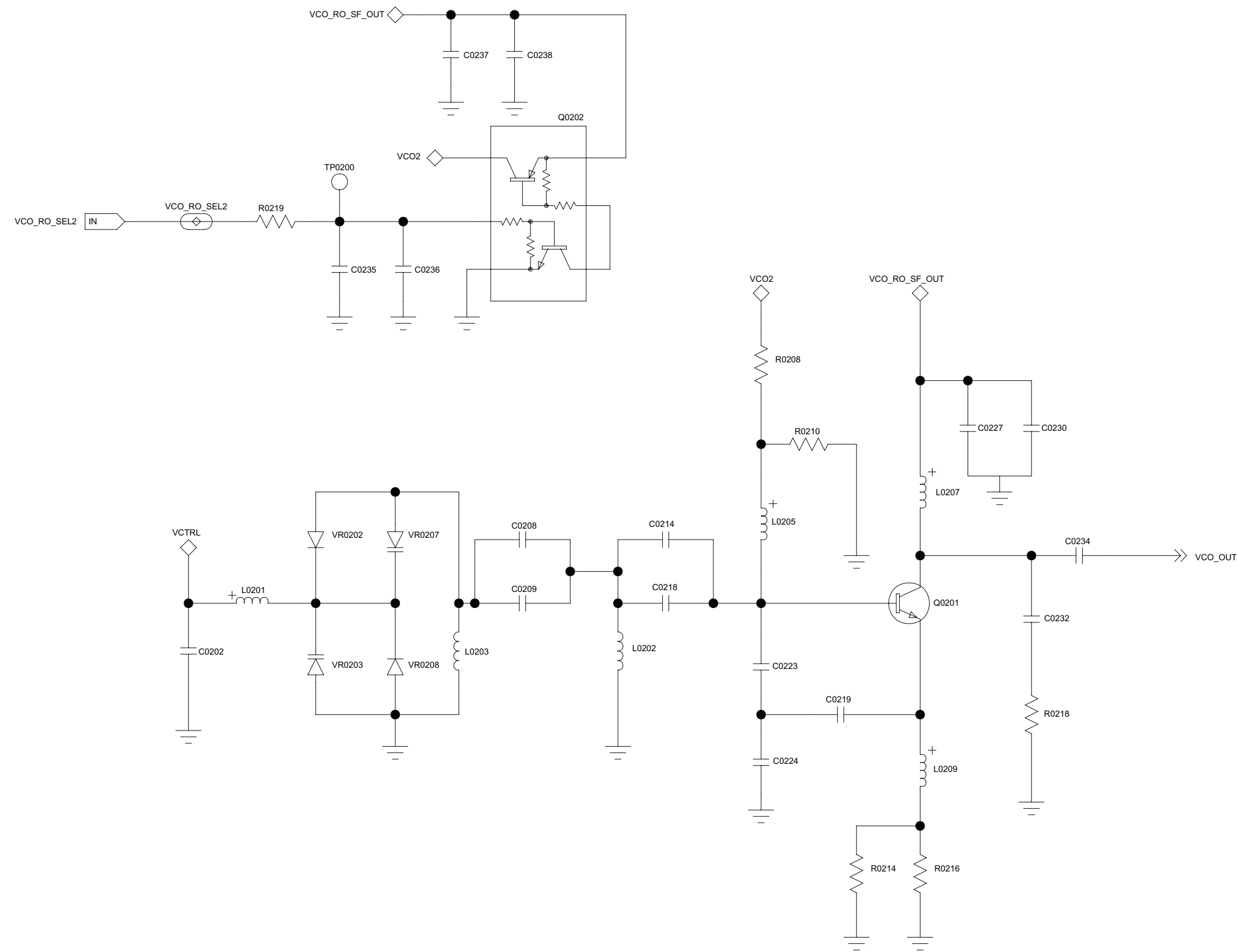


VHF (136–174 MHz) 1–25W Power Control Schematic Diagram

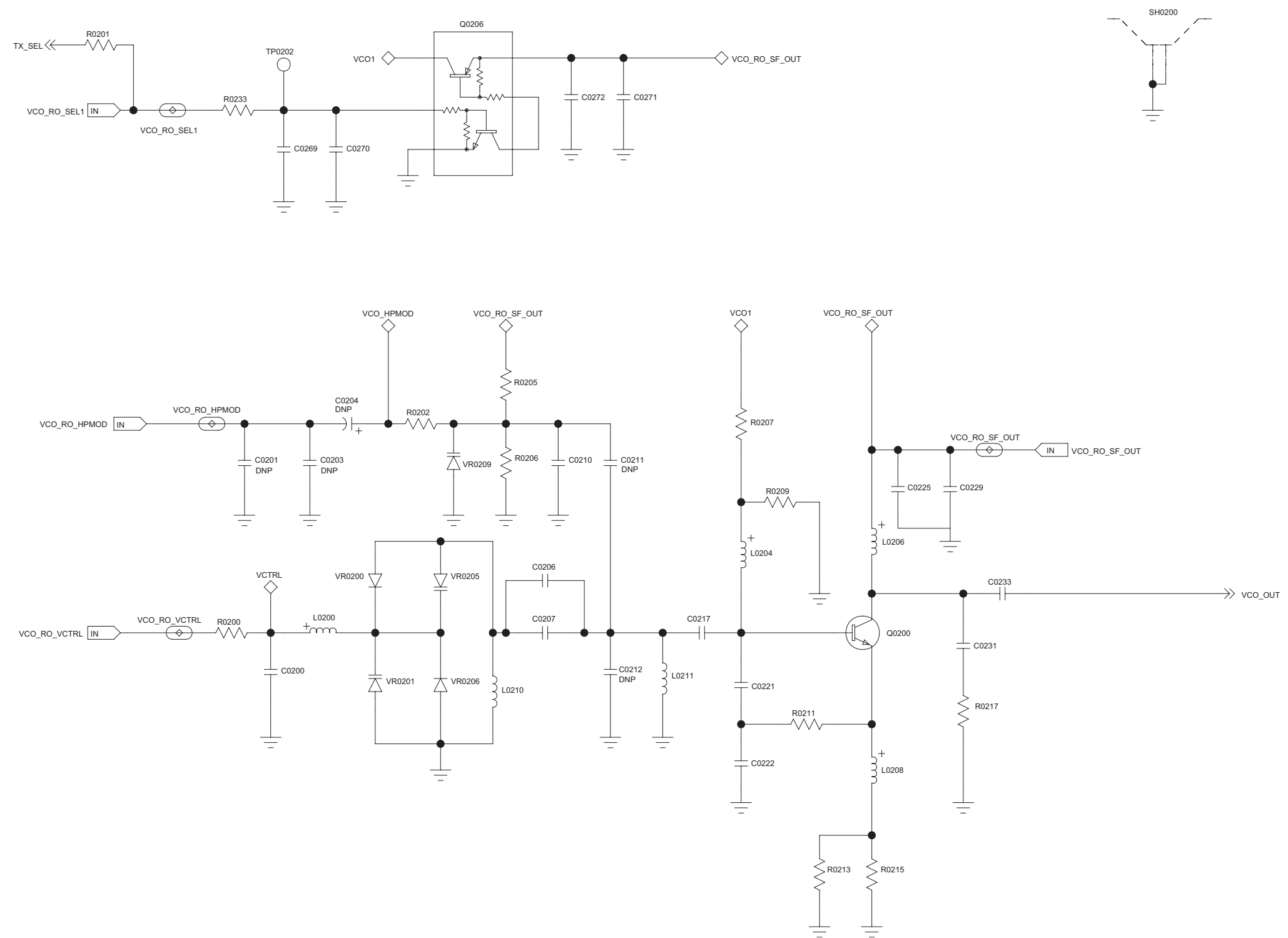


VHF (136–174 MHz) 1–25W Transmitter Power Amplifier DC Distribution Schematic Diagram

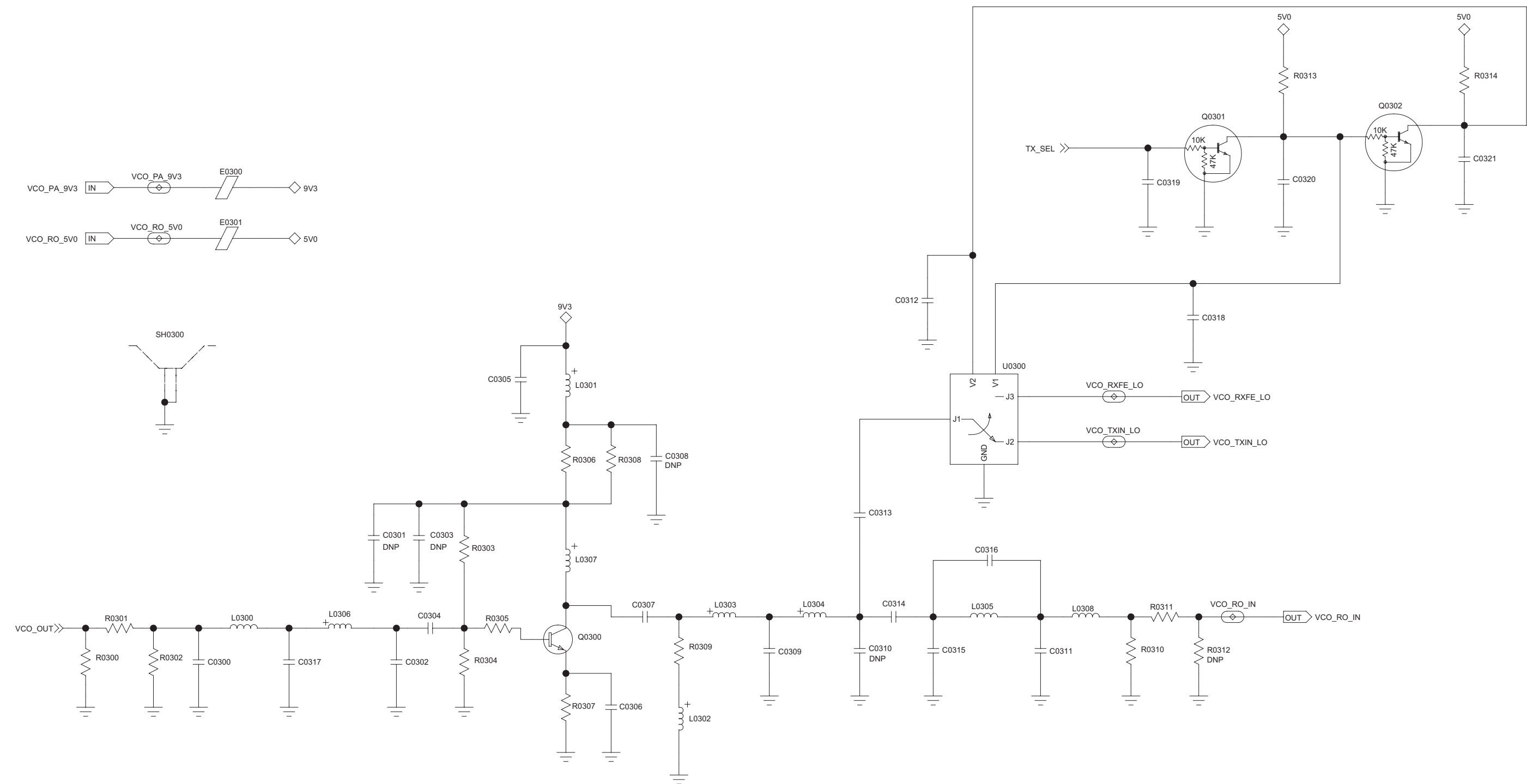




VHF (136–174 MHz) 1–25W Receiver VCO Schematic Diagram



VHF (136–174 MHz) 1–25W Transmit VCO Schematic Diagram



VHF (136–174 MHz) 1–25W VCO Buffer Schematic Diagram

VHF PCB 84012210001-A
Parts List 1–25W

Circuit Ref.	Motorola Part No.
C0000M2	2115153H19
C0001M2	2113944A48
C0002M2	2185419D06
C0003M2	NOT PLACED
C0004M2	2185419D06
C0005M2	2185419D06
C0006M2	2113945C31
C0007M2	2185419D06
C0008M2	2115153H26
C0009M2	2113944A44
C0010M2	2113945A10
C0011M2	2113945C31
C0012M2	2185419D06
C0013M2	2113945Y02
C0014M2	2113945Y02
C0015M2	2113946J03
C0016M2	2113945A10
C0017M2	2113945Y02
C0018M2	2113945A10
C0019M2	2113945Y02
C0020M2	2113945A10
C0021M2	2113945Y02
C0022M2	2113945Y02
C0023M2	2113945Y02
C0024M2	2113956B45
C0025M2	2113945A10
C0026M2	2113944A52
C0027M2	2113945Y02
C0028M2	2113945Y02
C0029M2	2113945A10
C0030M2	2113945A10
C0031M2	2113945Y02
C0032M2	2113944A44
C0033M2	NOT PLACED
C0034M2	2185419D06
C0035M2	2113945A10
C0036M2	2185419D04
C0037M2	2113944A44
C0038M2	2185419D06
C0039M2	2113945Y02
C0040M2	2113945A10
C0041M2	2115153H35
C0042M2	2113944A44
C0043M2	2185419D06
C0044M2	2113955D45
C0045M2	2113945Y02
C0046M2	2113944A44
C0047M2	2113945A10
C0048M2	2113945A10

Circuit Ref.	Motorola Part No.
C0049M2	2113945B02
C0050M2	2113945A10
C0051M2	2113945A10
C0052M2	2113945A10
C0053M2	2113945A10
C0054M2	2113945A10
C0055M2	2113955D37
C0056M2	2113945Y02
C0057M2	2113945B02
C0058M2	NOT PLACED
C0059M2	2113944A44
C0060M2	2113945A69
C0061M2	2113945Y02
C0062M2	NOT PLACED
C0063M2	NOT PLACED
C0064M2	2113945A69
C0065M2	2113945Y02
C0066M2	2113945B02
C0067M2	2113945Y02
C0068M2	2113955D37
C0069M2	NOT PLACED
C0070M2	2113955D37
C0071M2	2113955D37
C0072M2	2113944A44
C0073M2	2113944A44
C0074M2	2113944A44
C0075M2	2113946S35
C0076M2	2113946S35
C0077M2	2113944A44
C0078M2	2115153H41
C0079M2	2113955D37
C0080M2	2113945B02
C0081M2	2113945B02
C0082M2	2113945B02
C0083M2	2113945B02
C0084M2	2113944A44
C0085M2	2113945A10
C0086M2	2113945C31
C0087M2	2113946S35
C0088M2	2113945Y02
C0089M2	2113945Y02
C0090M2	2113945B02
C0091M2	2113944C45
C0092M2	2113945A10
C0093M2	2113945Y02
C0094M2	2113945Y02
C0095M2	NOT PLACED
C0096M2	2113945B02
C0097M2	2113945B02
C0098M2	2113945A10
C0099M2	2113945Y02
C0100M2	2113945Y02

Circuit Ref.	Motorola Part No.
C0101M2	2113945A10
C0102M2	2113945A10
C0103M2	2113945A10
C0104M2	2113945A10
C0105M2	2113945A10
C0106M2	2113945B02
C0107M2	2113945B02
C0108M2	2113945A10
C0109M2	2113945Y02
C0110M2	2115153H50
C0112M2	2113944A44
C0113M2	2113945A10
C0114M2	2113945Y02
C0115M2	2115153H41
C0116M2	NOT PLACED
C0117M2	2115153H57
C0118M2	2115153H47
C0119M2	2113945A10
C0120M2	2113945A10
C0121M2	NOT PLACED
C0122M2	2113944A44
C0123M2	2115153H50
C0124M2	2113944A44
C0132M2	2113946J03
C0134M2	2113945A10
C0135M2	2113944A44
C0136M2	2113944A44
C0137M2	2113945Y02
C0138M2	2113945A10
C0139M2	2113945A10
C0140M2	2113945Y02
C0141M2	2113945Y02
C0143M2	2113945Y02
C0144M2	2113945Y02
C0145M2	2113944A44
C0146M2	2113945A10
C0147M2	2113945A10
C0149M2	2113945A10
C0150M2	2113945A10
C0151M2	2115153H41
C0200M7	2113945A10
C0201M7	NOT PLACED
C0202M7	2113945A10
C0203M7	NOT PLACED
C0204M7	NOT PLACED
C0206M7	2115153H25
C0207M7	2115153H25
C0208M7	2115153H35
C0209M7	2115153H35
C0210M7	2115153H03
C0211M7	NOT PLACED
C0212M7	NOT PLACED

Circuit Ref.	Motorola Part No.
C0214M7	2115153H20
C0217M7	2115153H17
C0218M7	2115153H20
C0219M7	2113945A04
C0221M7	2115153H44
C0222M7	2115153H43
C0223M7	2115153H47
C0224M7	2115153H46
C0225M7	2113945Y02
C0227M7	2113945Y02
C0229M7	2113945A10
C0230M7	2113945A10
C0231M7	2113945A10
C0232M7	2113945A10
C0233M7	2115153H10
C0234M7	2115153H10
C0235M7	2113945A10
C0236M7	2113945Y02
C0237M7	2113945A10
C0238M7	2113945Y02
C0269M7	2113945A10
C0270M7	2113945Y02
C0271M7	2113945A10
C0272M7	2113945Y02
C0300M7	2115153H47
C0301M7	NOT PLACED
C0302M7	2115153H16
C0303M7	NOT PLACED
C0304M7	2115153H61
C0305M7	2113945Y02
C0306M7	2113945A09
C0307M7	2113945A02
C0308M7	NOT PLACED
C0309M7	2115153H39
C0310M7	NOT PLACED
C0311M7	2115153H37
C0312M7	2113945A10
C0313M7	2113945A10
C0314M7	2115153H35
C0315M7	2115153H20
C0316M7	2115153H40
C0317M7	2115153H46
C0318M7	2113945A10
C0319M7	2113945A10
C0320M7	2113945A10
C0321M7	2113945A10
C0400M4	2115153H07
C0401M4	2113945A10
C0402M4	2113945A10
C0403M4	2115153H13
C0404M4	2115153H54
C0405M4	2115153H09

Circuit Ref.	Motorola Part No.
C0406M4	2115153H13
C0407M4	2115153H54
C0408M4	2113945C31
C0409M4	2113945C31
C0410M4	2113945A10
C0411M4	2113945A10
C0412M4	2113946F05
C0413M4	2113944A44
C0414M4	2113945A10
C0415M4	2115153H57
C0416M4	2113945C31
C0417M4	2113945A10
C0418M4	2115153H52
C0419M4	2115153H20
C0420M4	2113945A10
C0421M4	2115153H13
C0422M4	2115153H54
C0423M4	2115153H09
C0424M4	2115153H13
C0425M4	2115153H54
C0426M4	2113946F05
C0427M4	2113945A05
C0428M4	2115153H09
C0429M4	2115153H09
C0430M4	2113945A10
C0431M4	NOT PLACED
C0433M4	2113945A10
C0434M4	2113945A05
C0435M4	2115153H57
C0436M4	2113945C31
C0437M4	2113945A10
C0438M4	2113945A10
C0439M4	2115153H34
C0440M4	2115153H27
C0441M4	2115153H42
C0442M4	NOT PLACED
C0443M4	2115153H42
C0444M4	2115153H57
C0445M4	2115153H44
C0446M4	2115153H41
C0447M4	2115153H17
C0448M4	2115153H42
C0449M4	2115153H27
C0450M4	2115153H55
C0451M4	2113945A10
C0452M4	2115153H47
C0453M4	2115153H47
C0454M4	2115153H47
C0455M4	2115153H47
C0456M4	2113945A10
C0457M4	2115153H41
C0458M4	2113946F05

Circuit Ref.	Motorola Part No.
C0459M4	NOT PLACED
C0461M4	2113945A10
C0462M4	2113945A10
C0463M4	2113945A10
C0464M4	NOT PLACED
C0467M4	2113956B21
C0469M4	2113956B21
C0500M3	2115153H42
C0501M3	2115153H26
C0502M3	2113945Y02
C0503M3	2113945Y02
C0504M3	2113945Y02
C0505M3	2115153H39
C0506M3	2115153H43
C0507M3	2115153H18
C0508M3	2115153H23
C0509M3	2115153H49
C0510M3	2115153H18
C0511M3	NOT PLACED
C0700M5	NOT PLACED
C0701M5	2113944A52
C0702M5	2113944C34
C0703M5	2113944C51
C0704M5	2113944A52
C0705M5	2113944A52
C0706M5	NOT PLACED
C0707M5	2113945C31
C0708M5	2113944C20
C0709M5	2113945C04
C0710M5	2113944A52
C0711M5	2113944C06
C0712M5	2113945L49
C0713M5	2113944A52
C0714M5	NOT PLACED
C0715M5	2113944A52
C0716M5	2113944C51
C0717M5	2113944C35
C0718M5	NOT PLACED
C0719M5	2113944A52
C0720M5	2113944C51
C0721M5	2113945L37
C0722M5	2414017N17
C0723M5	NOT PLACED
C0724M5	2113944C84
C0725M5	NOT PLACED
C0726M5	2113944C51
C0727M5	NOT PLACED
C0728M5	2111078B13
C0729M5	2113944C46
C0730M5	2113945L49
C0731M5	2113944A52
C0732M5	2113945A09

Circuit Ref.	Motorola Part No.
C0733M5	2113944C45
C0734M5	2113944C51
C0736M5	NOT PLACED
C0737M5	2113944C04
C0738M5	2113944C46
C0739M5	NOT PLACED
C0740M5	2113945C25
C0741M5	NOT PLACED
C0742M5	2113944C30
C0743M5	NOT PLACED
C0744M5	NOT PLACED
C0745M5	2171630Y01
C0746M5	2113944C06
C0747M5	0613952H42
C0748M5	2113945C31
C0749M5	2113944F05
C0750M5	2111078B33
C0752M5	2113944F05
C0755M5	2113944C36
C0756M5	NOT PLACED
C0757M5	NOT PLACED
C0758M5	2111078B43
C0759M5	2111078B42
C0760M5	2113944C51
C0761M5	2113944C45
C0764M5	2113944C51
C0765M5	NOT PLACED
C0766M5	2111078B13
C0767M5	NOT PLACED
C0768M5	2111078B16
C0770M5	2111078B31
C0771M5	2111078B46
C0772M5	NOT PLACED
C0773M5	NOT PLACED
C0774M5	NOT PLACED
C0775M5	2113944C06
C0776M5	2113944C31
C0777M5	NOT PLACED
C0778M5	2113944C18
C0779M5	2113944C31
C0780M5	2113944C06
C0789M5	NOT PLACED
C0793M5	2113944F61
C0794M5	2113944F63
C0797M5	NOT PLACED
C0803M5	NOT PLACED
C0814M5	2113944F67
C0818M5	NOT PLACED
C0824M5	2111078B13
C0849M5	2414017N15
C0850M5	2111078B22
C0851M5	2111078B40

Circuit Ref.	Motorola Part No.
C0852M5	2111078B11
C0853M5	2111078B34
C0854M5	NOT PLACED
C0855M5	2111078B08
C0856M5	2111078B38
C0875M5	2113944C47
C0876M5	2113944C32
C0877M5	2113944C06
C0879M5	2113944C06
C0880M5	2113944C35
C0881M5	2111078B38
C0882M5	2111078B53
C0883M5	NOT PLACED
C0884M5	2113944F05
C0885M5	2113944C51
C0900M5	NOT PLACED
C0901M5	NOT PLACED
C0902M5	2113944C51
C0905M5	2113945C31
C0906M5	2113945A10
C0907M5	2113945L41
C0908M5	2113944A52
C0909M5	2113944A52
C0910M5	2113944A52
C0911M5	2113944C02
C0912M5	2113944A52
C0913M5	2113944A52
C0914M5	2113944A52
C0915M5	2113946B04
C0916M5	NOT PLACED
C0917M5	2113944A52
C0918M5	2113944A52
C0919M5	2113944A52
C0920M5	2113944C51
C0921M5	2113944C51
C0922M5	2113946B04
C0923M5	2113944C51
C0924M5	2113944A52
C0925M5	2113946B04
C0926M5	2113944C02
C0950M5	2113944C51
C0951M5	2113944C30
C0952M5	2113944C51
C0953M5	2113944C51
C0954M5	2113944M27
C0955M5	2113944C51
C0956M5	2113944C01
C0957M5	2113944C49
C3000M5	2113944C38
C3001M5	2113944C06
C3002M5	2113944C06
C3003M5	2113945C31

Circuit Ref.	Motorola Part No.
C3004M5	2113945C02
C3005M5	2113945C02
C3008M5	2113944C51
C3009M5	2113945C31
C3010M5	2113944C46
C3011M5	2113945G53
C3012M5	2113946J04
C3013M5	2113945C31
C3014M5	2171630Y01
C3015M5	2113946G01
C3016M5	2113945C31
C3019M5	2113946S35
C3020M5	2113945C26
C3021M5	2113944C06
C3022M5	2113945A10
C3029M5	NOT PLACED
C3038M5	2113944A47
C3041M5	2113944A47
C3042M5	2113944A47
C3044M5	2113944A47
C3046M5	2113944A52
C3047M5	2113944A52
C3048M5	2113944A52
C3049M5	2113944A52
D0000M2	4815011H01
D0001M2	4815011H01
D0400M4	4884800Y03
D0401M4	4813974A19
D0402M4	4813974A19
D0403M4	4884800Y03
D0404M4	4815090H01
D0500M3	4813974A19
D0700M5	4813974A06
D0701M5	48012160001
D0875M5	48012160001
D0876M5	4886622Y06
D0900M5	4815024H01
D0950M5	4813974A21
D0951M5	4813974A21
D3000M5	4813978P07
E0000M2	2480640Z01
E0001M2	2480640Z01
E0002M2	NOT PLACED
E0003M2	2409134J25
E0004M2	2480640Z01
E0005M2	2480640Z01
E0006M2	2480640Z01
E0007M2	2480640Z01
E0008M2	2480640Z01
E0009M2	2480640Z01
E0010M2	2480640Z01
E0300M7	2485449Y01

Circuit Ref.	Motorola Part No.
E0301M7	2485449Y01
E0401M4	2485449Y01
E0402M4	2485449Y01
E0403M4	2485449Y01
E0404M4	2485449Y01
E0500M3	2409134J25
E0700M5	24012040001
E0701M5	24012040001
E0703M5	24012040001
E3000M5	24012040001
FL0500M3	9180022M11
J0700M5	09009348001
L0000M2	2466505A01
L0001M2	2414017N29
L0002M2	2414017K32
L0003M2	2414017N29
L0004M2	2414015A07
L0005M2	2414017N20
L0200M7	2414017K33
L0201M7	2414017K33
L0202M7	2416077H14
L0203M7	2414015B08
L0204M7	2414017K33
L0205M7	2414017K33
L0206M7	2414017K33
L0207M7	2414017K33
L0208M7	2414017K33
L0209M7	2414017K33
L0210M7	2478057A47
L0211M7	2414015C11
L0300M7	2414017N17
L0301M7	2414017N29
L0302M7	2414017N29
L0303M7	2414017N12
L0304M7	2414017N18
L0305M7	2414017N15
L0306M7	2414017N23
L0307M7	2414017N29
L0308M7	2414017N22
L0401M4	2414015A03
L0402M4	2414015B02
L0403M4	2414017Q44
L0404M4	2414015B01
L0405M4	2414015B27
L0406M4	2414015A03
L0407M4	2414015A03
L0408M4	2414017Q44
L0409M4	2414017Q44
L0410M4	2414015B27
L0411M4	2414015A03
L0414M4	2414015B12
L0415M4	2414015B01

Circuit Ref.	Motorola Part No.
L0416M4	NOT PLACED
L0417M4	2414015B02
L0418M4	NOT PLACED
L0421M4	2414015B02
L0424M4	2414015B02
L0428M4	2414015B12
L0434M4	2414017N26
L0462M4	2414017Q44
L0463M4	2414017Q44
L0500M3	2414017K33
L0501M3	NOT PLACED
L0502M3	2414017K33
L0504M3	2414017K31
L0505M3	2414017K31
L0700M5	2414017N19
L0702M5	2414017N26
L0703M5	2414017N29
L0704M5	2414017N29
L0705M5	2414017N23
L0706M5	2485873L01
L0707M5	2414017N29
L0708M5	2479990G01
L0709M5	2414017N21
L0710M5	2485873L01
L0711M5	2485873L02
L0712M5	NOT PLACED
L0713M5	2485873L02
L0714M5	2460591B73
L0715M5	2460591A77
L0716M5	2415385H05
L0722M5	2485873L01
L0724M5	2485873L01
L0727M5	2415385H08
L0729M5	2414032B60
L0777M5	2414017N19
L0850M5	2485873L01
L0851M5	2485873L02
L0852M5	2485873L02
L0875M5	2485873L01
L0876M5	2414017N29
L0877M5	2414015A25
L0880M5	2414015A25
L0885M5	2414032B49
L0900M5	2414017K31
L0901M5	NOT PLACED
L0902M5	NOT PLACED
L0951M5	NOT PLACED
L0952M5	NOT PLACED
M0700M5	2686201B02
P0000M2	NOT PLACED
P3000M5	09009344001
Q0000M2	4813973A13

Circuit Ref.	Motorola Part No.
Q0001M2	4816134H01
Q0002M2	4813970A59
Q0003M2	4885061Y01
Q0004M2	4815272H01
Q0006M2	4813973A04
Q0200M7	4885061Y01
Q0201M7	4885061Y01
Q0202M7	4815272H01
Q0206M7	4815272H01
Q0300M7	4802197J95
Q0301M7	4816134H01
Q0302M7	4816134H01
Q0400M4	4815271H01
Q0401M4	4815267H01
Q0402M4	4871127H01
Q0403M4	4815270H01
Q0404M4	4815271H01
Q0405M4	4871127H01
Q0700M5	4816547H01
Q0701M5	4816013H01
Q0702M5	48012067002
Q0703M5	4802246J29
Q0704M5	4816548H01
Q0875M5	4813970A62
Q0876M5	4816134H01
Q0900M5	4815272H01
Q0901M5	4815271H01
Q3000M5	0105959T72
Q3001M5	0105959T72
Q3002M5	4813973B01
R0000M2	0613952R66
R0001M2	0613952R66
R0002M2	0613952Q96
R0003M2	0613952Q57
R0004M2	0613952Q34
R0005M2	0613952R66
R0006M2	0613952Q25
R0007M2	0613952Q51
R0008M2	0613952R01
R0009M2	0613952Q58
R0010M2	0613952R66
R0011M2	0613952Q35
R0012M2	0613952Q81
R0013M2	0613952Q35
R0014M2	0613952R66
R0015M2	0613952R66
R0018M2	0613952Q80
R0019M2	0613952R01
R0020M2	0613952R12
R0021M2	0613952Q80
R0022M2	0613952R66
R0023M2	0613952Q83

Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.
R0024M2	0613952Q80	R0307M7	0613952H46	R0446M4	NOT PLACED	R0743M5	0613952J17	R0953M5	0613952G67	U0000M2	51009277001
R0025M2	0613952R66	R0308M7	0613952Q49	R0447M4	0613952R66	R0746M5	0613952J25	R0954M5	0613952H39	U0001M2	5109731C48
R0026M2	0613952R66	R0309M7	0613952Q42	R0448M4	0613952Q25	R0749M5	0613952H41	R0955M5	0613952H39	U0002M2	4802197J95
R0027M2	0613952R12	R0310M7	0613952Q39	R0465M4	0613952R66	R0750M5	0613952H37	R0956M5	0613952G67	U0300M7	5186310Y39
R0028M2	0613952R66	R0311M7	0613952R66	R0500M3	0613952R08	R0759M5	0613959H12	R0957M5	0613958H55	U0500M3	4802197J95
R0029M2	0613952Q25	R0312M7	NOT PLACED	R0501M3	0613952R03	R0849M5	NOT PLACED	R0958M5	0613958H53	U0700M5	NOT PLACED
R0030M2	0613952R66	R0313M7	0613952Q73	R0502M3	0613952Q81	R0876M5	0613958S73	R0959M5	0613952R66	U0901M5	5180390L83
R0031M2	0613952R66	R0314M7	0613952Q73	R0503M3	0613952Q87	R0877M5	0613959Y37	R0960M5	0613952N58	U0902M5	51012221001
R0033M2	0613952R01	R0400M4	0613952R01	R0504M3	0613952Q61	R0878M5	0613959Y37	R0961M5	0613952N58	U0903M5	5115022H01
R0034M2	0613952Q57	R0401M4	0613952H81	R0505M3	NOT PLACED	R0879M5	0613952J25	R0962M5	0613952N58	U0904M5	5109731C48
R0040M2	0613952Q70	R0402M4	0613952R25	R0506M3	0613952R66	R0882M5	0613952G67	R0965M5	NOT PLACED	U3000M5	5116525H01
R0041M2	0613952Q58	R0403M4	0613952R01	R0507M3	NOT PLACED	R0883M5	0613952G67	R3000M5	0613952H60	U3001M5	4813973M07
R0042M2	0613952Q42	R0404M4	0613952R25	R0700M5	0613952J01	R0902M5	0613952R66	R3001M5	0615871H01	U3002M5	51012133001
R0043M2	0613952Q73	R0405M4	0613952R05	R0701M5	0613952G67	R0903M5	0613952N01	R3002M5	0615871H01	VR0001M2	4815096H01
R0044M2	0613952R25	R0406M4	0613952Q91	R0702M5	0613952H49	R0904M5	0613952R66	R3003M5	0615871H01	VR0200M7	4871680H01
R0045M2	0613952R66	R0407M4	0613952Q91	R0703M5	0613952J01	R0905M5	0613952H42	R3004M5	0615871H01	VR0201M7	4805656W87
R0046M2	0613952Q57	R0408M4	0613952Q73	R0704M5	0613952J01	R0906M5	0613958H49	R3005M5	0613952H25	VR0202M7	4815002H03
R0051M2	0613952R01	R0409M4	0613952R66	R0705M5	0613952H48	R0907M5	0613958H56	R3006M5	0613952H25	VR0203M7	4805656W87
R0052M2	0613952R01	R0410M4	0613952R01	R0706M5	0613952H53	R0908M5	0613952H32	R3007M5	0613952M30	VR0205M7	4805656W87
R0054M2	0613952R66	R0411M4	0613952R01	R0707M5	0613952H48	R0909M5	0613952R66	R3008M5	0613952G67	VR0206M7	4871680H01
R0056M2	0613952R66	R0412M4	0613952Q75	R0708M5	0613952H46	R0910M5	0613952H91	R3009M5	0613952M43	VR0207M7	4805656W87
R0058M2	0613952Q81	R0413M4	0613958H44	R0709M5	0613958S49	R0911M5	0613952H85	R3010M5	0613952G67	VR0208M7	4815002H03
R0059M2	0613952R66	R0414M4	NOT PLACED	R0710M5	0613959Q42	R0912M5	0613958H49	R3011M5	0613959Q60	VR0209M7	4805656W87
R0060M2	0613952Q86	R0415M4	0613952Q75	R0711M5	0613958S49	R0913M5	0613952M51	R3012M5	0613959Q60	VR0400M4	4805656W87
R0061M2	0613952Q85	R0416M4	0613952Q69	R0712M5	0613958S49	R0914M5	0613952M81	R3013M5	0613952R01	VR0401M4	4805656W87
R0062M2	0613952Q61	R0417M4	0613952Q75	R0713M5	0613958S49	R0915M5	0613952Z76	R3014M5	0613952R01	VR0402M4	4805656W87
R0063M2	0613952Q64	R0418M4	0613952Q69	R0714M5	0613952H42	R0916M5	0613952R66	R3015M5	0615871H01	VR0403M4	4805656W87
R0200M7	0613952R66	R0419M4	0613952Q69	R0715M5	0613952H42	R0917M5	0613952P01	R3018M5	0613952H73	VR0404M4	4805656W87
R0201M7	0613952R66	R0420M4	0613952R25	R0716M5	0613952H42	R0919M5	0613952P01	R3019M5	0613952H60	VR0405M4	4805656W87
R0202M7	0613952R27	R0421M4	0613952R25	R0717M5	0613952H42	R0920M5	0613952N01	R3020M5	0613952G67	VR0406M4	4805656W87
R0205M7	0613952R07	R0422M4	0613952Q53	R0718M5	0613952H96	R0921M5	0613952N01	R3021M5	0613952R25	VR0407M4	4805656W87
R0206M7	0613952R05	R0423M4	0613952R25	R0719M5	0613952H89	R0922M5	0613952R66	RT0900M5	0615585H01	VR3000M5	48012070001
R0207M7	0613952Q86	R0424M4	0613952Q39	R0720M5	0613952J01	R0923M5	0613952M43	SH0000M2	26012095001	VR3002M5	4813977M10
R0208M7	0613952Q78	R0425M4	0613952Q53	R0721M5	0613952G67	R0924M5	0613952N01	SH0001M2	26012095001	Y0000M2	4875185M04
R0209M7	0613952Q85	R0426M4	0613952Q87	R0722M5	NOT PLACED	R0925M5	0613952Q59	SH0002M2	26012097001	Note: The suffix "M1", "M2", etc. from the Circuit Ref is removed from the schematic and overlays.	
R0210M7	0613952Q73	R0427M4	0613952Q87	R0723M5	0613952G67	R0926M5	0613952H79	SH0003M2	26012094001		
R0211M7	0613952Q18	R0429M4	0613952R66	R0724M5	0613958S49	R0927M5	0613952N01	SH0004M2	26012094001		
R0213M7	0613952Q67	R0430M4	NOT PLACED	R0725M5	0613958S49	R0928M5	0613952P30	SH0200M7	26012095001		
R0214M7	0613952Q67	R0431M4	0613952R01	R0726M5	0613958S49	R0929M5	0613952N81	SH0300M7	26012231001		
R0215M7	0613952Q67	R0432M4	0613952H75	R0727M5	NOT PLACED	R0930M5	0613952Z61	SH0400M4	26012096001		
R0216M7	0613952Q67	R0433M4	0613952R01	R0728M5	0613958J49	R0931M5	0613952Z26	SH0401M4	26012096001		
R0217M7	0613952Q49	R0434M4	0613952L46	R0729M5	0613958J49	R0932M5	0613952N51	SH0402M4	26012098001		
R0218M7	0613952Q49	R0435M4	0613952L46	R0730M5	0613958S49	R0933M5	0613952M66	SH0403M4	26012098001		
R0219M7	0613952R66	R0437M4	0613952Q80	R0731M5	0613958S49	R0934M5	0613952J17	SH0500M3	26012098001		
R0233M7	0613952R66	R0438M4	0613952Q25	R0732M5	0613958S49	R0935M5	0613952H91	SH0700M5	26012100001		
R0300M7	0613952Q66	R0439M4	0613952Q69	R0733M5	0613958S49	R0936M5	0613952H91	SH0900M5	2686425Z02		
R0301M7	0613952Q25	R0440M4	0613958H25	R0734M5	0613958S49	R0937M5	0613952R66	SH0901M5	2686425Z02		
R0302M7	0613952Q66	R0441M4	0613958H44	R0735M5	0613952R66	R0938M5	0613952R66	SP3000M5	NOT PLACED		
R0303M7	0613952Q94	R0442M4	0613952Q83	R0736M5	0613959Q25	R0949M5	0613952G67	SP3001M5	NOT PLACED		
R0304M7	0613952Q89	R0443M4	0613952Q46	R0737M5	NOT PLACED	R0950M5	0613952G67	T0000M2	2515396H02		
R0305M7	0613952Q32	R0444M4	0613952K25	R0739M5	0613952H73	R0951M5	0613958H55	T0400M4	2515121H01		
R0306M7	0613952Q49	R0445M4	0613952Q75	R0742M5	NOT PLACED	R0952M5	0613958H53	T0401M4	2515121H01		

Notes



XPR 5350/XPR 5550 Mobile Radios

Chapter 8

VHF (136–174 MHz)

25–45W

Service Information

Issue: January, 2012

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Chapter 8 – VHF High Power Service Information

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Section 2 VHF PCB/Schematics/Parts Lists

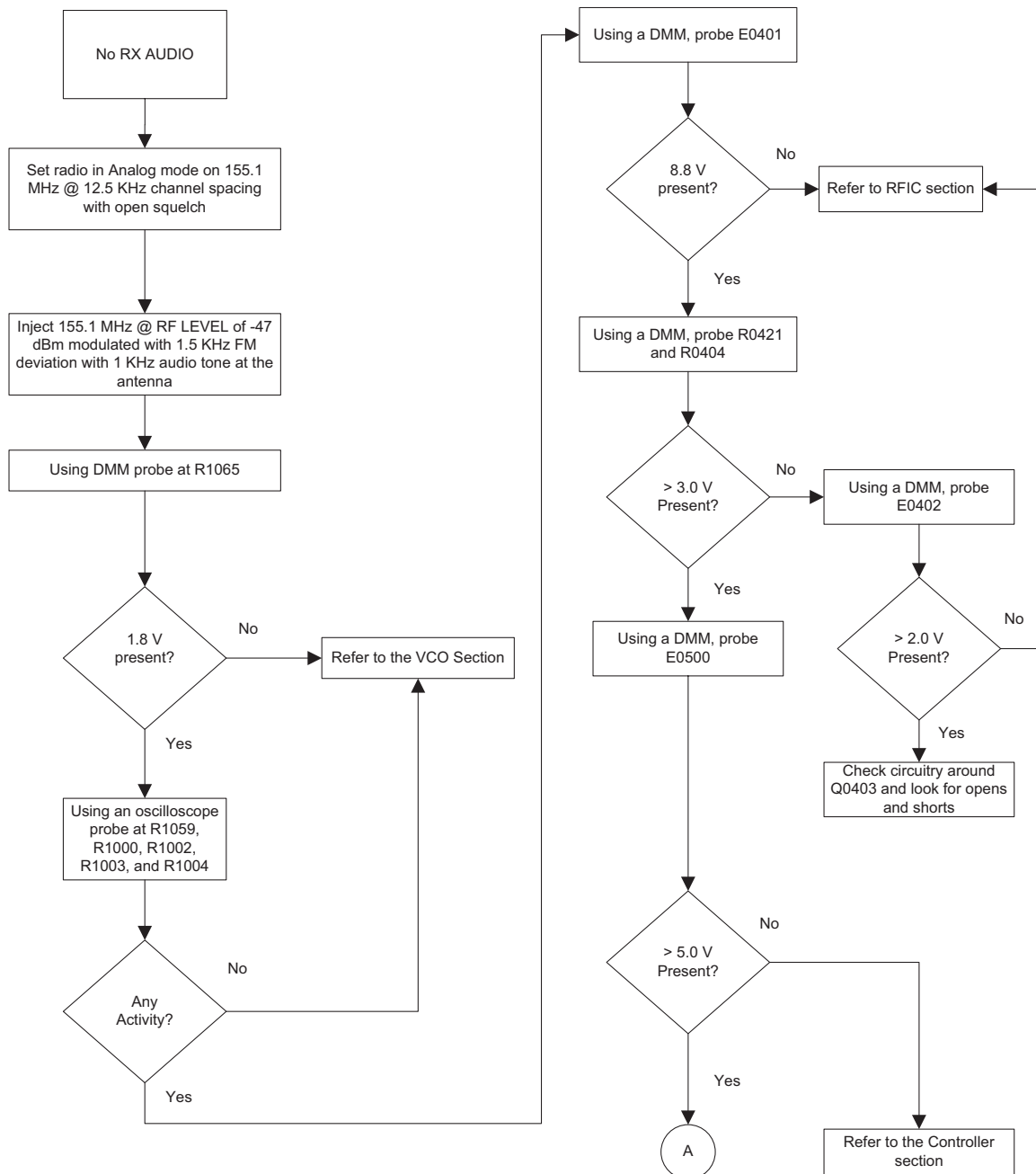
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Notes

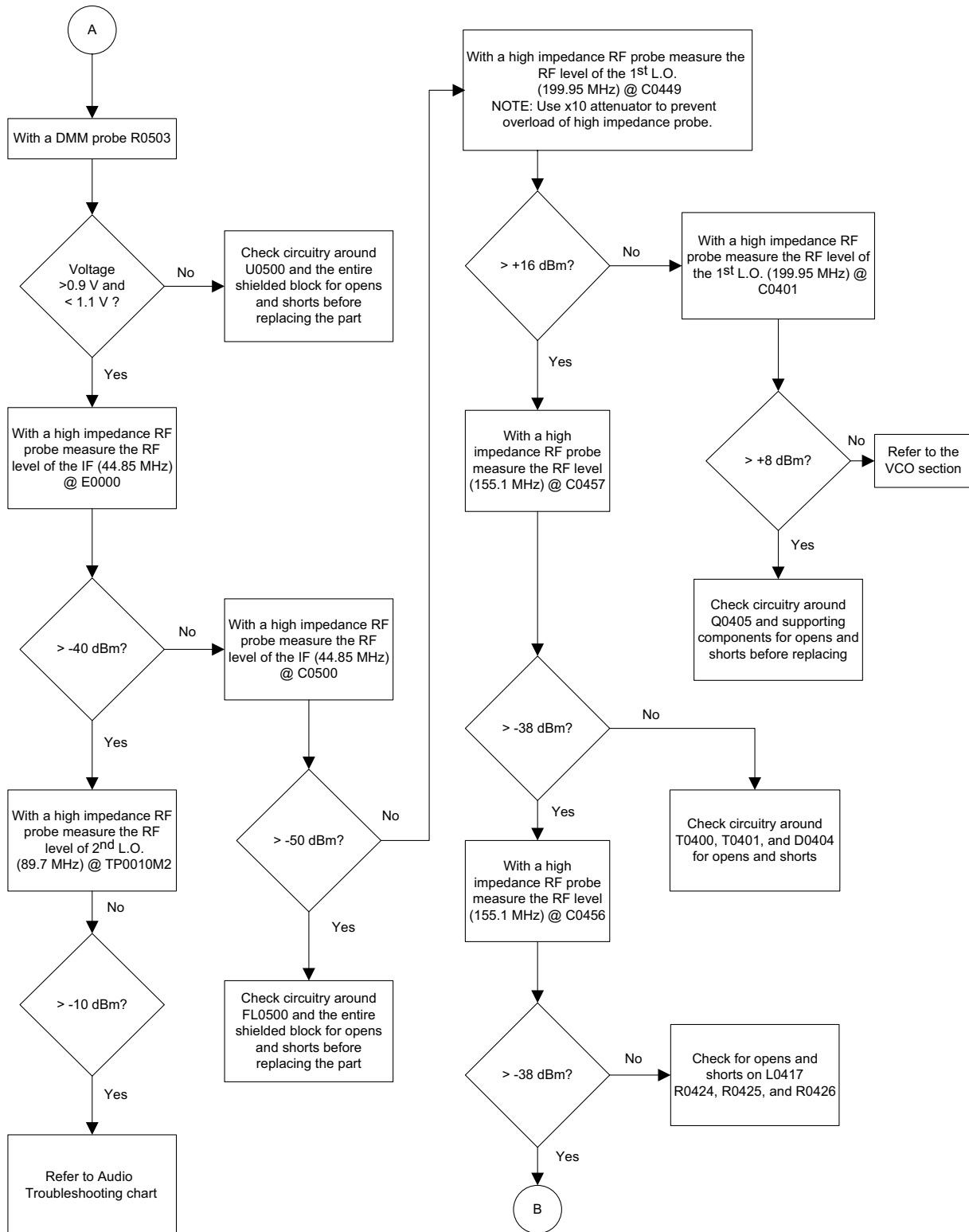
Section 1

TROUBLESHOOTING CHARTS

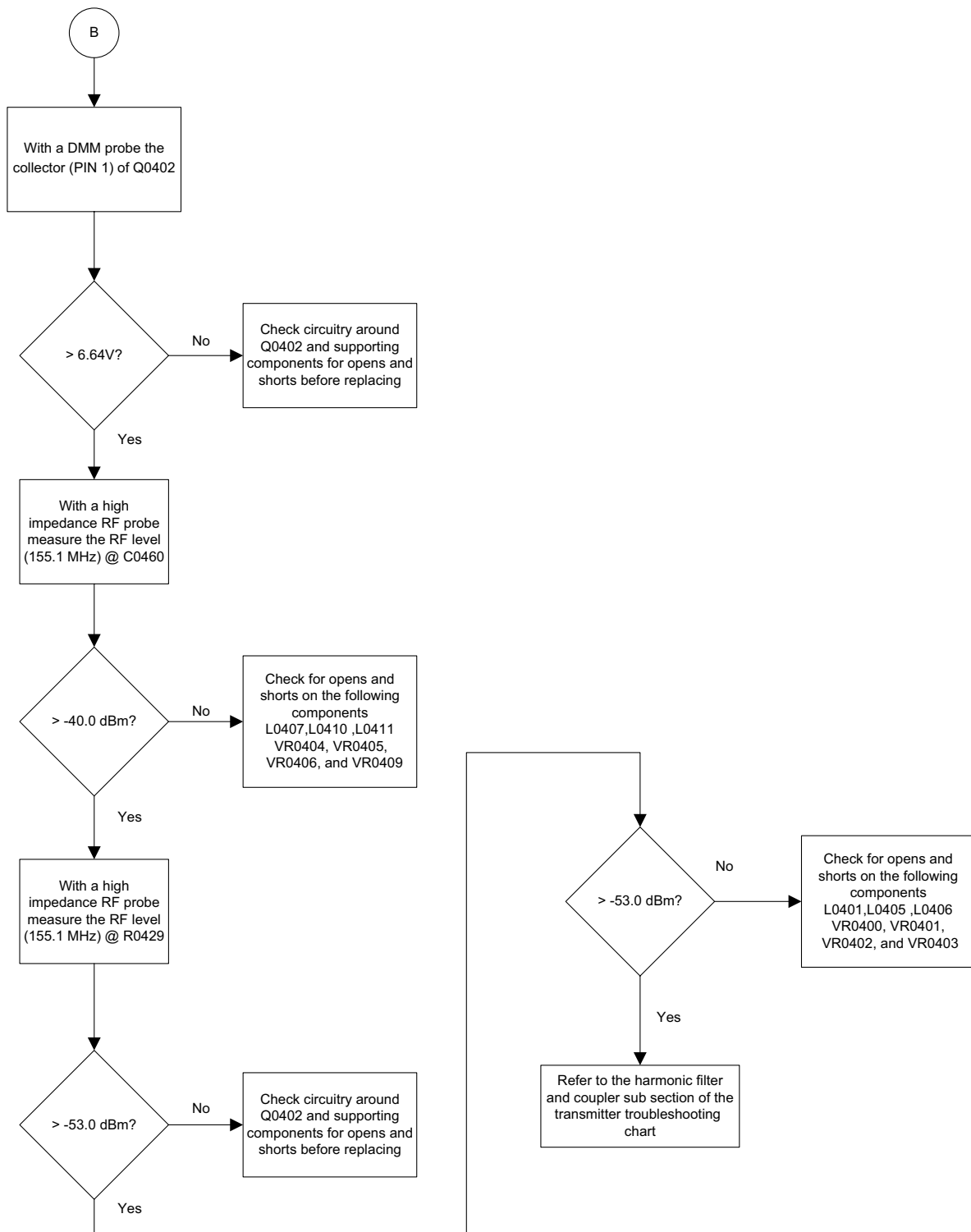
1.0 Troubleshooting Flow Chart for Receiver (Sheet 1 of 3)



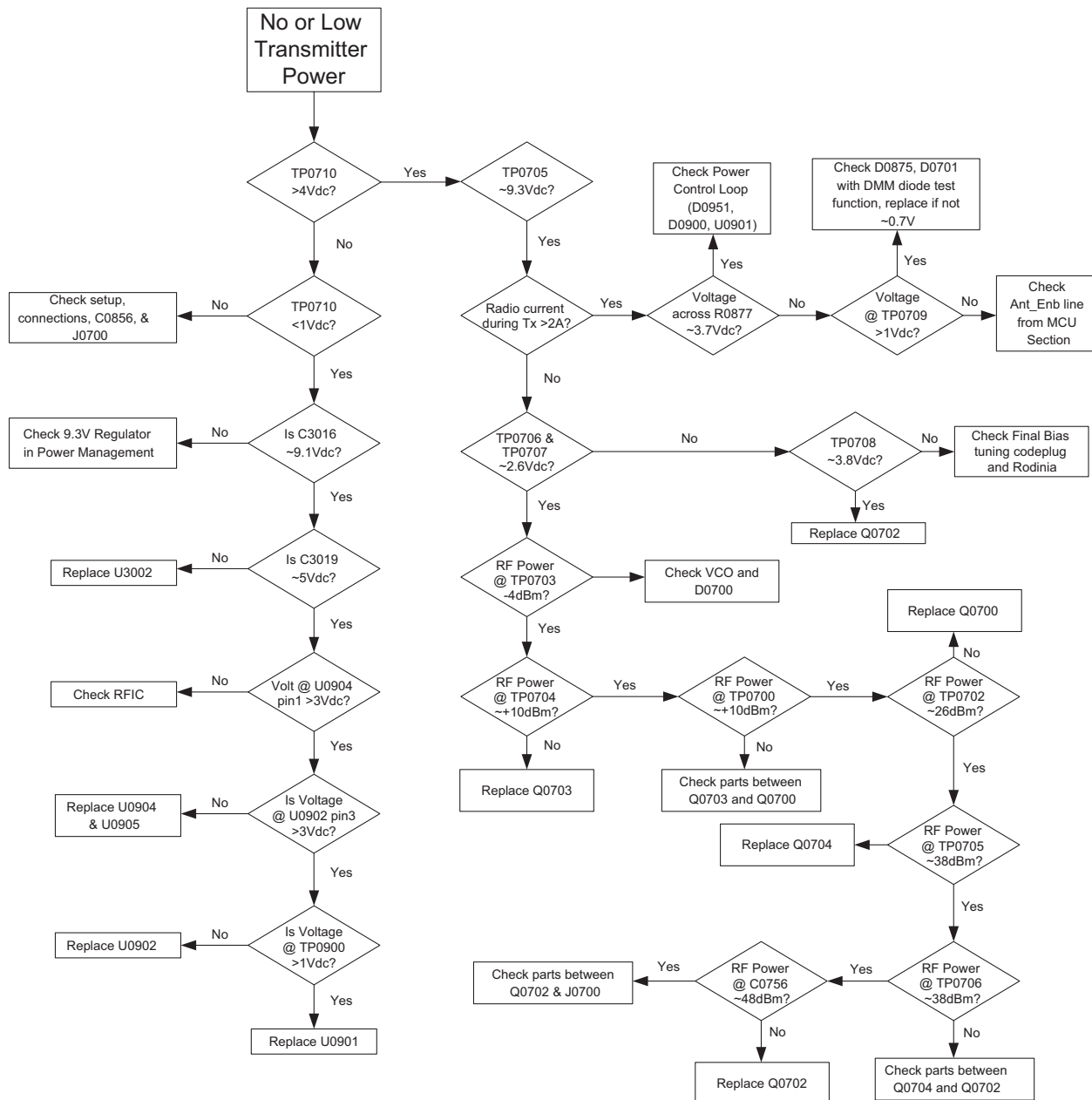
1.1 Troubleshooting Flow Chart for Receiver (Sheet 2 of 3)



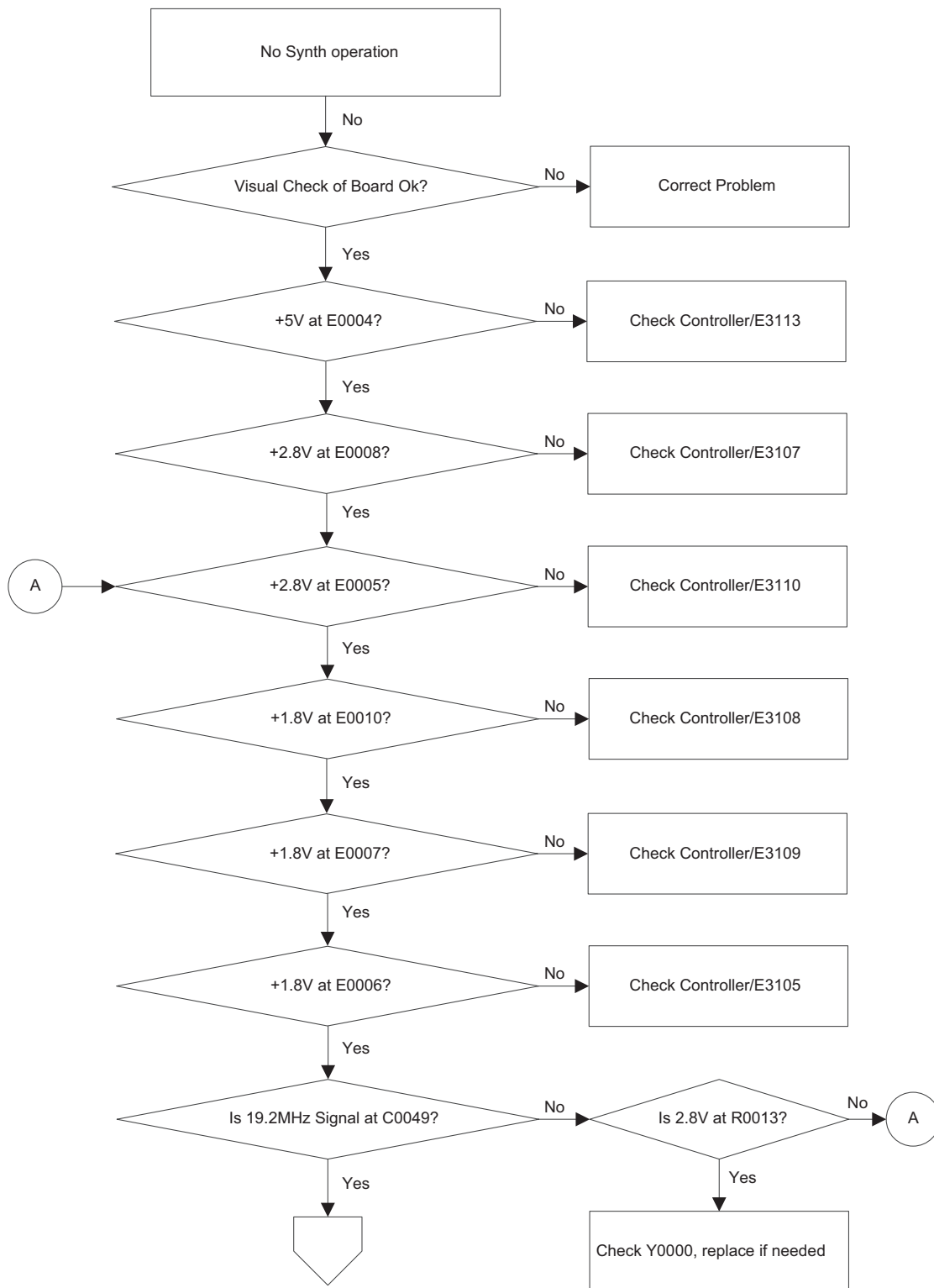
1.2 Troubleshooting Flow Chart for Receiver (Sheet 3 of 3)



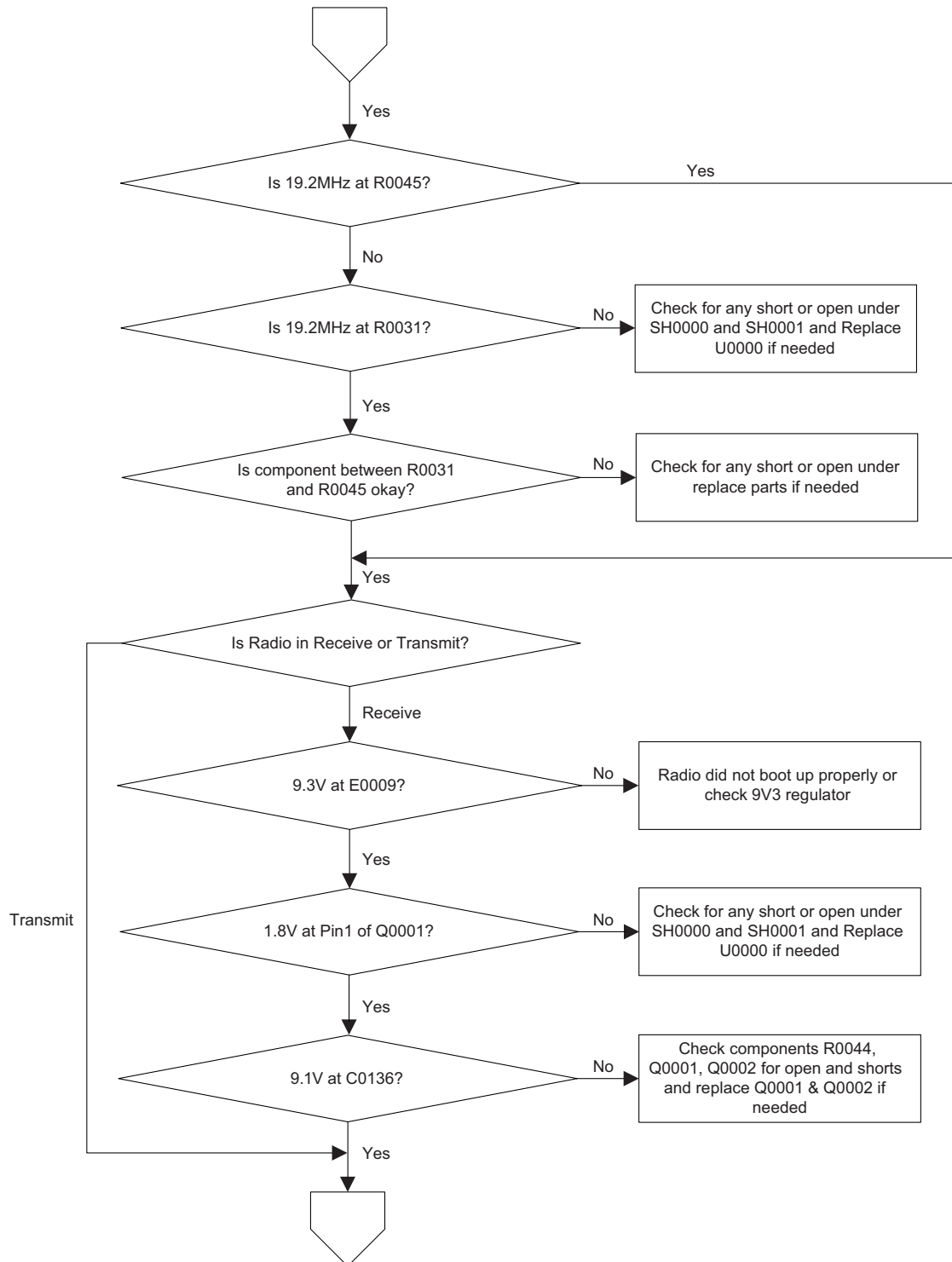
2.0 Troubleshooting Flow Chart for 45W Transmitter



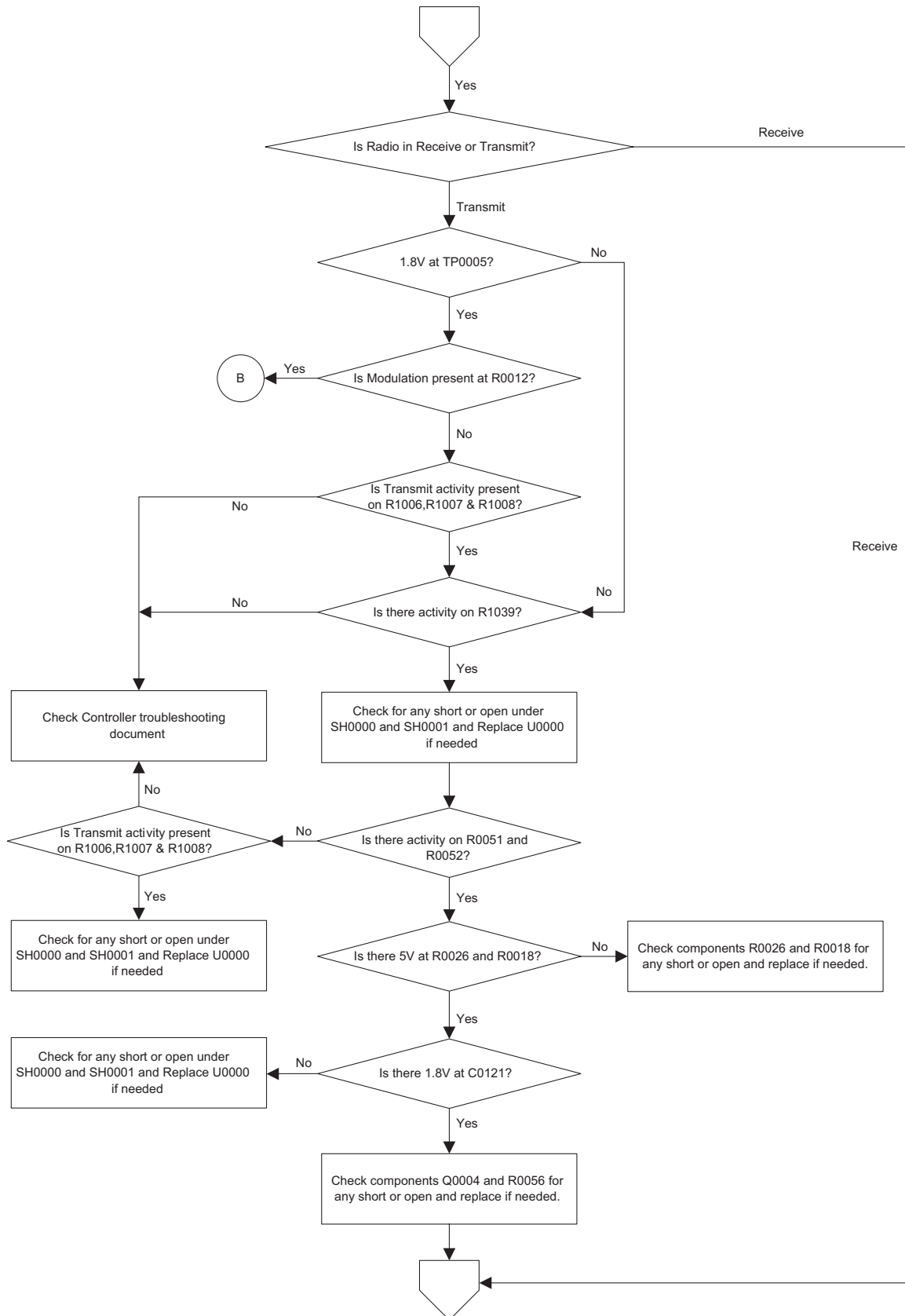
3.0 Troubleshooting Flow Chart for RFIC (Sheet 1 of 5)



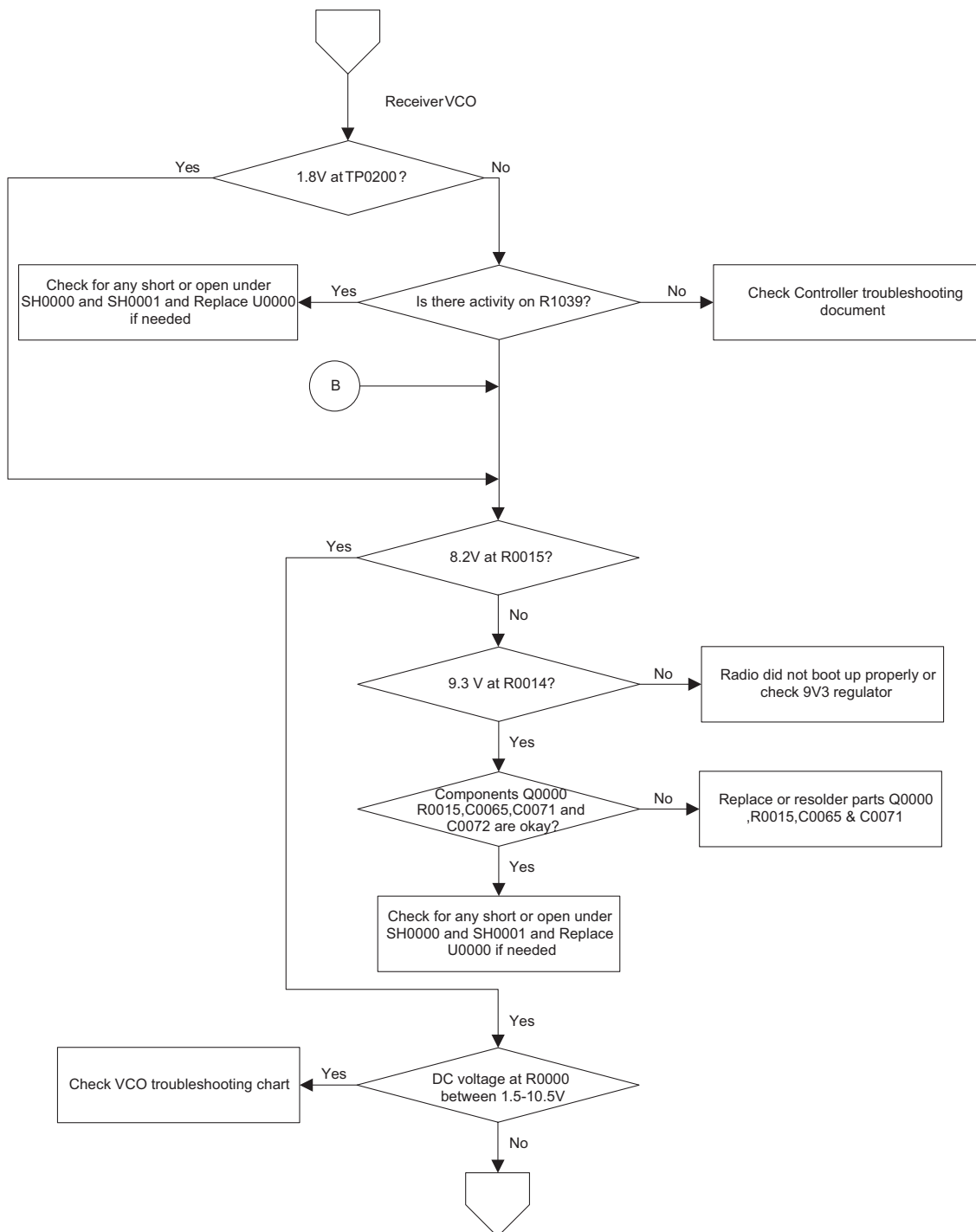
3.1 Troubleshooting Flow Chart for RFIC (Sheet 2 of 5)



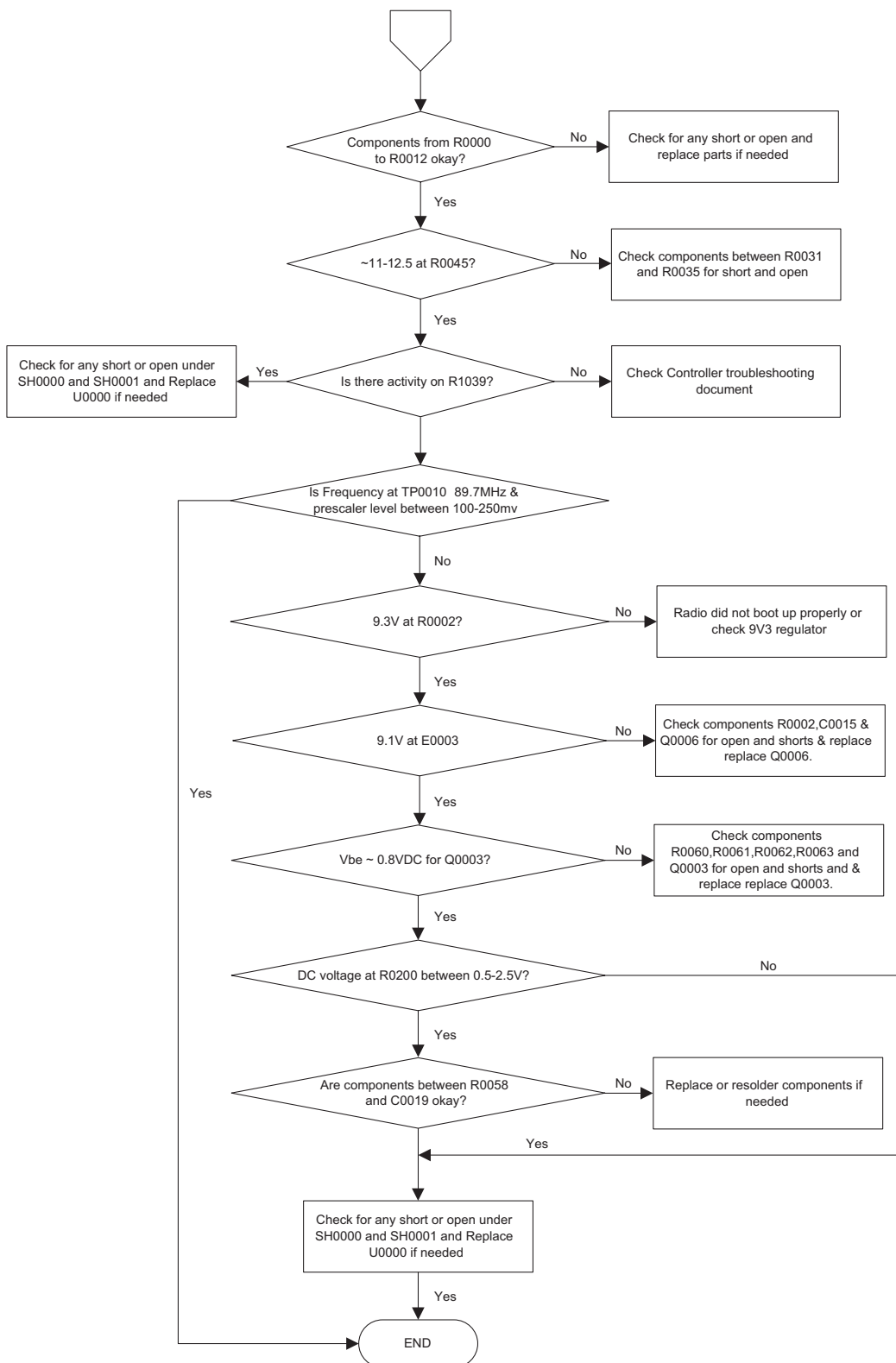
3.2 Troubleshooting Flow Chart for RFIC (Sheet 3 of 5)



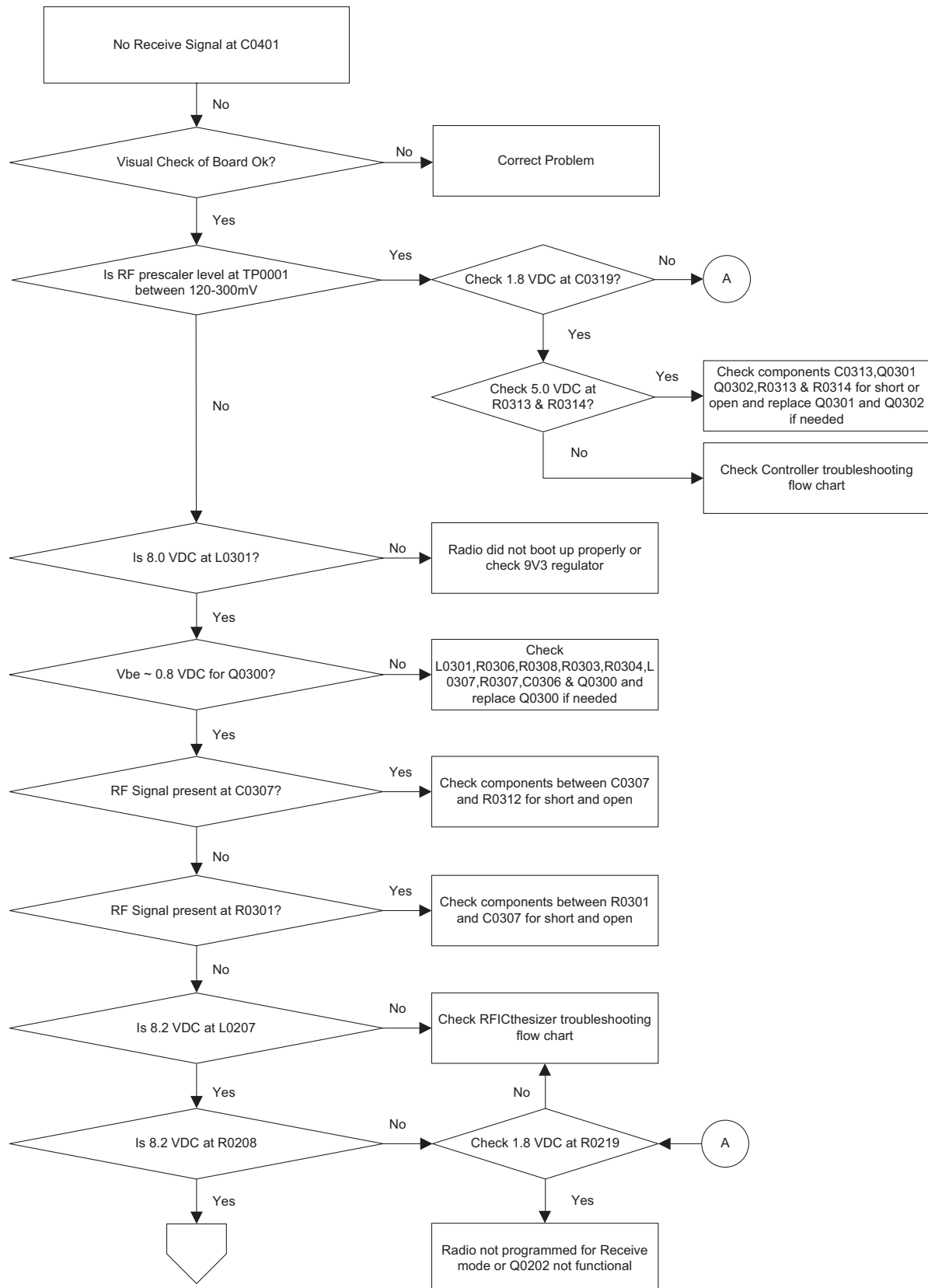
3.3 Troubleshooting Flow Chart for RFIC (Sheet 4 of 5)



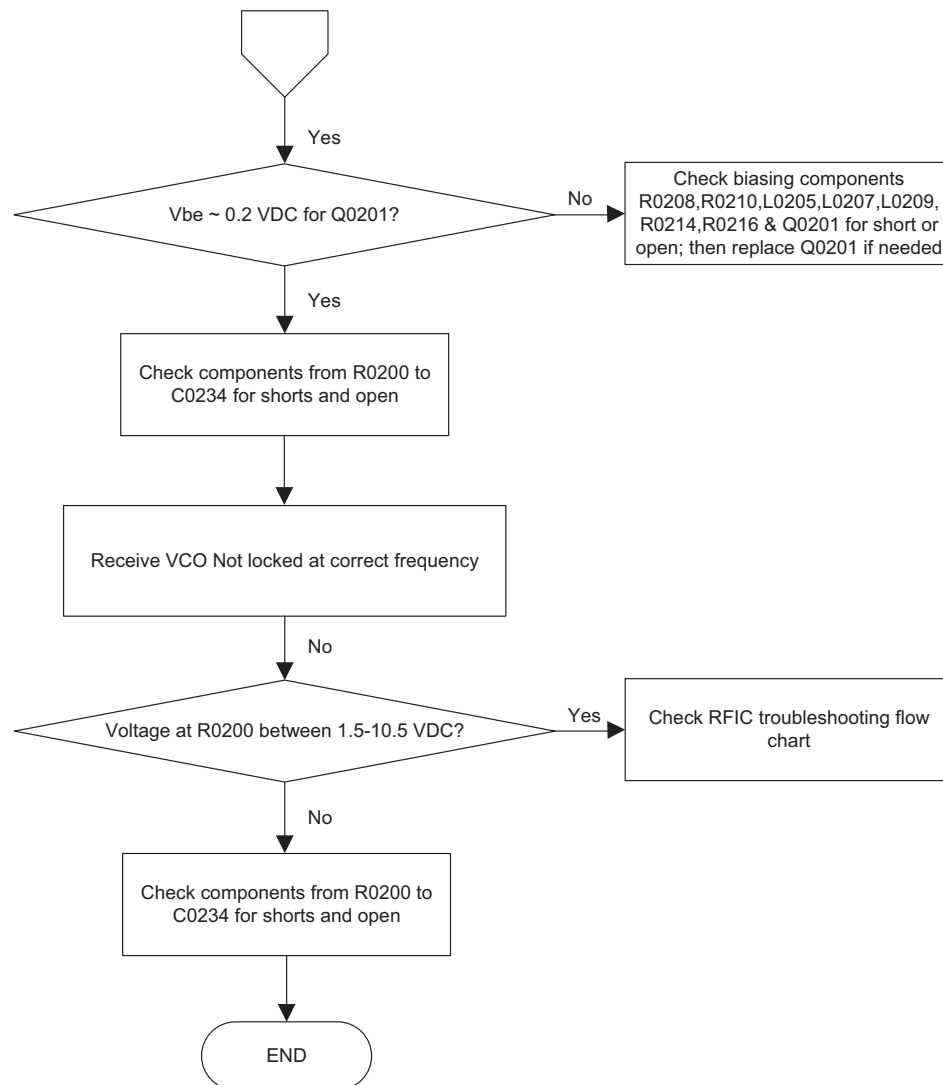
3.4 Troubleshooting Flow Chart for RFIC (Sheet 5 of 5)



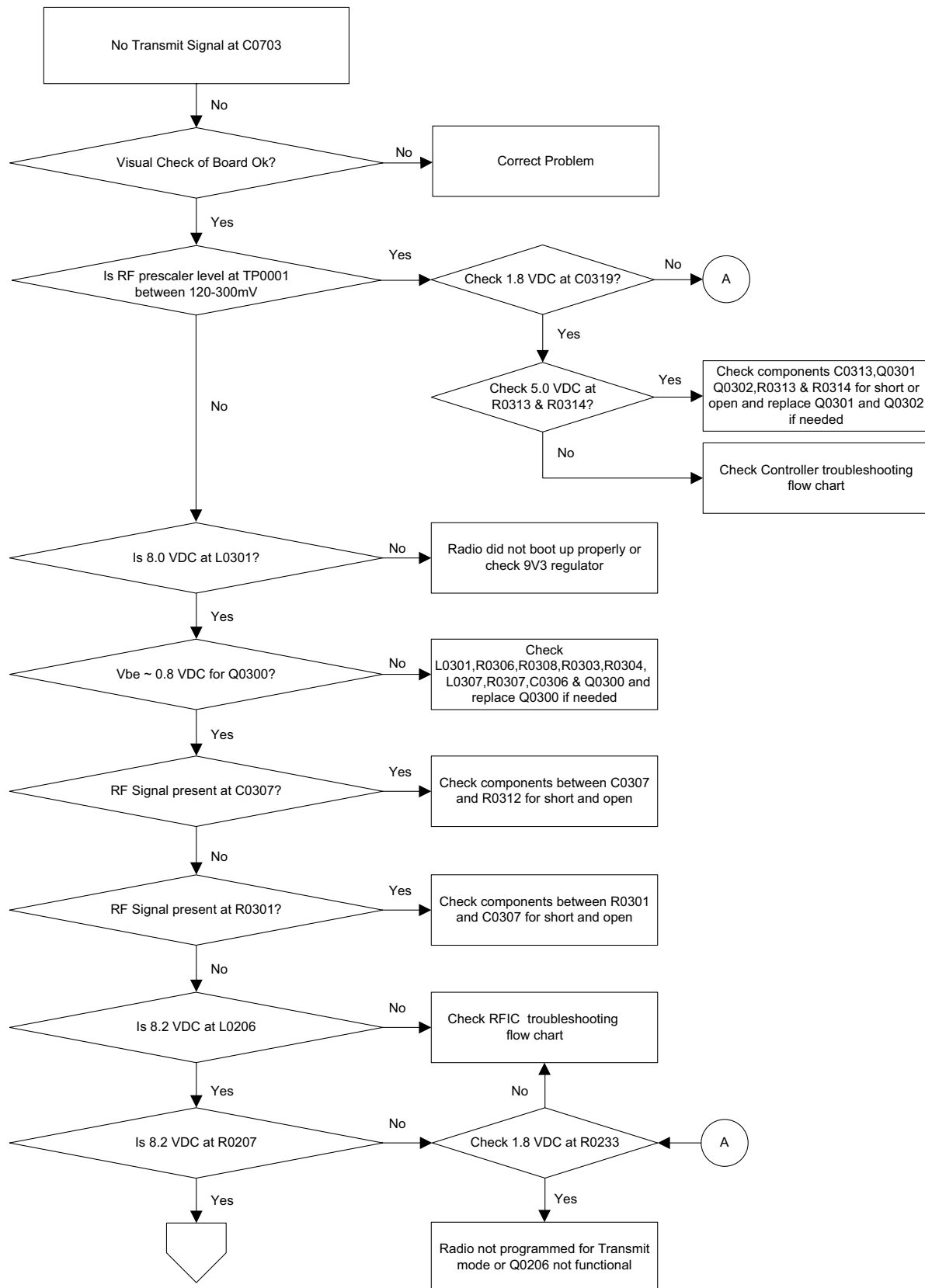
4.0 Troubleshooting Flow Chart for Rx VCO (Sheet 1 of 2)



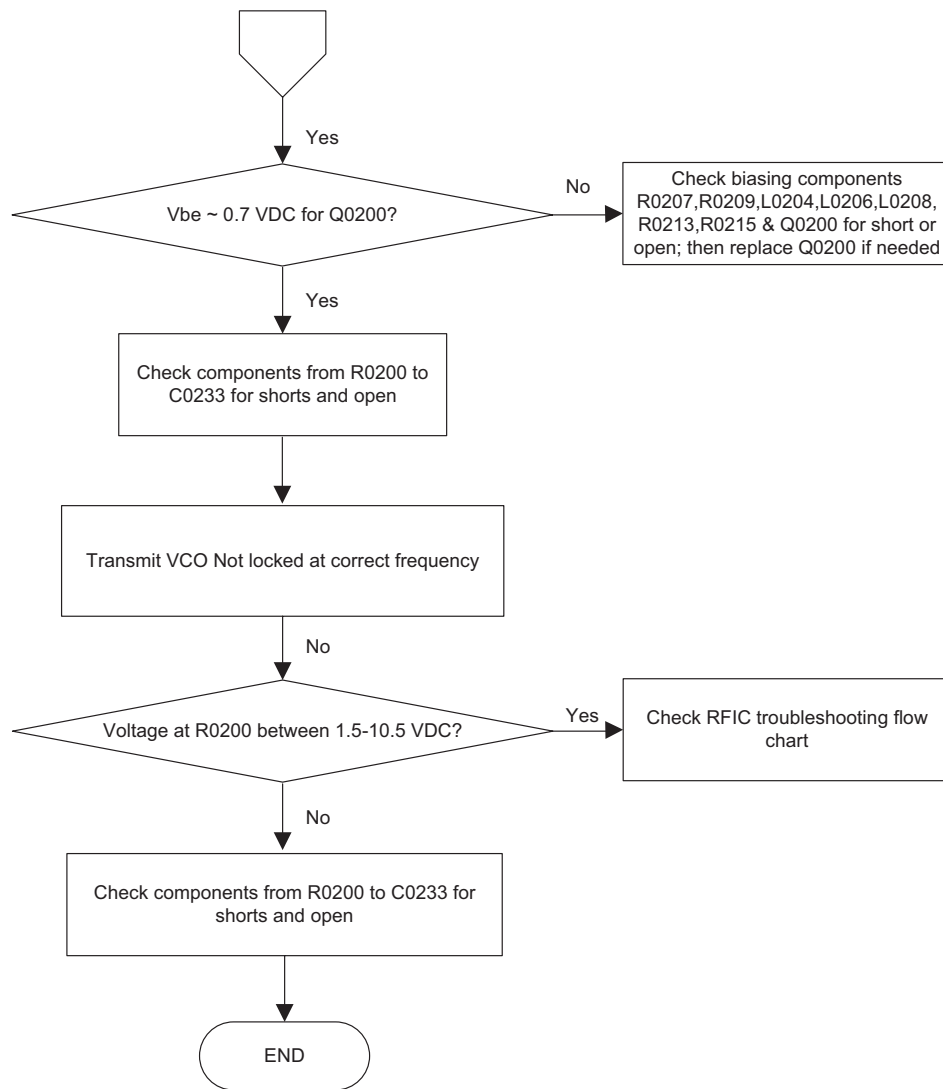
4.1 Troubleshooting Flow Chart for Rx VCO (Sheet 2 of 2)



5.0 Troubleshooting Flow Chart for Tx VCO (Sheet 1 of 2)



5.1 Troubleshooting Flow Chart for Tx VCO (Sheet 2 of 2)



Notes

Section 2

VHF PCB/SCHEMATICS/PARTS LISTS

1.0 Allocation of Schematics and Circuit Boards

1.1 VHF 45W Circuits

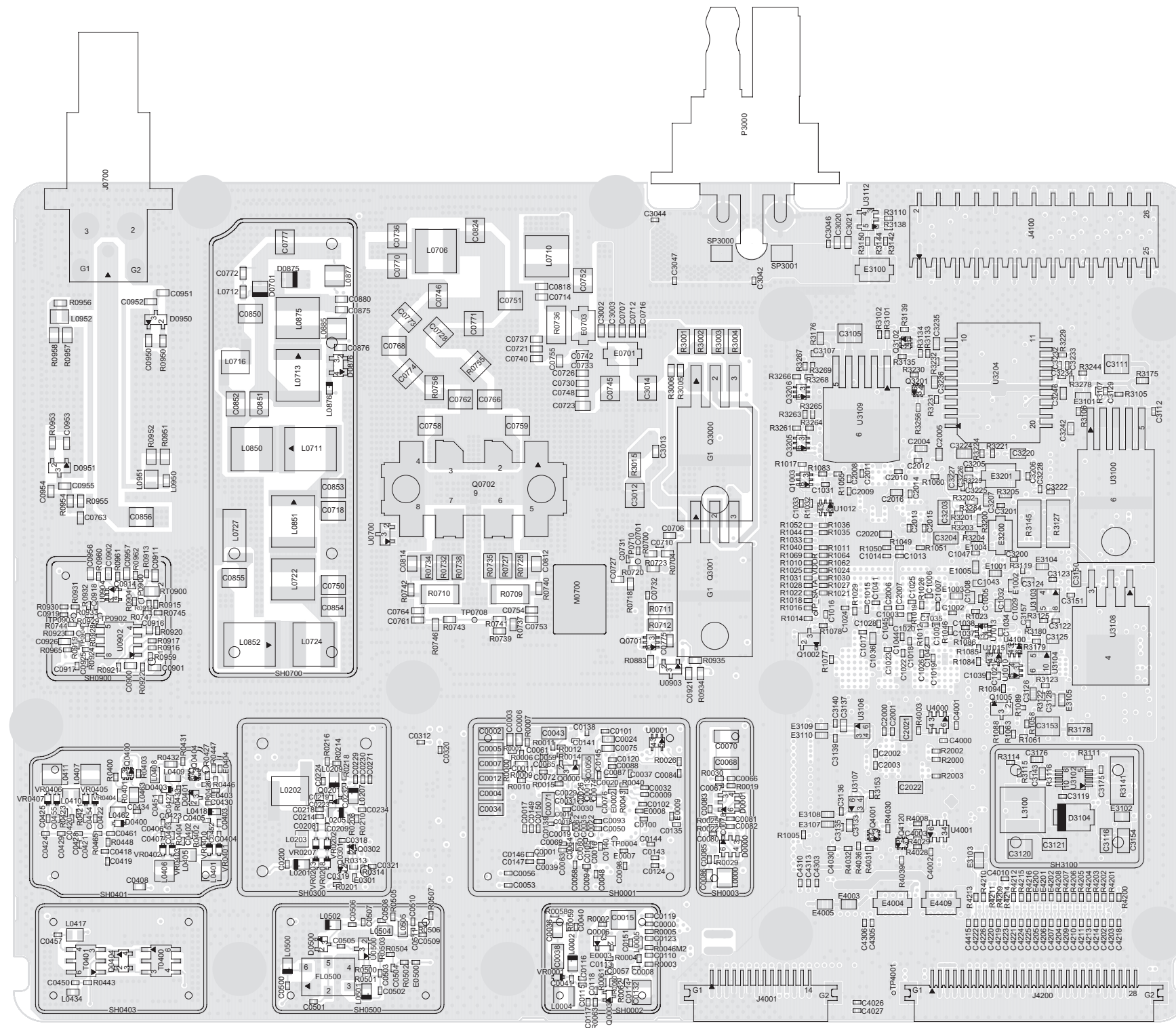
The VHF circuits are contained on the Printed Circuit Board (PCB) which also contains the Controller circuits. This chapter shows the schematics for the VHF 45W circuits only, refer to the Controller section for details of the related Controller circuits. The PCB component layouts and the Parts List in this chapter show both the Controller and VHF 45W circuit components. The VHF 45W schematics and the related PCB and parts list are shown in the table below.

Table 2-1 VHF 25–45W Schematic Diagrams and Parts List

PCB: 84012194001-A Main Board Top Side 84012194001-A Main Board Bottom Side	Page 2-3 Page 2-4
SCHEMATICS Overall Receiver Front-End Receiver IF Amp Transmitter Power Amplifier Power Control Transmitter Power Amplifier DC Distribution RFIC Receiver VCO Transmit VCO VCO Buffer	Page 2-5 Page 2-6 Page 2-7 Page 2-8 Page 2-9 Page 2-10 Page 2-11 Page 2-12 Page 2-13 Page 2-14
Parts List 84012194001-A (VHF 45W Only)	Page 2-15

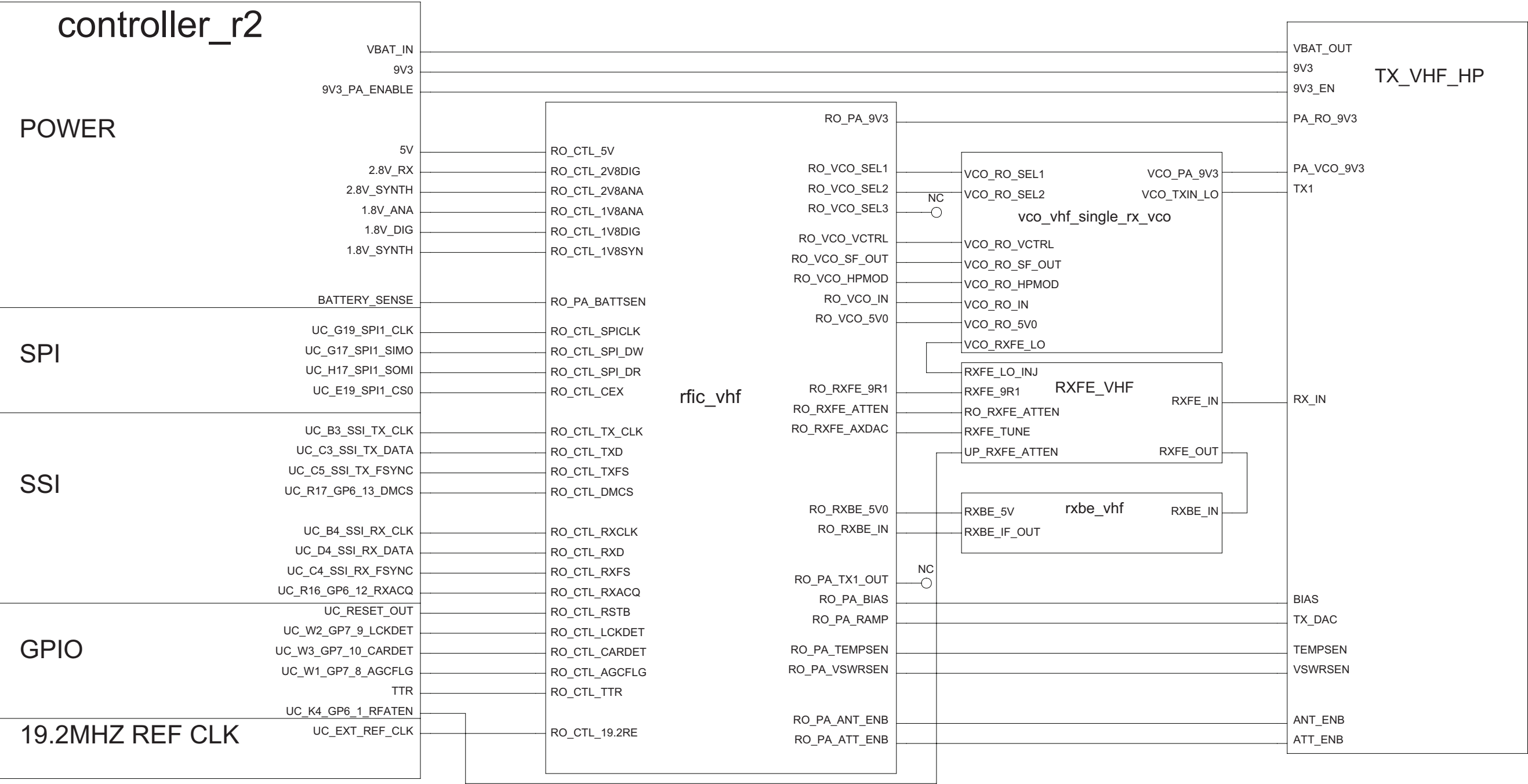
Notes

2.0 VHF (136–174 MHz) 25–45W PCB/Schematics/Parts List



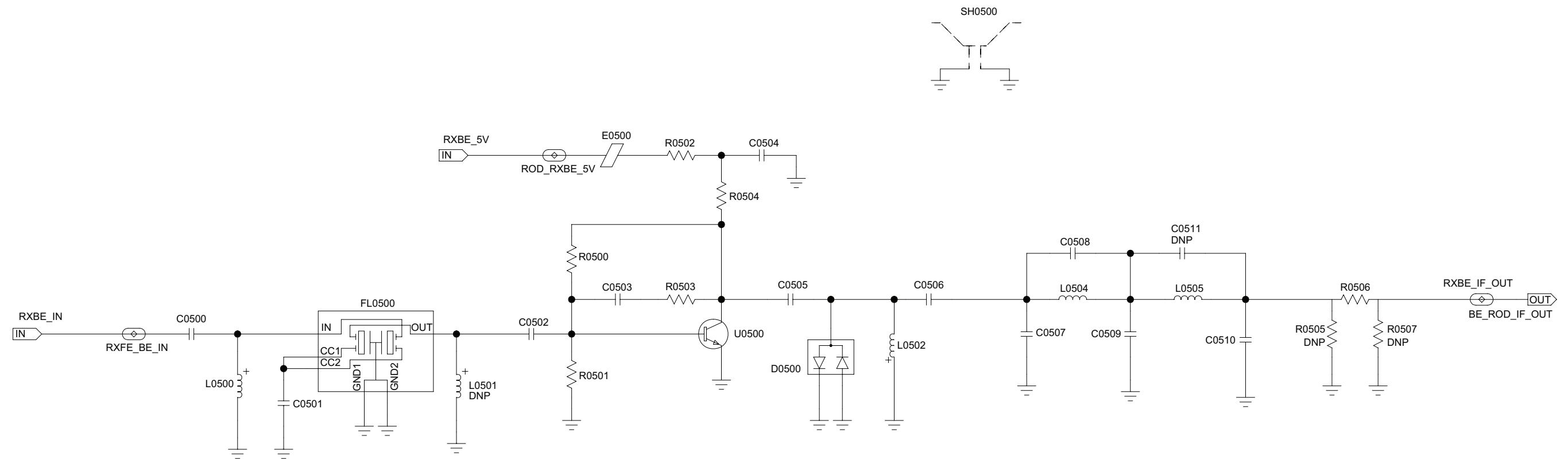
VHF (136–174 MHz) 25–45W 84012194001-A Top Side



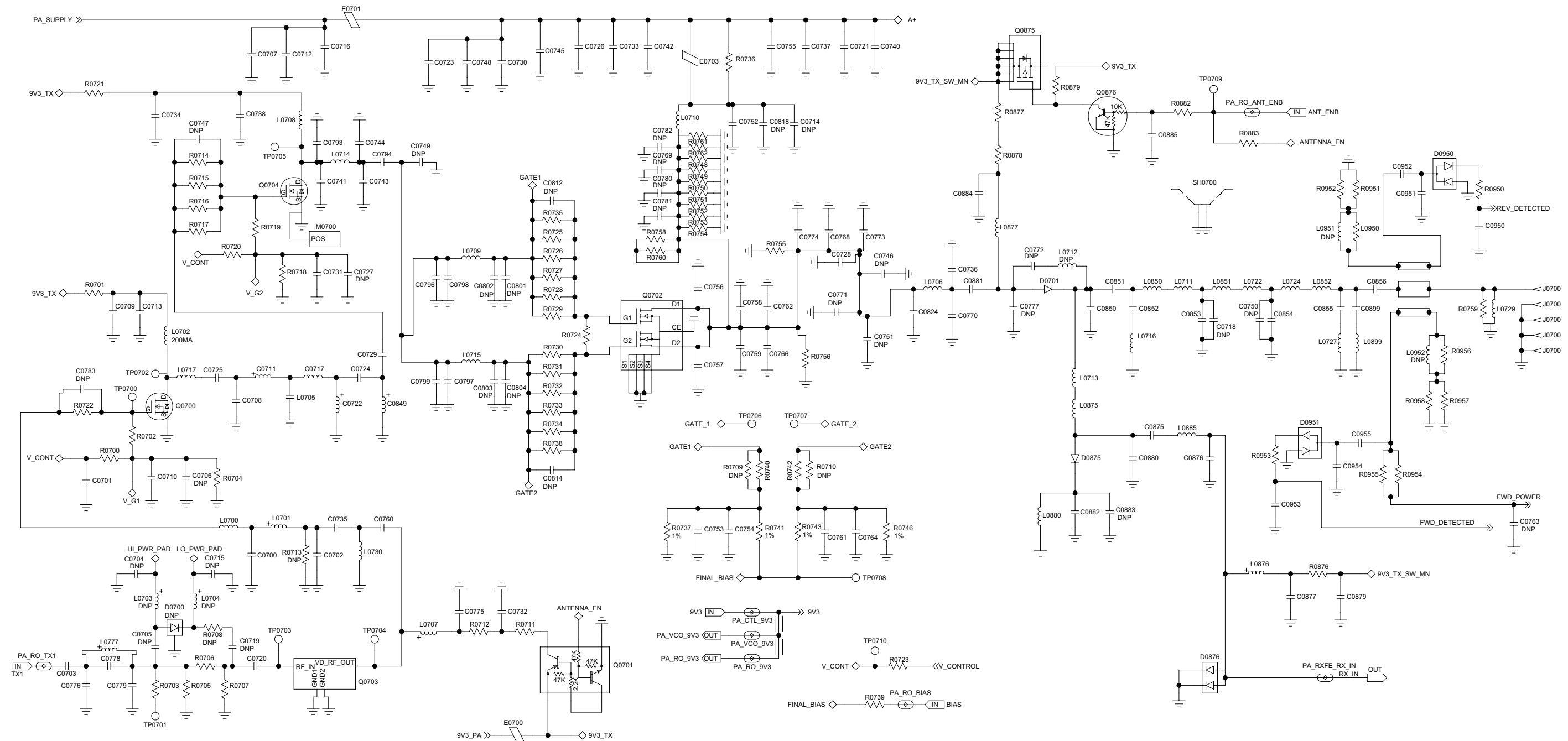


VHF (136–174 MHz) 25–45W Overall Schematic Diagram

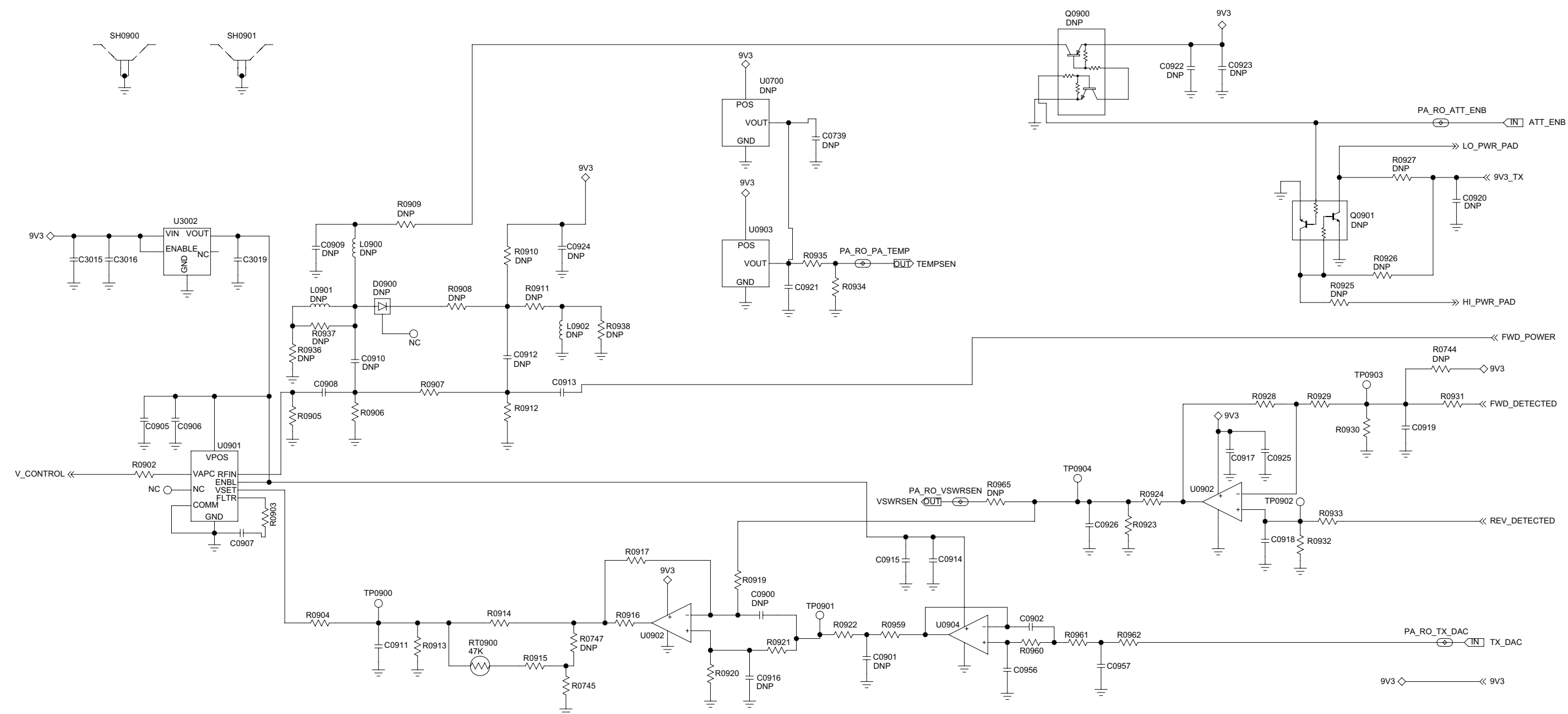




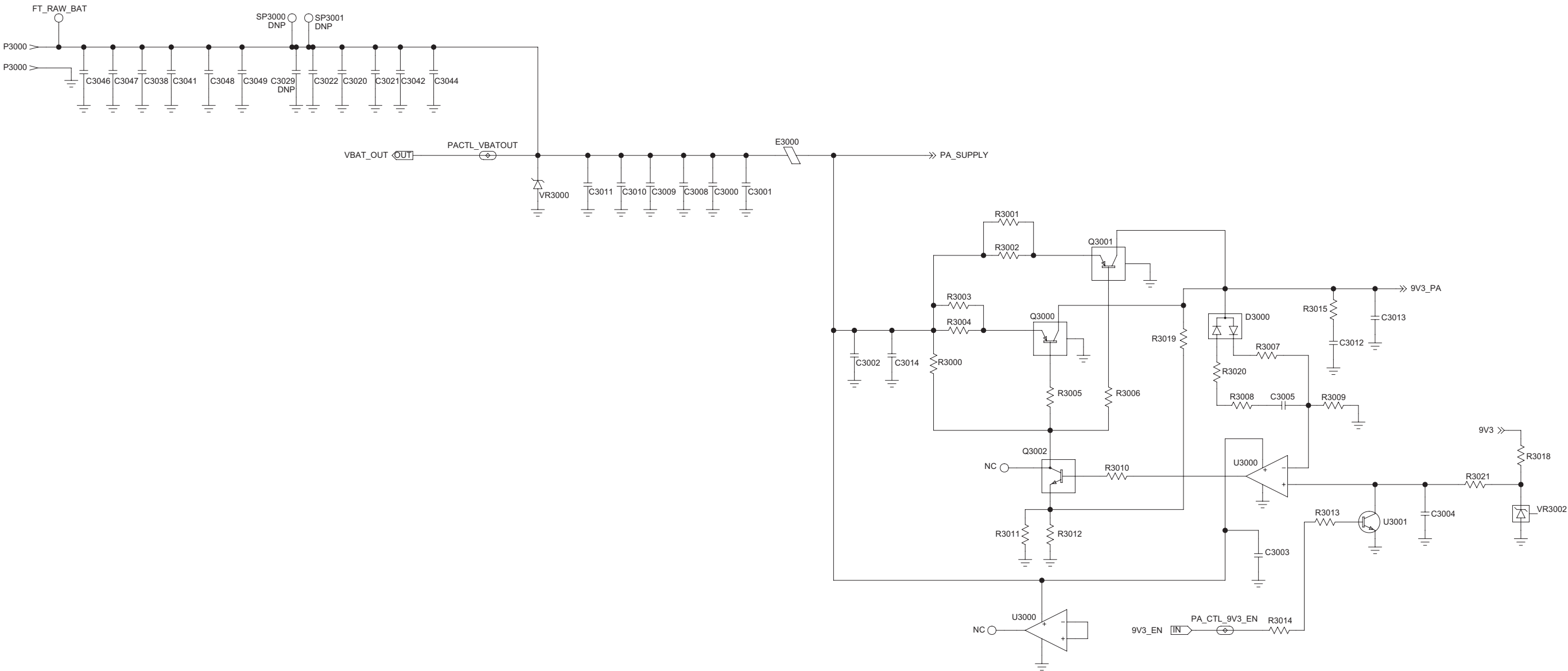
VHF (136–174 MHz) 25–45W Receiver IF Amp Schematic Diagram



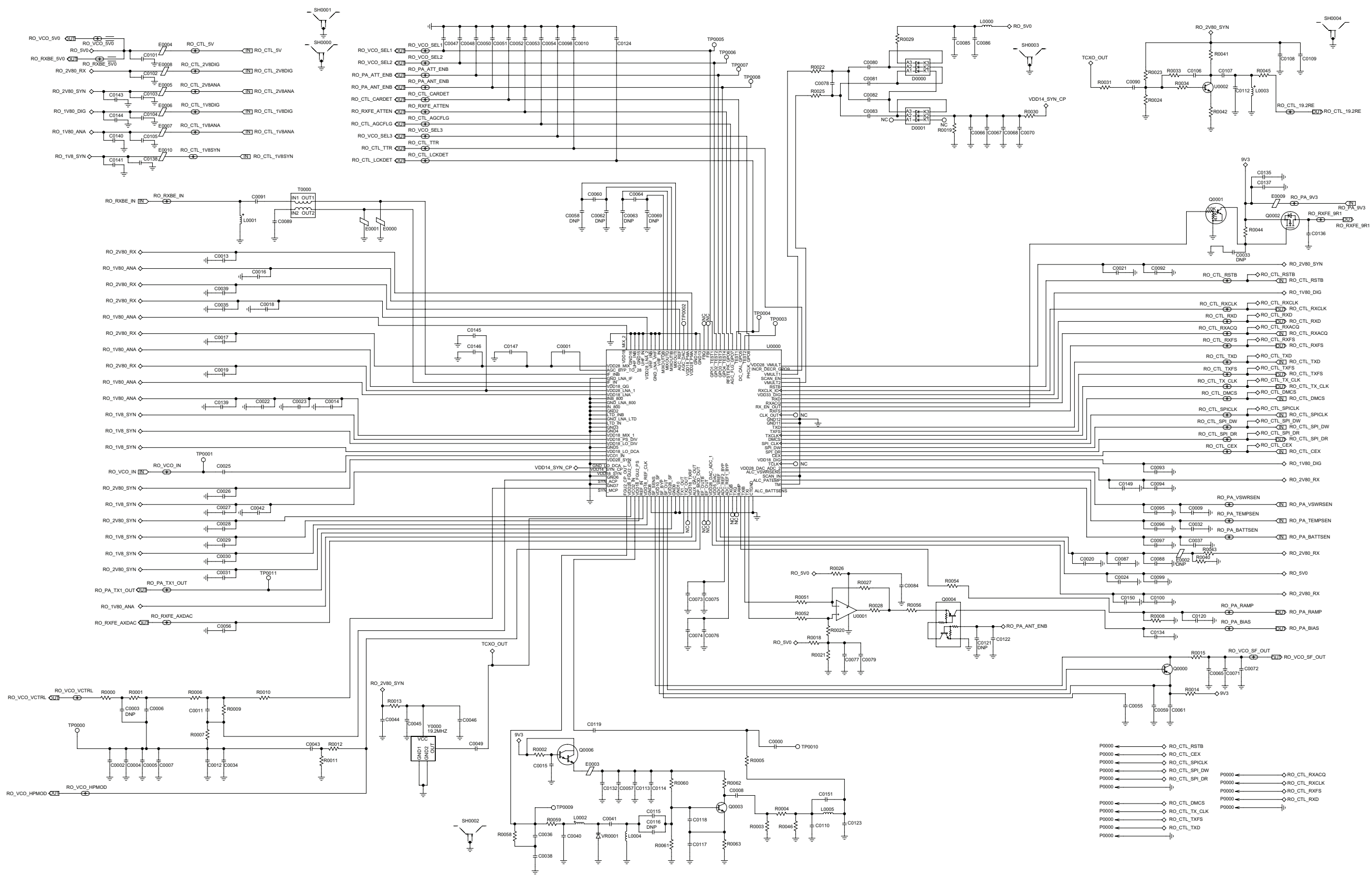
VHF (136–174 MHz) 25–45W Transmitter Power Amplifier Schematic Diagram



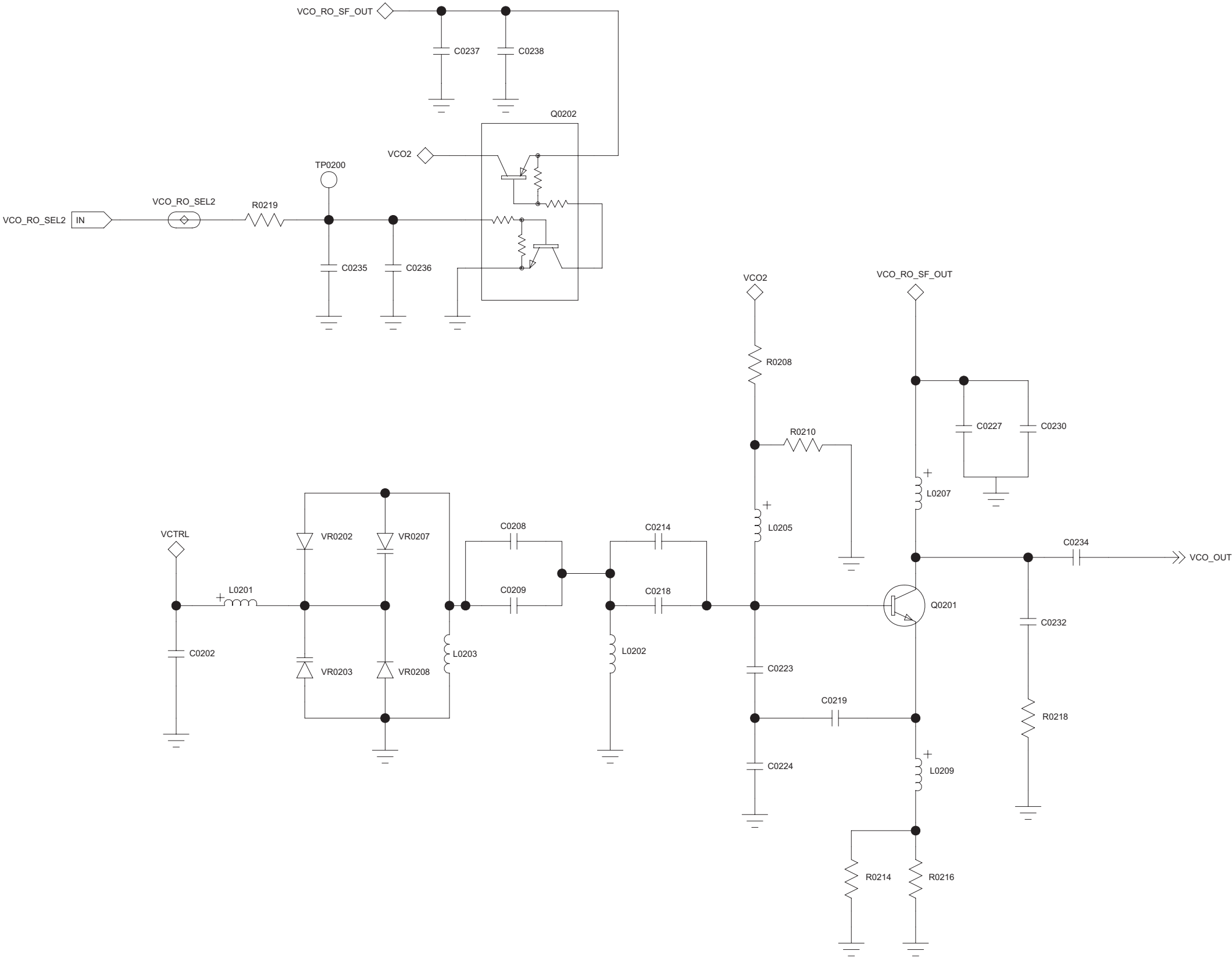
VHF (136–174 MHz) 25–45W Power Control Schematic Diagram



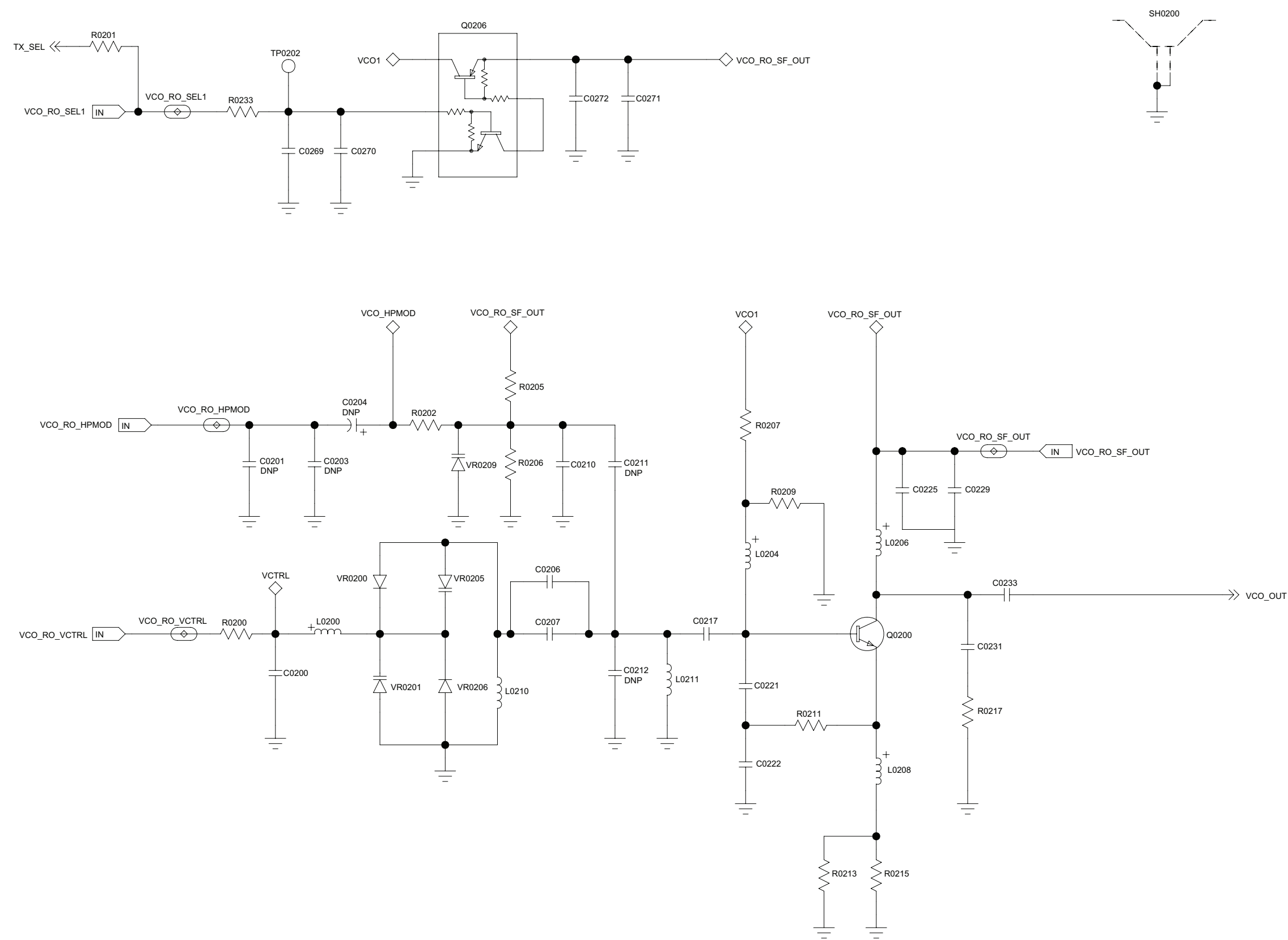
VHF (136–174 MHz) 25–45W Transmitter Power Amplifier DC Distribution Schematic Diagram



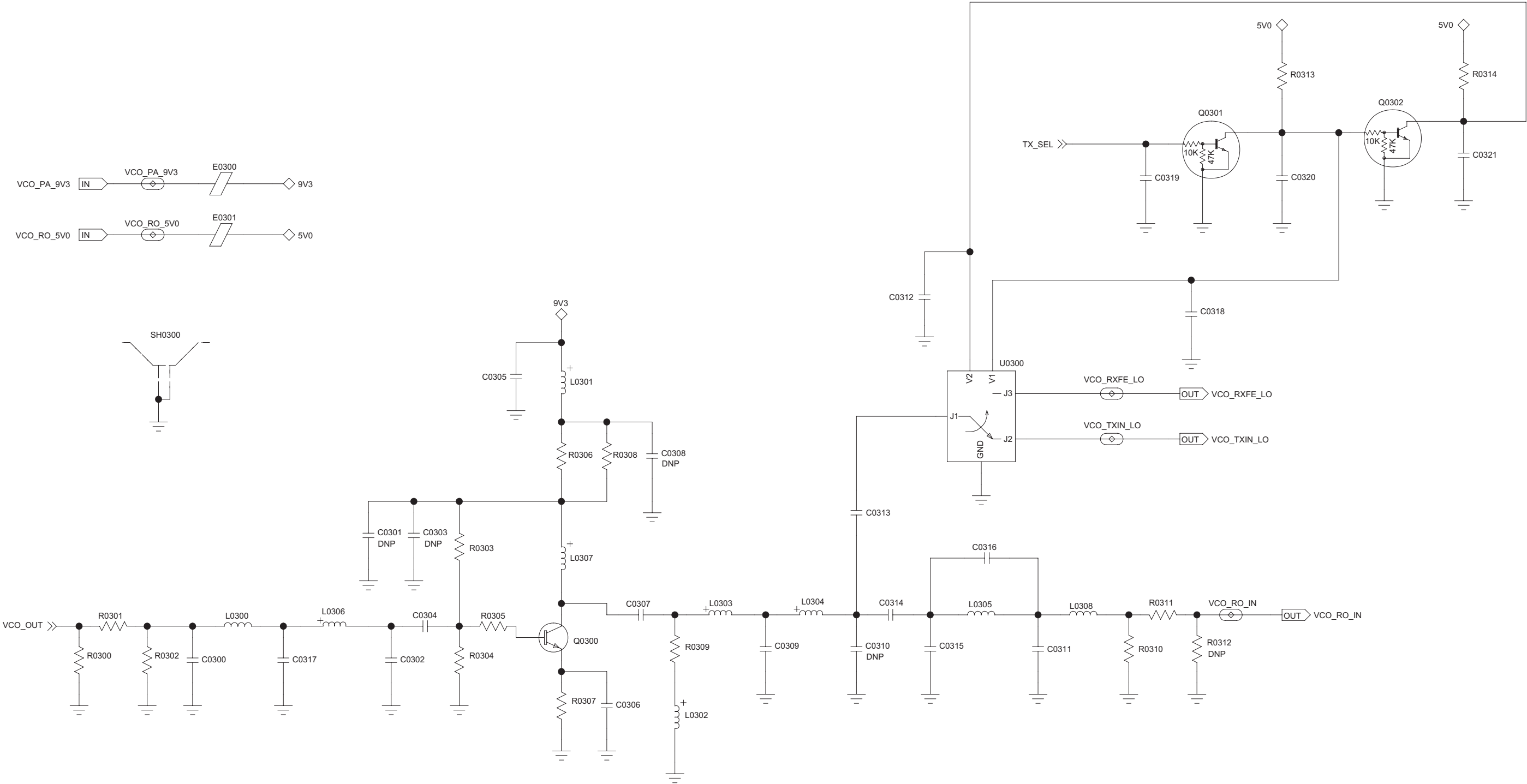
VHF (136–174 MHz) 25–45W RFIC Schematic Diagram



VHF (136–174 MHz) 25–45W Receiver VCO Schematic Diagram



VHF (136–174 MHz) 25–45W Transmit VCO Schematic Diagram



VHF (136–174 MHz) 25–45W VCO Buffer Schematic Diagram

VHF PCB 84012194001-A
Parts List 25–45W

Circuit Ref.	Motorola Part No.
C0000M2	2115153H19
C0001M2	2113944A48
C0002M2	2185419D06
C0003M2	NOT PLACED
C0004M2	2185419D06
C0005M2	2185419D06
C0006M2	2113945C31
C0007M2	2185419D06
C0008M2	2115153H26
C0009M2	2113944A44
C0010M2	2113945A10
C0011M2	2113945C31
C0012M2	2185419D06
C0013M2	2113945Y02
C0014M2	2113945Y02
C0015M2	2113946J03
C0016M2	2113945A10
C0017M2	2113945Y02
C0018M2	2113945A10
C0019M2	2113945Y02
C0020M2	2113945A10
C0021M2	2113945Y02
C0022M2	2113945Y02
C0023M2	2113945Y02
C0024M2	2113956B45
C0025M2	2113945A10
C0026M2	2113944A52
C0027M2	2113945Y02
C0028M2	2113945Y02
C0029M2	2113945A10
C0030M2	2113945A10
C0031M2	2113945Y02
C0032M2	2113944A44
C0033M2	NOT PLACED
C0034M2	2185419D06
C0035M2	2113945A10
C0036M2	2185419D04
C0037M2	2113944A44
C0038M2	2185419D06
C0039M2	2113945Y02
C0040M2	2113945A10
C0041M2	2115153H35
C0042M2	2113944A44
C0043M2	2185419D06
C0044M2	2113955D45
C0045M2	2113945Y02
C0046M2	2113944A44
C0047M2	2113945A10
C0048M2	2113945A10

Circuit Ref.	Motorola Part No.
C0049M2	2113945B02
C0050M2	2113945A10
C0051M2	2113945A10
C0052M2	2113945A10
C0053M2	2113945A10
C0054M2	2113945A10
C0055M2	2113955D37
C0056M2	2113945Y02
C0057M2	2113945B02
C0058M2	NOT PLACED
C0059M2	2113944A44
C0060M2	2113945A69
C0061M2	2113945Y02
C0062M2	NOT PLACED
C0063M2	NOT PLACED
C0064M2	2113945A69
C0065M2	2113945Y02
C0066M2	2113945B02
C0067M2	2113945Y02
C0068M2	2113955D37
C0069M2	NOT PLACED
C0070M2	2113955D37
C0071M2	2113955D37
C0072M2	2113944A44
C0073M2	2113944A44
C0074M2	2113944A44
C0075M2	2113946S35
C0076M2	2113946S35
C0077M2	2113944A44
C0078M2	2115153H41
C0079M2	2113955D37
C0080M2	2113945B02
C0081M2	2113945B02
C0082M2	2113945B02
C0083M2	2113945B02
C0084M2	2113944A44
C0085M2	2113945A10
C0086M2	2113945C31
C0087M2	2113946S35
C0088M2	2113945Y02
C0089M2	2113945Y02
C0090M2	2113945B02
C0091M2	2113944C45
C0092M2	2113945A10
C0093M2	2113945Y02
C0094M2	2113945Y02
C0095M2	NOT PLACED
C0096M2	2113945B02
C0097M2	2113945B02
C0098M2	2113945A10
C0099M2	2113945Y02

Circuit Ref.	Motorola Part No.
C0100M2	2113945Y02
C0101M2	2113945A10
C0102M2	2113945A10
C0103M2	2113945A10
C0104M2	2113945A10
C0105M2	2113945A10
C0106M2	2113945B02
C0107M2	2113945B02
C0108M2	2113945A10
C0109M2	2113945Y02
C0110M2	2115153H50
C0112M2	2113944A44
C0113M2	2113945A10
C0114M2	2113945Y02
C0115M2	2115153H41
C0116M2	NOT PLACED
C0117M2	2115153H57
C0118M2	2115153H47
C0119M2	2113945A10
C0120M2	2113945A10
C0121M2	NOT PLACED
C0122M2	2113944A44
C0123M2	2115153H50
C0124M2	2113944A44
C0132M2	2113946J03
C0134M2	2113945A10
C0135M2	2113944A44
C0136M2	2113944A44
C0137M2	2113945Y02
C0138M2	2113945A10
C0139M2	2113945A10
C0140M2	2113945Y02
C0141M2	2113945Y02
C0143M2	2113945Y02
C0144M2	2113945Y02
C0145M2	2113944A44
C0146M2	2113945A10
C0147M2	2113945A10
C0149M2	2113945A10
C0150M2	2113945A10
C0151M2	2115153H41
C0200M7	2113945A10
C0201M7	NOT PLACED
C0202M7	2113945A10
C0203M7	NOT PLACED
C0204M7	NOT PLACED
C0206M7	2115153H25
C0207M7	2115153H25
C0208M7	2115153H35
C0209M7	2115153H35
C0210M7	2115153H03

Circuit Ref.	Motorola Part No.
C0211M7	NOT PLACED
C0212M7	NOT PLACED
C0214M7	2115153H20
C0217M7	2115153H17
C0218M7	2115153H20
C0219M7	2113945A04
C0221M7	2115153H44
C0222M7	2115153H43
C0223M7	2115153H47
C0224M7	2115153H46
C0225M7	2113945Y02
C0227M7	2113945Y02
C0229M7	2113945A10
C0230M7	2113945A10
C0231M7	2113945A10
C0232M7	2113945A10
C0233M7	2115153H10
C0234M7	2115153H10
C0235M7	2113945A10
C0236M7	2113945Y02
C0237M7	2113945A10
C0238M7	2113945Y02
C0269M7	2113945A10
C0270M7	2113945Y02
C0271M7	2113945A10
C0272M7	2113945Y02
C0300M7	2115153H47
C0301M7	NOT PLACED
C0302M7	2115153H16
C0303M7	NOT PLACED
C0304M7	2115153H61
C0305M7	2113945Y02
C0306M7	2113945A09
C0307M7	2113945A02
C0308M7	NOT PLACED
C0309M7	2115153H39
C0310M7	NOT PLACED
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C0312M7	2113945A10
C0313M7	2113945A10
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C0315M7	2115153H20
C0316M7	2115153H40
C0317M7	2115153H46
C0318M7	2113945A10
C0319M7	2113945A10
C0320M7	2113945A10
C0321M7	2113945A10
C0400M4	2115153H07
C0401M4	2113945A10
C0402M4	2113945A10

Circuit Ref.	Motorola Part No.
C0403M4	2115153H13
C0404M4	2115153H54
C0405M4	2115153H09
C0406M4	2115153H13
C0407M4	2115153H54
C0408M4	2113945C31
C0409M4	2113945C31
C0410M4	2113945A10
C0411M4	2113945A10
C0412M4	2113946F05
C0413M4	2113944A44
C0414M4	2113945A10
C0415M4	2115153H57
C0416M4	2113945C31
C0417M4	2113945A10
C0418M4	2115153H52
C0419M4	2115153H20
C0420M4	2113945A10
C0421M4	2115153H13
C0422M4	2115153H54
C0423M4	2115153H09
C0424M4	2115153H13
C0425M4	2115153H54
C0426M4	2113946F05
C0427M4	2113945A05
C0428M4	2115153H09
C0429M4	2115153H09
C0430M4	2113945A10
C0431M4	NOT PLACED
C0433M4	2113945A10
C0434M4	2113945A05
C0435M4	2115153H57
C0436M4	2113945C31
C0437M4	2113945A10
C0438M4	2113945A10
C0439M4	2115153H34
C0440M4	2115153H27
C0441M4	2115153H42
C0442M4	NOT PLACED
C0443M4	2115153H42
C0444M4	2115153H57
C0445M4	2115153H44
C0446M4	2115153H41
C0447M4	2115153H17
C0448M4	2115153H42
C0449M4	2115153H27
C0450M4	2115153H55
C0451M4	2113945A10
C0452M4	2115153H47
C0453M4	2115153H47
C0454M4	2115153H47

Circuit Ref.	Motorola Part No.
C0455M4	2115153H47
C0456M4	2113945A10
C0457M4	2115153H41
C0458M4	2113946F05
C0459M4	NOT PLACED
C0461M4	2113945A10
C0462M4	2113945A10
C0463M4	2113945A10
C0464M4	NOT PLACED
C0467M4	2113956B21
C0469M4	2113956B21
C0500M3	2115153H42
C0501M3	2115153H26
C0502M3	2113945Y02
C0503M3	2113945Y02
C0504M3	2113945Y02
C0505M3	2115153H39
C0506M3	2115153H43
C0507M3	2115153H18
C0508M3	2115153H23
C0509M3	2115153H49
C0510M3	2115153H18
C0511M3	NOT PLACED
C0700M6	2113944C85
C0701M6	2113944A52
C0702M6	2113944C83
C0703M6	2113944C51
C0704M6	NOT PLACED
C0705M6	NOT PLACED
C0706M6	NOT PLACED
C0707M6	2113945C31
C0708M6	2113944C82
C0709M6	2113945C04
C0710M6	2113944A52
C0711M6	2414017N19
C0712M6	2113945L49
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C0718M6	NOT PLACED
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C0725M6	2113944C51
C0726M6	2113944C51
C0727M6	NOT PLACED

Circuit Ref.	Motorola Part No.
C0728M6	2111078B39
C0729M6	2113944C51
C0730M6	2113945L49
C0731M6	2113944A52
C0732M6	2113945A09
C0733M6	2113944C45
C0734M6	2113944C51
C0735M6	2113944C33
C0736M6	2111078B18
C0737M6	2113944C04
C0738M6	2113944C46
C0739M6	NOT PLACED
C0740M6	2113945C25
C0741M6	2113944F65
C0742M6	2113944C30
C0743M6	2113944F67
C0744M6	2113944F02
C0745M6	2171630Y01
C0746M6	NOT PLACED
C0747M6	NOT PLACED
C0748M6	2113945C31
C0749M6	NOT PLACED
C0750M6	NOT PLACED
C0751M6	NOT PLACED
C0752M6	2111078B59
C0753M6	2113944C51
C0754M6	2113944C45
C0755M6	2113944C36
C0756M6	2111078B39
C0757M6	2111078B39
C0758M6	2111078B42
C0759M6	2111078B42
C0760M6	2113944C79
C0761M6	2113944C45
C0762M6	2111078B34
C0763M6	NOT PLACED
C0764M6	2113944C51
C0766M6	2111078B34
C0768M6	2111078B38
C0769M6	NOT PLACED
C0770M6	2111078B18
C0771M6	NOT PLACED
C0772M6	NOT PLACED
C0773M6	2111078B39
C0774M6	2111078B36
C0775M6	2113944C06
C0776M6	2113944C31
C0777M6	NOT PLACED
C0778M6	2113944C18
C0779M6	2113944C31
C0780M6	NOT PLACED

Circuit Ref.	Motorola Part No.
C0781M6	NOT PLACED
C0782M6	NOT PLACED
C0783M6	NOT PLACED
C0793M6	2113944F64
C0794M6	2113944F07
C0796M6	2113944F51
C0797M6	2113944F51
C0798M6	2113944F51
C0799M6	2113944F51
C0801M6	NOT PLACED
C0802M6	NOT PLACED
C0803M6	NOT PLACED
C0804M6	NOT PLACED
C0812M6	NOT PLACED
C0814M6	NOT PLACED
C0818M6	NOT PLACED
C0824M6	2111078B11
C0849M6	2414017N13
C0850M6	2111078B25
C0851M6	2111078B44
C0852M6	2111078B11
C0853M6	2111078B34
C0854M6	2111078B34
C0855M6	2111078B11
C0856M6	2111078B49
C0875M6	2113944C47
C0876M6	2113944C32
C0877M6	2113944C06
C0879M6	2113944C06
C0880M6	2113944C35
C0881M6	2111078B27
C0882M6	2111078B57
C0883M6	NOT PLACED
C0884M6	2113944F05
C0885M6	2113944C51
C0899M6	2111078B04
C0900M6	NOT PLACED
C0901M6	NOT PLACED
C0902M6	2113944C51
C0905M6	2113945C31
C0906M6	2113945A10
C0907M6	2113945L41
C0908M6	2113944A52
C0909M6	NOT PLACED
C0910M6	NOT PLACED
C0911M6	2113944C02
C0912M6	NOT PLACED
C0913M6	2113944A52
C0914M6	2113944A52
C0915M6	2113946B04
C0916M6	NOT PLACED

Circuit Ref.	Motorola Part No.
C0917M6	2113944A52
C0918M6	2113944A52
C0919M6	2113944A52
C0920M6	NOT PLACED
C0921M6	2113944C51
C0922M6	NOT PLACED
C0923M6	NOT PLACED
C0924M6	NOT PLACED
C0925M6	2113946B04
C0926M6	2113944C02
C0950M6	2113944C51
C0951M6	2113944C30
C0952M6	2113944C51
C0953M6	2113944C51
C0954M6	2113944C81
C0955M6	2113944C51
C0956M6	2113944C01
C0957M6	2113944C49
C3000M6	2113944C38
C3001M6	2113944C06
C3002M6	2113944C06
C3003M6	2113945C31
C3004M6	2113945C02
C3005M6	2113945C02
C3008M6	2113944C51
C3009M6	2113945C31
C3010M6	2113944C46
C3011M6	2113945G53
C3012M6	2113946J04
C3013M6	2113945C31
C3014M6	2171630Y01
C3015M6	2113946G01
C3016M6	2113945C31
C3019M6	2113946S35
C3020M6	2113945C26
C3021M6	2113944C06
C3022M6	2113945A10
C3029M6	NOT PLACED
C3038M6	2113944A47
C3041M6	2113944A47
C3042M6	2113944A47
C3044M6	2113944A47
C3046M6	2113944A52
C3047M6	2113944A52
C3048M6	2113944A52
C3049M6	2113944A52
D0000M2	4815011H01
D0001M2	4815011H01
D0400M4	4884800Y03
D0401M4	4813974A19
D0402M4	4813974A19

Circuit Ref.	Motorola Part No.
D0403M4	4884800Y03
D0404M4	4815090H01
D0500M3	4813974A19
D0700M6	NOT PLACED
D0701M6	48012160001
D0875M6	48012160001
D0876M6	4886622Y06
D0900M6	NOT PLACED
D0950M6	4813974A21
D0951M6	4813974A21
D3000M6	4813978P07
E0000M2	2480640Z01
E0001M2	2480640Z01
E0002M2	NOT PLACED
E0003M2	2409134J25
E0004M2	2480640Z01
E0005M2	2480640Z01
E0006M2	2480640Z01
E0007M2	2480640Z01
E0008M2	2480640Z01
E0009M2	2480640Z01
E0010M2	2480640Z01
E0300M7	2485449Y01
E0301M7	2485449Y01
E0401M4	2485449Y01
E0402M4	2485449Y01
E0403M4	2485449Y01
E0404M4	2485449Y01
E0500M3	2409134J25
E0700M6	24012040001
E0701M6	24012040001
E0703M6	24012040001
E3000M6	24012040001
FL0500M3	9180022M11
J0700M6	09009348001
L0000M2	2466505A01
L0001M2	2414017N29
L0002M2	2414017K32
L0003M2	2414017N29
L0004M2	2414015A07
L0005M2	2414017N20
L0200M7	2414017K33
L0201M7	2414017K33
L0202M7	2416077H14
L0203M7	2414015B08
L0204M7	2414017K33
L0205M7	2414017K33
L0206M7	2414017K33
L0207M7	2414017K33
L0208M7	2414017K33
L0209M7	2414017K33

Circuit Ref.	Motorola Part No.
L0210M7	2478057A47
L0211M7	2414015C11
L0300M7	2414017N17
L0301M7	2414017N29
L0302M7	2414017N29
L0303M7	2414017N12
L0304M7	2414017N18
L0305M7	2414017N15
L0306M7	2414017N23
L0307M7	2414017N29
L0308M7	2414017N22
L0401M4	2414015A03
L0402M4	2414015B02
L0403M4	2414017Q44
L0404M4	2414015B01
L0405M4	2414015B27
L0406M4	2414015A03
L0407M4	2414015A03
L0408M4	2414017Q44
L0409M4	2414017Q44
L0410M4	2414015B27
L0411M4	2414015A03
L0414M4	2414015B12
L0415M4	2414015B01
L0416M4	NOT PLACED
L0417M4	2414015B02
L0418M4	NOT PLACED
L0421M4	2414015B02
L0424M4	2414015B02
L0428M4	2414015B12
L0434M4	2414017N26
L0462M4	2414017Q44
L0463M4	2414017Q44
L0500M3	2414017K33
L0501M3	NOT PLACED
L0502M3	2414017K33
L0504M3	2414017K31
L0505M3	2414017K31
L0700M6	2414017N22
L0701M6	2414017N19
L0702M6	2414017N26
L0703M6	NOT PLACED
L0704M6	NOT PLACED
L0705M6	2113944C85
L0706M6	2485873L01
L0707M6	2414017N29
L0708M6	2479990G01
L0709M6	2460591A01
L0710M6	2485873L01
L0711M6	2485873L02
L0712M6	NOT PLACED

Circuit Ref.	Motorola Part No.
L0713M6	2485873L02
L0714M6	2460591A01
L0715M6	2460591A01
L0716M6	2415385H02
L0717M6	2414017N15
L0722M6	2485873L01
L0724M6	2485873L01
L0727M6	2415385H07
L0729M6	2414032B60
L0730M6	2414017N20
L0777M6	2414017N19
L0850M6	2485873L01
L0851M6	2485873L02
L0852M6	2485873L02
L0875M6	2485873L01
L0876M6	2414017N29
L0877M6	2414015A25
L0880M6	2414015A25
L0885M6	2414032B49
L0899M6	2416077H16
L0900M6	NOT PLACED
L0901M6	NOT PLACED
L0902M6	NOT PLACED
L0950M6	0613952G67
L0951M6	NOT PLACED
L0952M6	NOT PLACED
M0700M6	2686201B02
P0000M2	NOT PLACED
P3000M6	09009344001
Q0000M2	4813973A13
Q0001M2	4816134H01
Q0002M2	4813970A59
Q0003M2	4885061Y01
Q0004M2	4815272H01
Q0006M2	4813973A04
Q0200M7	4885061Y01
Q0201M7	4885061Y01
Q0202M7	4815272H01
Q0206M7	4815272H01
Q0300M7	4802197J95
Q0301M7	4816134H01
Q0302M7	4816134H01
Q0400M4	4815271H01
Q0401M4	4815267H01
Q0402M4	4871127H01
Q0403M4	4815270H01
Q0404M4	4815271H01
Q0405M4	4871127H01
Q0700M6	4816547H01
Q0701M6	4816013H01
Q0702M6	48012022001

Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.
Q0703M6	4802246J29	R0056M2	0613952R66	R0411M4	0613952R01	R0706M6	0613952H48	R0758M6	0613958J49	R0954M6	0613952H39
Q0704M6	4816548H01	R0058M2	0613952Q81	R0412M4	0613952Q75	R0707M6	0613952H47	R0759M6	0613959H12	R0955M6	0613952H39
Q0875M6	4813970A62	R0059M2	0613952R66	R0413M4	0613958H44	R0708M6	NOT PLACED	R0760M6	0613958J49	R0956M6	0613952G67
Q0876M6	4816134H01	R0060M2	0613952Q86	R0414M4	NOT PLACED	R0709M6	NOT PLACED	R0761M6	0613958J49	R0957M6	0613958H55
Q0900M6	NOT PLACED	R0061M2	0613952Q85	R0415M4	0613952Q75	R0710M6	NOT PLACED	R0762M6	0613958J49	R0958M6	0613958H53
Q0901M6	NOT PLACED	R0062M2	0613952Q61	R0416M4	0613952Q69	R0711M6	0613958S49	R0876M6	0613958S73	R0959M6	0613952R66
Q3000M6	0105959T72	R0063M2	0613952Q64	R0417M4	0613952Q75	R0712M6	0613958S49	R0877M6	0613959Y37	R0960M6	0613952N58
Q3001M6	0105959T72	R0200M7	0613952R66	R0418M4	0613952Q69	R0713M6	NOT PLACED	R0878M6	0613959Y37	R0961M6	0613952N58
Q3002M6	4813973B01	R0201M7	0613952R66	R0419M4	0613952Q69	R0714M6	0613952H35	R0879M6	0613952J25	R0962M6	0613952N58
R0000M2	0613952R66	R0202M7	0613952R27	R0420M4	0613952R25	R0715M6	0613952H35	R0882M6	0613952G67	R0965M6	NOT PLACED
R0001M2	0613952R66	R0205M7	0613952R07	R0421M4	0613952R25	R0716M6	0613952H35	R0883M6	0613952G67	R3000M6	0613952H60
R0002M2	0613952Q96	R0206M7	0613952R05	R0422M4	0613952Q53	R0717M6	0613952H35	R0902M6	0613952R66	R3001M6	0615871H01
R0003M2	0613952Q57	R0207M7	0613952Q86	R0423M4	0613952R25	R0718M6	0613952H96	R0903M6	0613952N01	R3002M6	0615871H01
R0004M2	0613952Q34	R0208M7	0613952Q78	R0424M4	0613952Q39	R0719M6	0613952H89	R0904M6	0613952R66	R3003M6	0615871H01
R0005M2	0613952R66	R0209M7	0613952Q85	R0425M4	0613952Q53	R0720M6	0613952J01	R0905M6	0613952H42	R3004M6	0615871H01
R0006M2	0613952Q25	R0210M7	0613952Q73	R0426M4	0613952Q87	R0721M6	0613952G67	R0906M6	0613958H46	R3005M6	0613952H25
R0007M2	0613952Q51	R0211M7	0613952Q18	R0427M4	0613952Q87	R0722M6	0613952H25	R0907M6	0613958H55	R3006M6	0613952H25
R0008M2	0613952R01	R0213M7	0613952Q67	R0429M4	0613952R66	R0723M6	0613952G67	R0908M6	NOT PLACED	R3007M6	0613952M30
R0009M2	0613952Q58	R0214M7	0613952Q67	R0430M4	NOT PLACED	R0724M6	0613959Q53	R0909M6	NOT PLACED	R3008M6	0613952G67
R0010M2	0613952R66	R0215M7	0613952Q67	R0431M4	0613952R01	R0725M6	0613958S29	R0910M6	NOT PLACED	R3009M6	0613952M43
R0011M2	0613952Q35	R0216M7	0613952Q67	R0432M4	0613952H75	R0726M6	0613958S29	R0911M6	NOT PLACED	R3010M6	0613952G67
R0012M2	0613952Q81	R0217M7	0613952Q49	R0433M4	0613952R01	R0727M6	0613958S29	R0912M6	0613958H46	R3011M6	0613959Q60
R0013M2	0613952Q35	R0218M7	0613952Q49	R0434M4	0613952L46	R0728M6	0613958S29	R0913M6	0613952M51	R3012M6	0613959Q60
R0014M2	0613952R66	R0219M7	0613952R66	R0435M4	0613952L46	R0729M6	0613958S29	R0914M6	0613952M81	R3013M6	0613952R01
R0015M2	0613952R66	R0233M7	0613952R66	R0437M4	0613952Q80	R0730M6	0613958S29	R0915M6	0613952Z76	R3014M6	0613952R01
R0018M2	0613952Q80	R0300M7	0613952Q66	R0438M4	0613952Q25	R0731M6	0613958S29	R0916M6	0613952R66	R3015M6	0615871H01
R0019M2	0613952R01	R0301M7	0613952Q25	R0439M4	0613952Q69	R0732M6	0613958S29	R0917M6	0613952P01	R3018M6	0613952H73
R0020M2	0613952R12	R0302M7	0613952Q66	R0440M4	0613958H25	R0733M6	0613958S29	R0919M6	0613952P01	R3019M6	0613952H60
R0021M2	0613952Q80	R0303M7	0613952Q94	R0441M4	0613958H44	R0734M6	0613958S29	R0920M6	0613952N01	R3020M6	0613952G67
R0022M2	0613952R66	R0304M7	0613952Q89	R0442M4	0613952Q83	R0735M6	0613958S29	R0921M6	0613952N01	R3021M6	0613952R25
R0023M2	0613952Q83	R0305M7	0613952Q32	R0443M4	0613952Q46	R0736M6	0613959Q25	R0922M6	0613952R66	RT0900M6	0615585H01
R0024M2	0613952Q80	R0306M7	0613952Q49	R0444M4	0613952K25	R0737M6	0613952F01	R0923M6	0613952M43	SH0000M2	26012095001
R0025M2	0613952R66	R0307M7	0613952H46	R0445M4	0613952Q75	R0738M6	0613958S29	R0924M6	0613952N01	SH0001M2	26012095001
R0026M2	0613952R66	R0308M7	0613952Q49	R0446M4	NOT PLACED	R0739M6	0613952H73	R0925M6	NOT PLACED	SH0002M2	26012097001
R0027M2	0613952R12	R0309M7	0613952Q42	R0447M4	0613952R66	R0740M6	0613952H73	R0926M6	NOT PLACED	SH0003M2	26012094001
R0028M2	0613952R66	R0310M7	0613952Q39	R0448M4	0613952Q25	R0741M6	0613952E66	R0927M6	NOT PLACED	SH0004M2	26012094001
R0029M2	0613952Q25	R0311M7	0613952R66	R0465M4	0613952R66	R0742M6	0613952H73	R0928M6	0613952P30	SH0200M7	26012095001
R0030M2	0613952R66	R0312M7	NOT PLACED	R0500M3	0613952R08	R0743M6	0613952E66	R0929M6	0613952N81	SH0300M7	26012231001
R0031M2	0613952R66	R0313M7	0613952Q73	R0501M3	0613952R03	R0744M6	NOT PLACED	R0930M6	0613952N51	SH0400M4	26012096001
R0033M2	0613952R01	R0314M7	0613952Q73	R0502M3	0613952Q81	R0745M6	0613952R66	R0931M6	0613952Z26	SH0401M4	26012096001
R0034M2	0613952Q57	R0400M4	0613952R01	R0503M3	0613952Q87	R0746M6	0613952F01	R0932M6	0613952Z60	SH0402M4	26012098001
R0040M2	0613952Q70	R0401M4	0613952H81	R0504M3	0613952Q61	R0747M6	NOT PLACED	R0933M6	0613952Z50	SH0403M4	26012098001
R0041M2	0613952Q58	R0402M4	0613952R25	R0505M3	NOT PLACED	R0748M6	0613958J49	R0934M6	0613952J17	SH0500M3	26012098001
R0042M2	0613952Q42	R0403M4	0613952R01	R0506M3	0613952R66	R0749M6	0613958J49	R0935M6	0613952H91	SH0700M6	26012100001
R0043M2	0613952Q73	R0404M4	0613952R25	R0507M3	NOT PLACED	R0750M6	0613958J49	R0936M6	NOT PLACED	SH0900M6	2686425Z02
R0044M2	0613952R25	R0405M4	0613952R05	R0700M6	0613952J01	R0751M6	0613958J49	R0937M6	NOT PLACED	SH0901M6	2686425Z02
R0045M2	0613952R66	R0406M4	0613952Q91	R0701M6	0613952G67	R0752M6	0613958J49	R0938M6	NOT PLACED	SP3000M6	NOT PLACED
R0046M2	0613952Q57	R0407M4	0613952Q91	R0702M6	0613952H49	R0753M6	0613958J49	R0950M6	0613952G67	SP3001M6	NOT PLACED
R0051M2	0613952R01	R0408M4	0613952Q73	R0703M6	0613952J01	R0754M6	0613958J49	R0951M6	0613958H55	T0000M2	2515396H02
R0052M2	0613952R01	R0409M4	0613952R66	R0704M6	0613952J01	R0755M6	0613959H12	R0952M6	0613958H53	T0400M4	2515121H01
R0054M2	0613952R66	R0410M4	0613952R01	R0705M6	0613952H47	R0756M6	0613959H12	R0953M6	0613952G67	T0401M4	2515121H01

Circuit Ref.	Motorola Part No.
U0000M2	51009277001
U0001M2	5109731C48
U0002M2	4802197J95
U0300M7	5186310Y39
U0500M3	4802197J95
U0700M6	NOT PLACED
U0901M6	5180390L83
U0902M6	51012221001
U0903M6	5115022H01
U0904M6	5109731C48
U3000M6	5116525H01
U3001M6	4813973M07
U3002M6	51012133001
VR0001M2	4815096H01
VR0200M7	4871680H01
VR0201M7	4805656W87
VR0202M7	4815002H03
VR0203M7	4805656W87
VR0205M7	4805656W87
VR0206M7	4871680H01
VR0207M7	4805656W87
VR0208M7	4815002H03
VR0209M7	4805656W87
VR0400M4	4805656W87
VR0401M4	4805656W87
VR0402M4	4805656W87
VR0403M4	4805656W87
VR0404M4	4805656W87
VR0405M4	4805656W87
VR0406M4	4805656W87
VR0407M4	4805656W87
VR3000M6	48012070001
VR3002M6	4813977M10
Y0000M2	4875185M04

Note: The suffix “M1”, “M2”, etc. from the Circuit Ref is removed from the schematic and overlays.



XPR 5350/XPR 5550 Mobile Radios

Chapter 9

UHF1 (403–470 MHz)

1–25W

Service Information

Issue: January, 2012

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Chapter 9 – UHF1 Low Power Service Information

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Section 2 UHF1 PCB/Schematics/Parts List

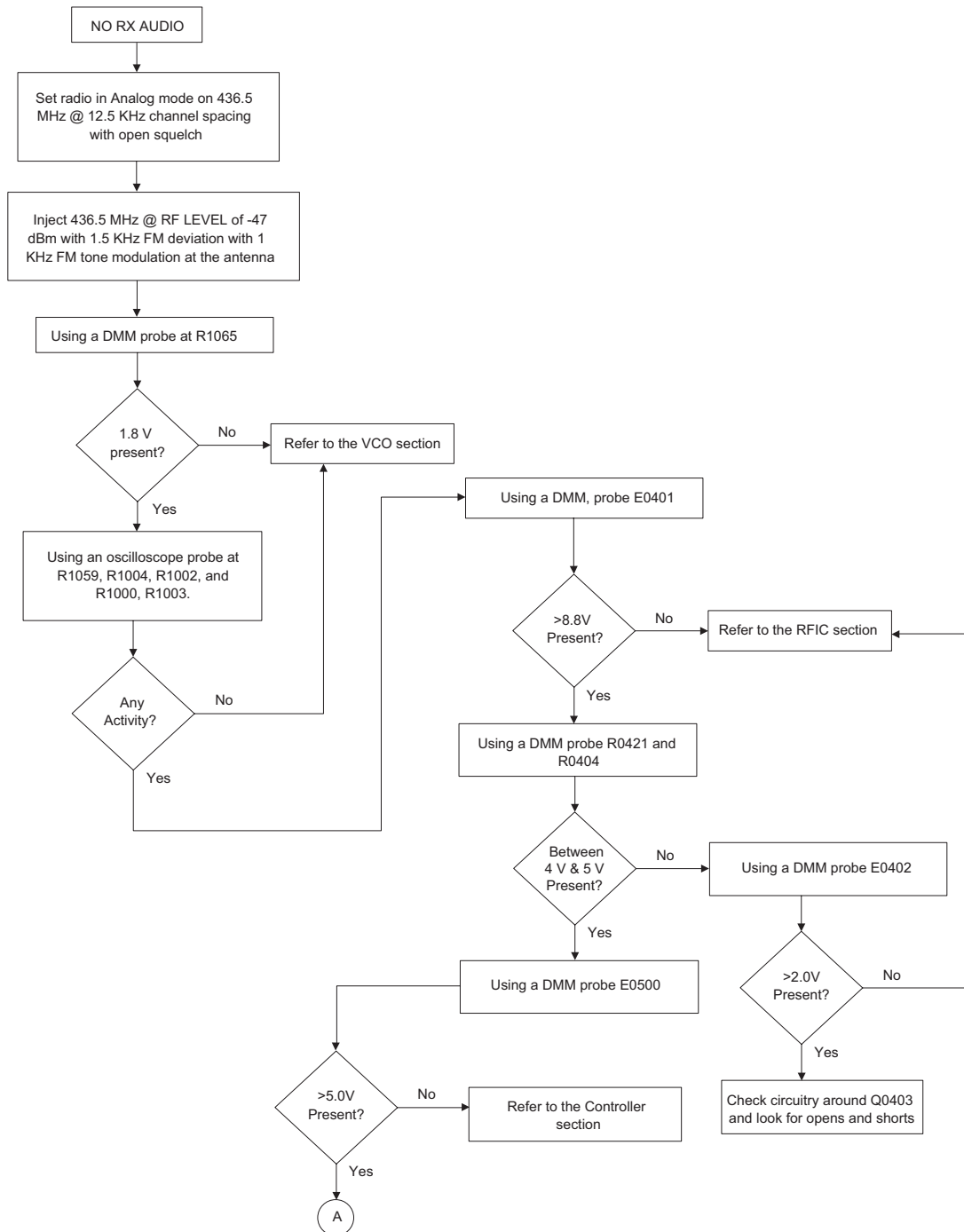
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Notes

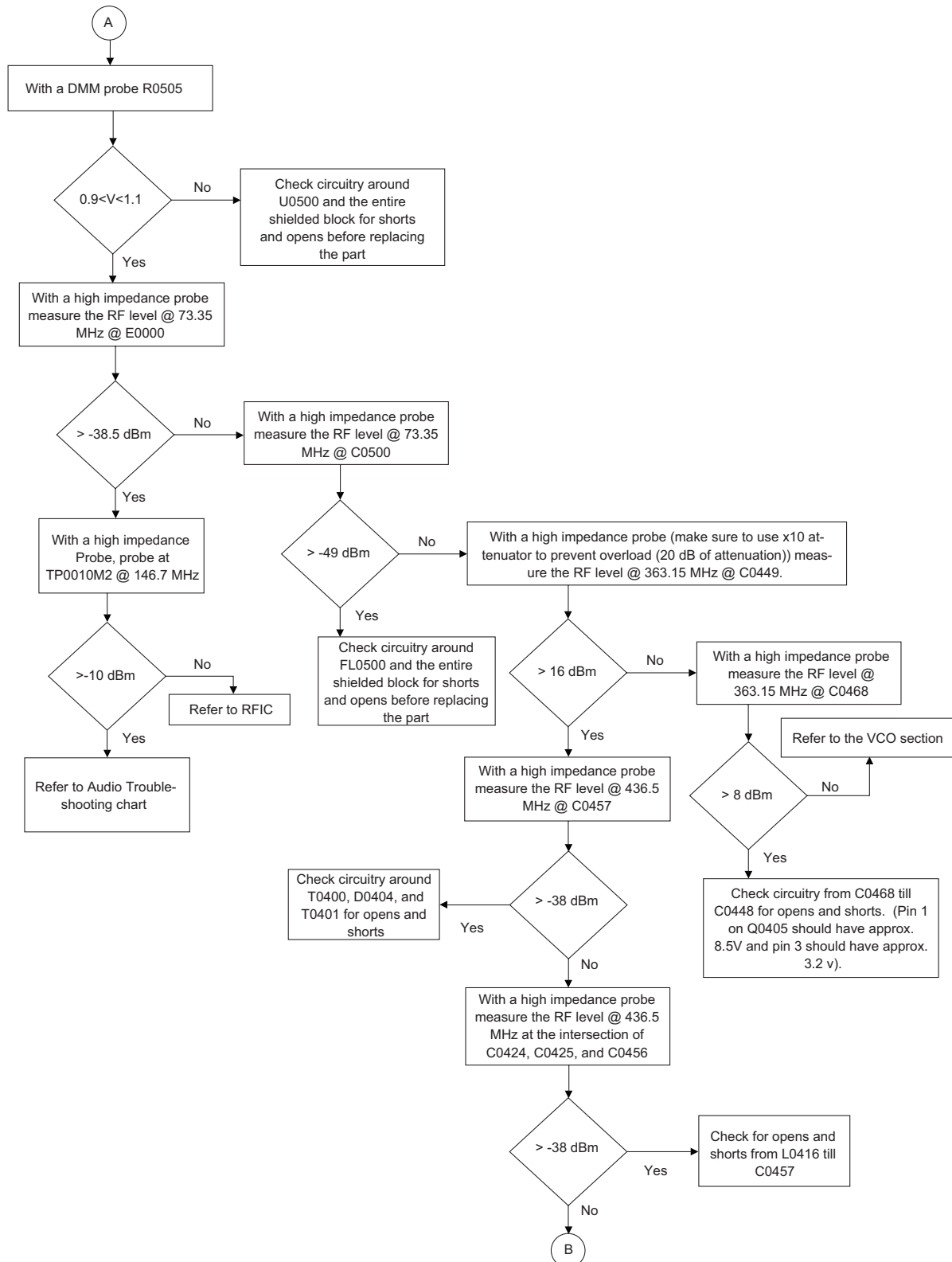
Section 1

TROUBLESHOOTING CHARTS

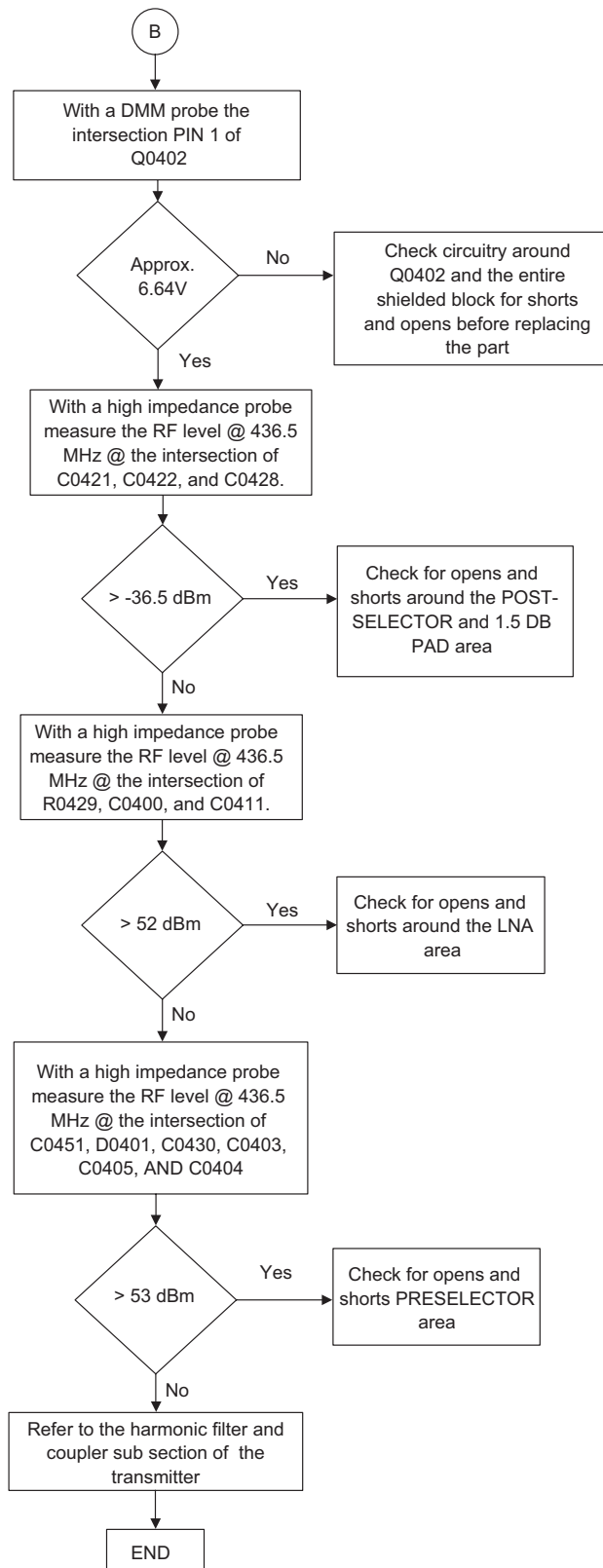
1.0 Troubleshooting Flow Chart for Receiver (Sheet 1 of 3)



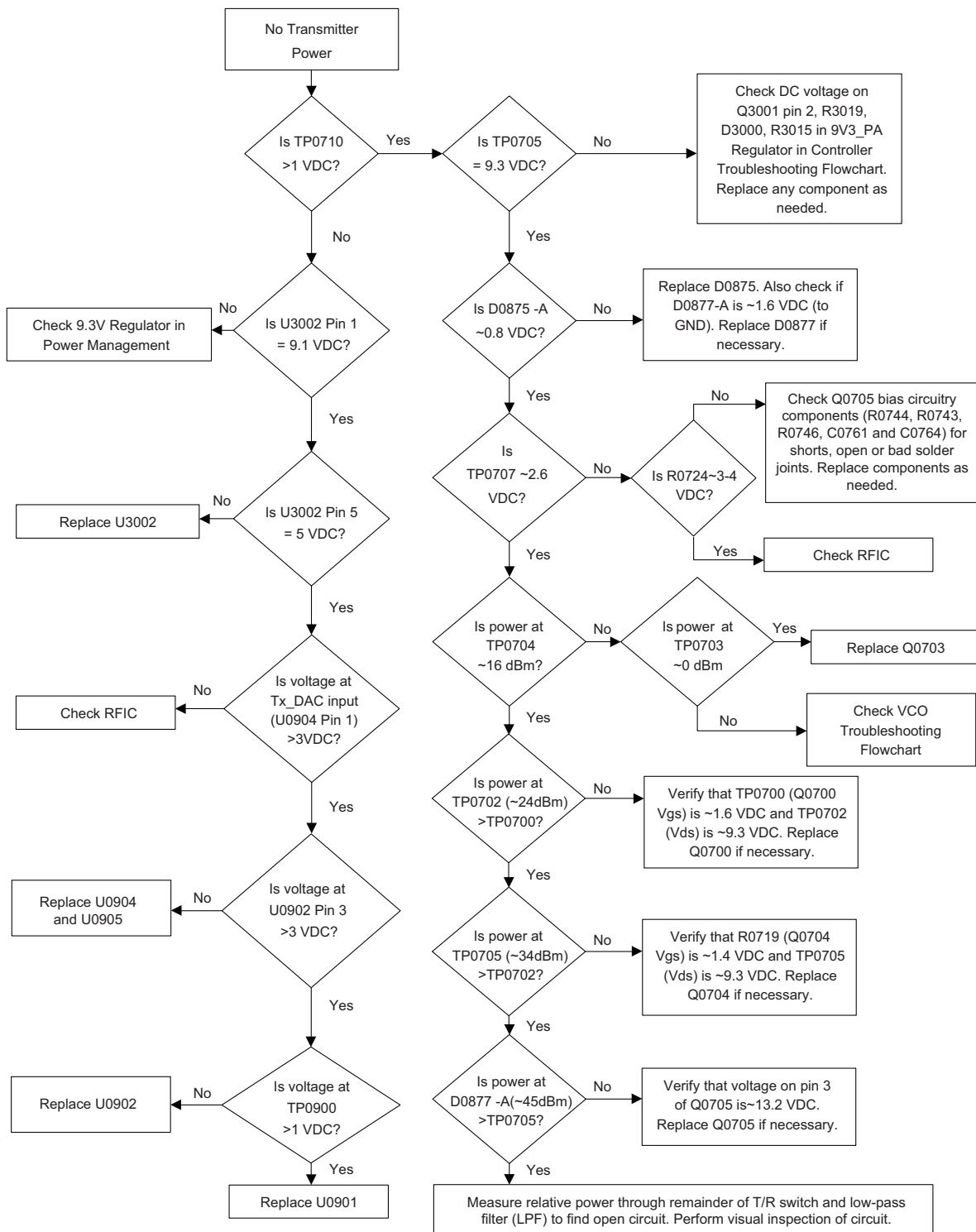
1.1 Troubleshooting Flow Chart for Receiver (Sheet 2 of 3)



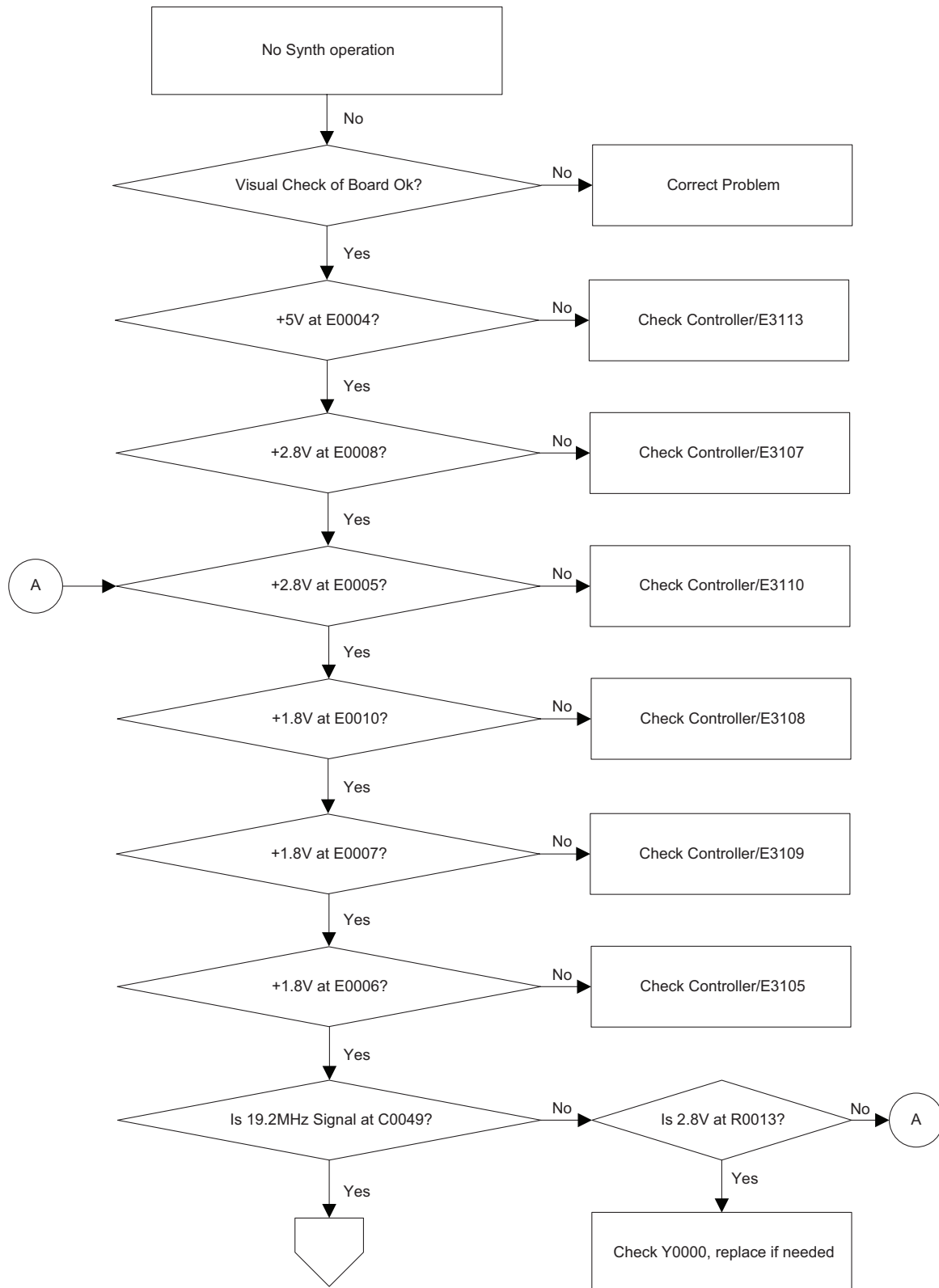
1.2 Troubleshooting Flow Chart for Receiver (Sheet 3 of 3)



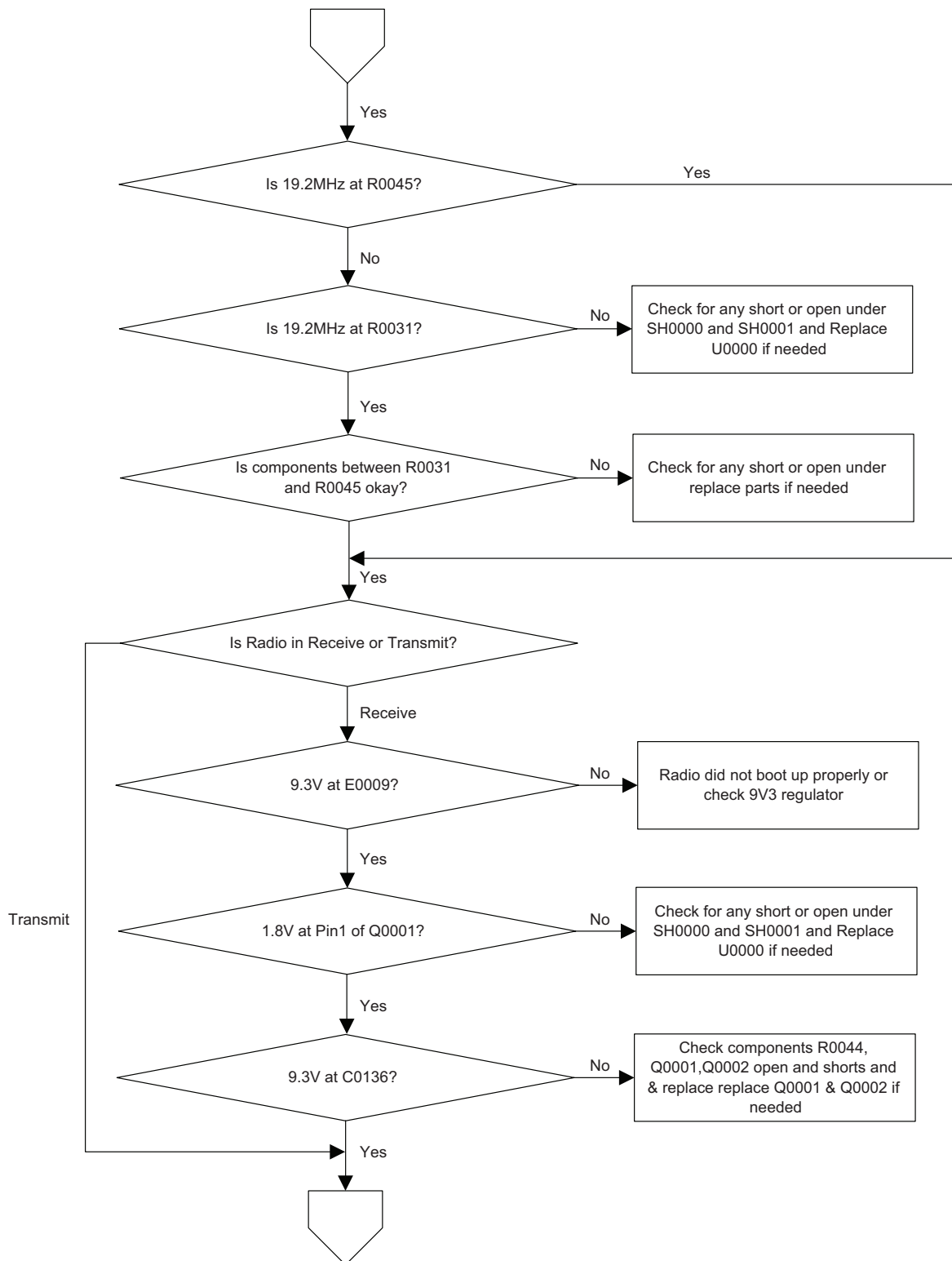
2.0 Troubleshooting Flow Chart for 25W Transmitter



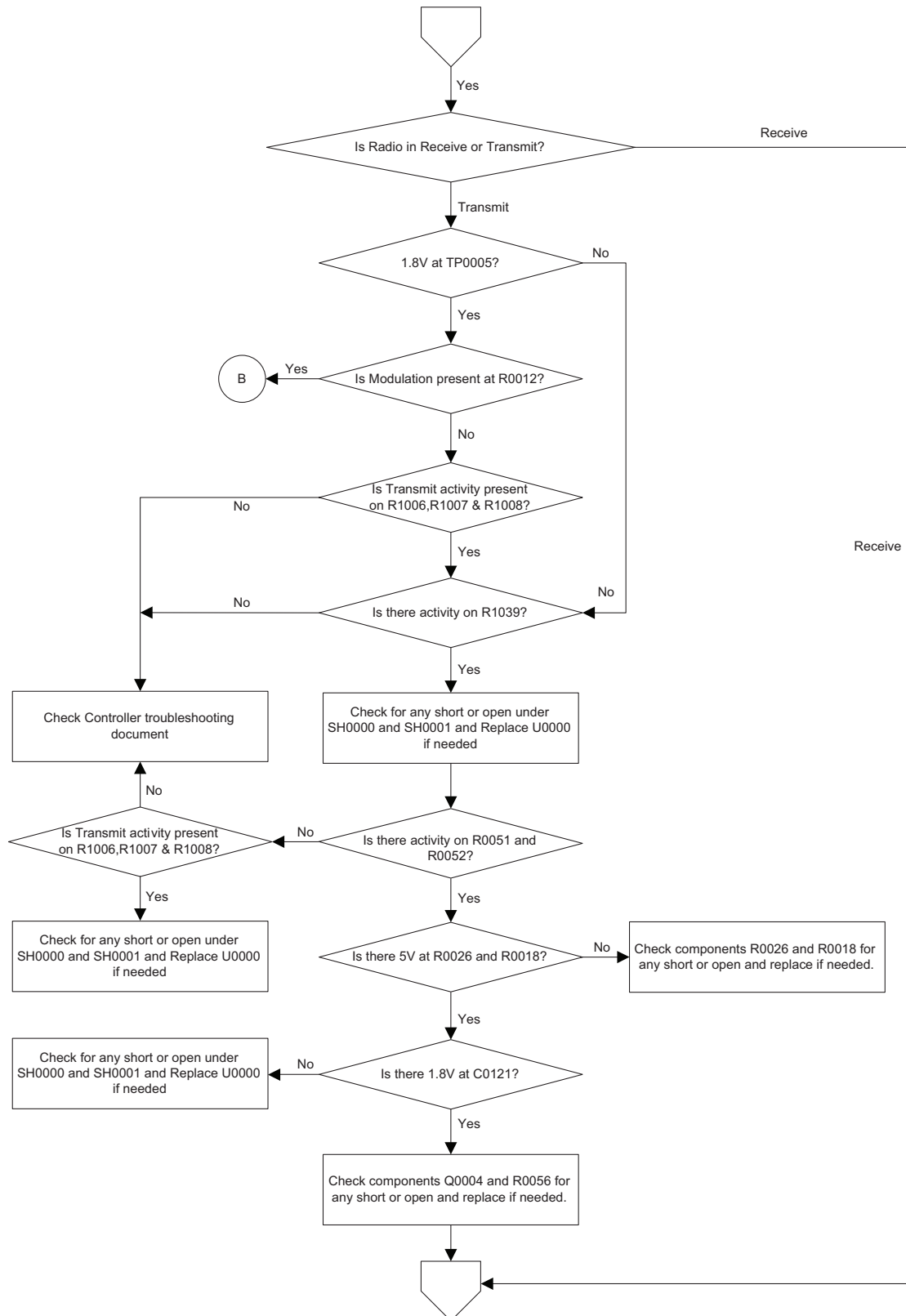
3.0 Troubleshooting Flow Chart for RFIC (Sheet 1 of 5)



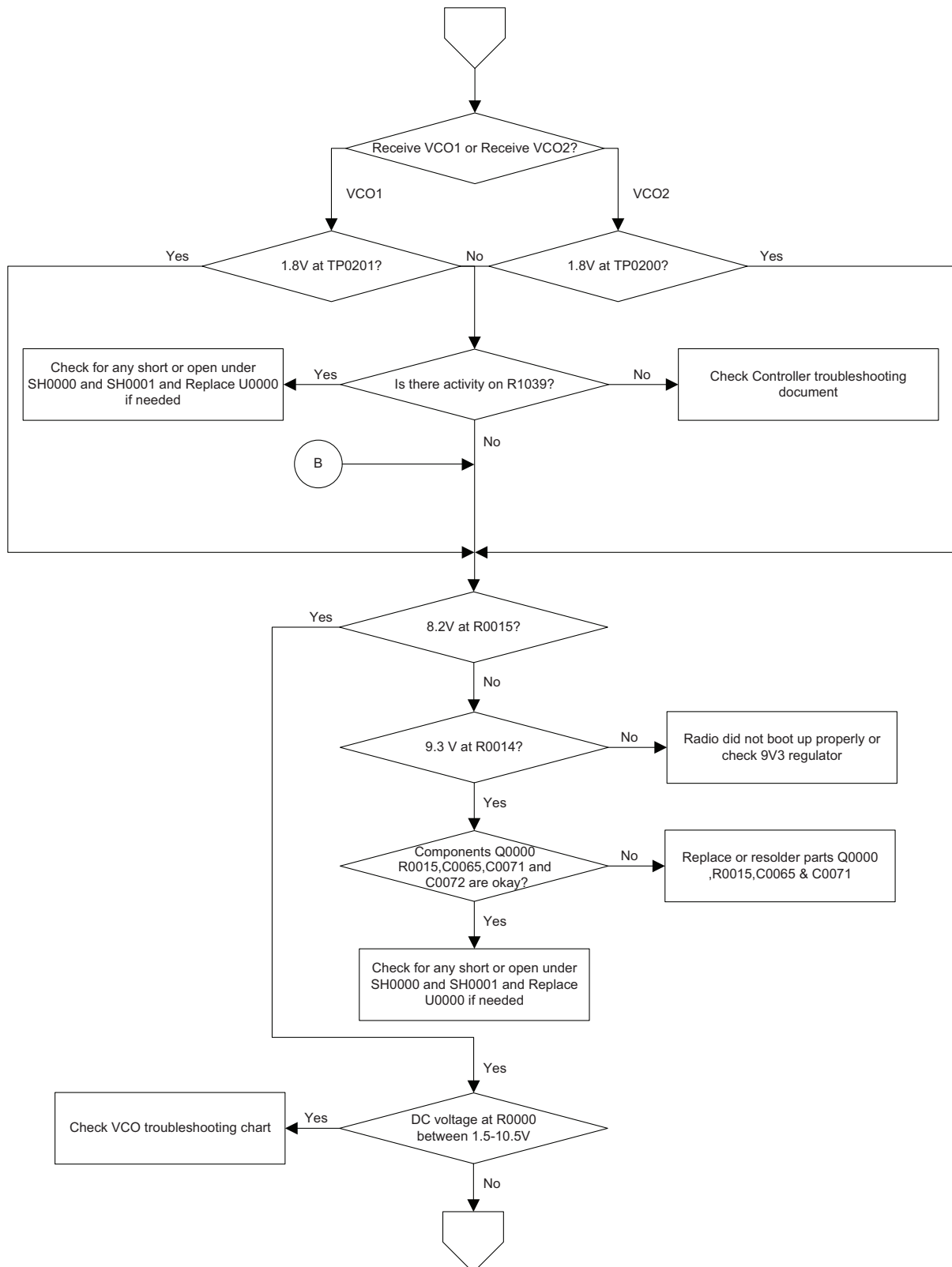
3.1 Troubleshooting Flow Chart for RFIC (Sheet 2 of 5)



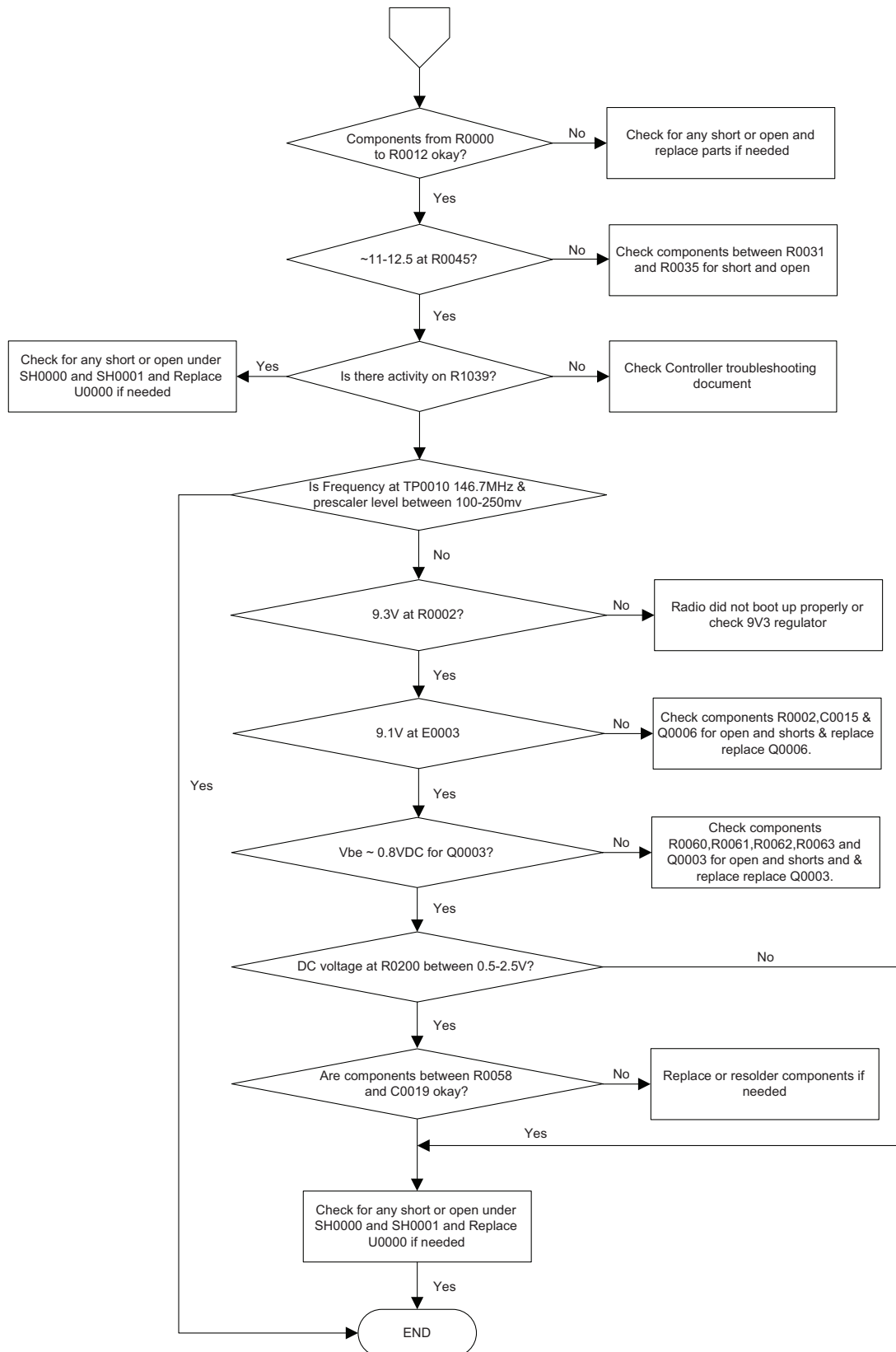
3.2 Troubleshooting Flow Chart for RFIC (Sheet 3 of 5)



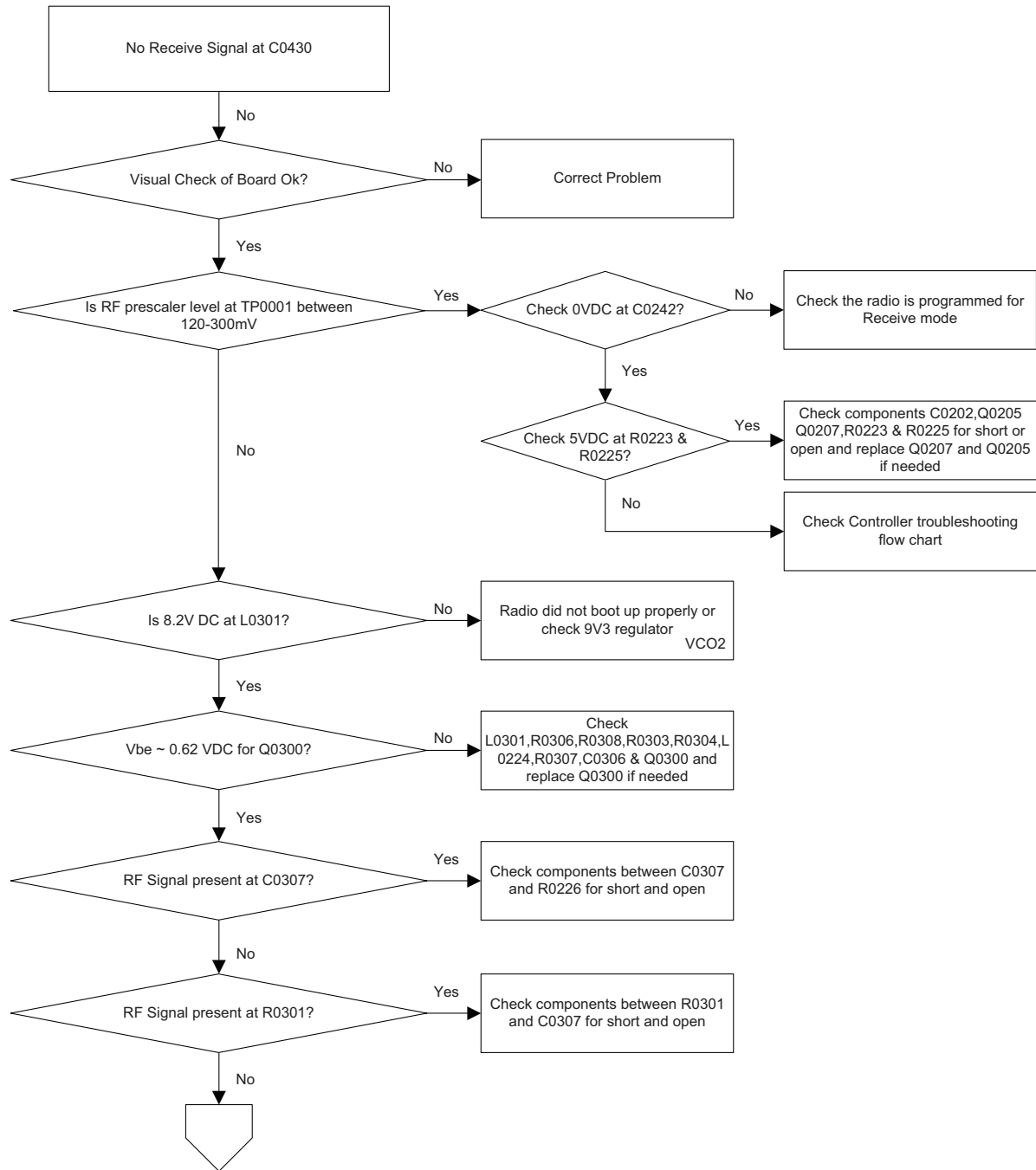
3.3 Troubleshooting Flow Chart for RFIC (Sheet 4 of 5)



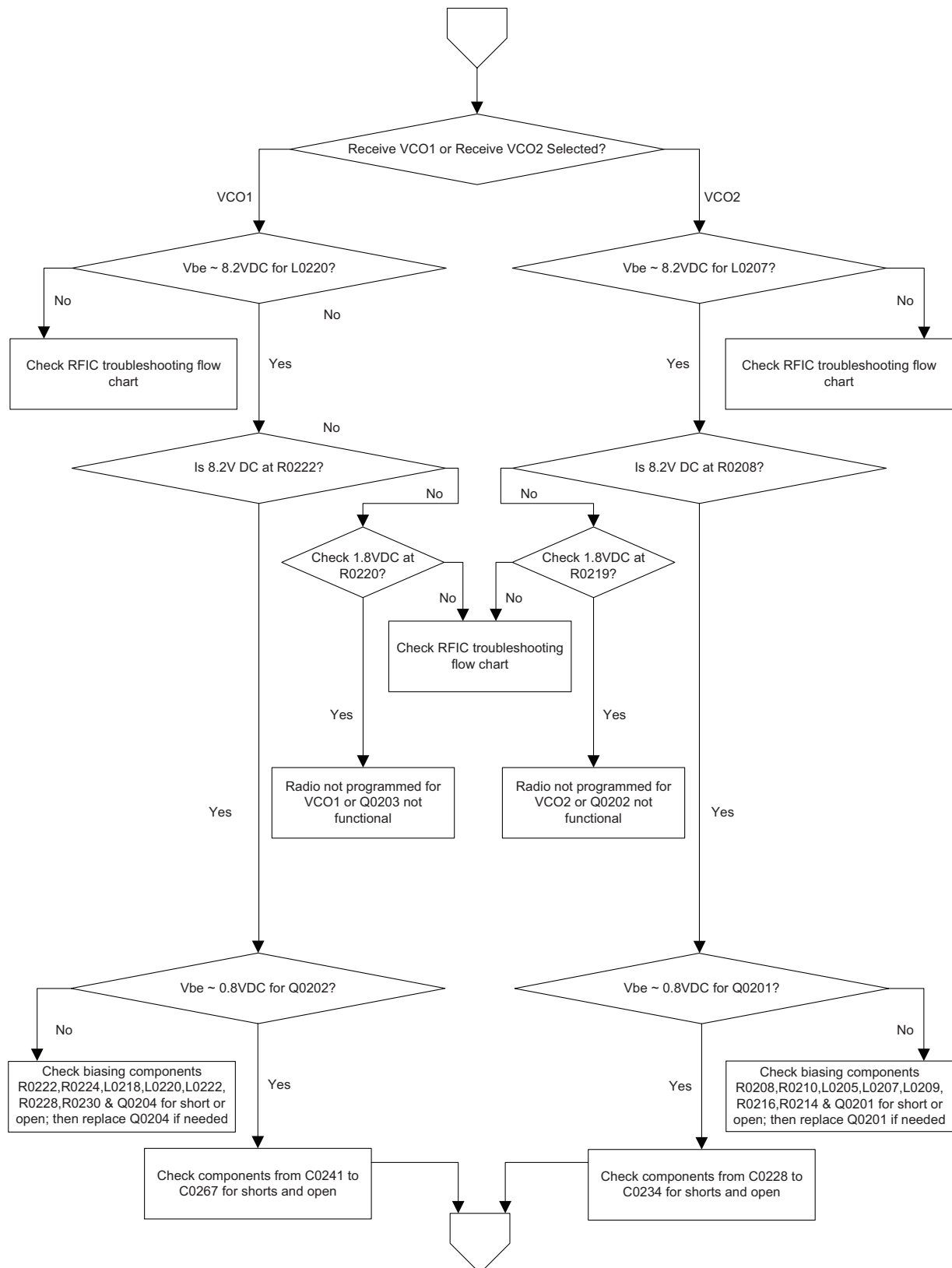
3.4 Troubleshooting Flow Chart for RFIC (Sheet 5 of 5)



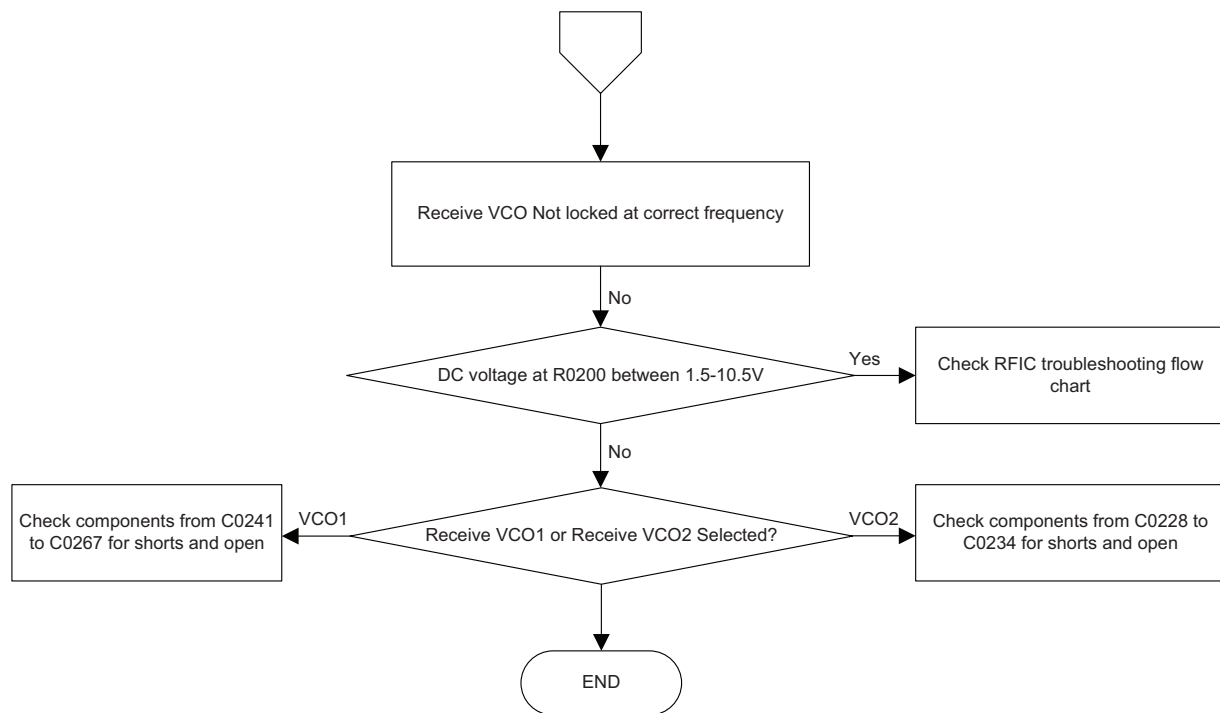
4.0 Troubleshooting Flow Chart for Rx VCO (Sheet 1 of 3)



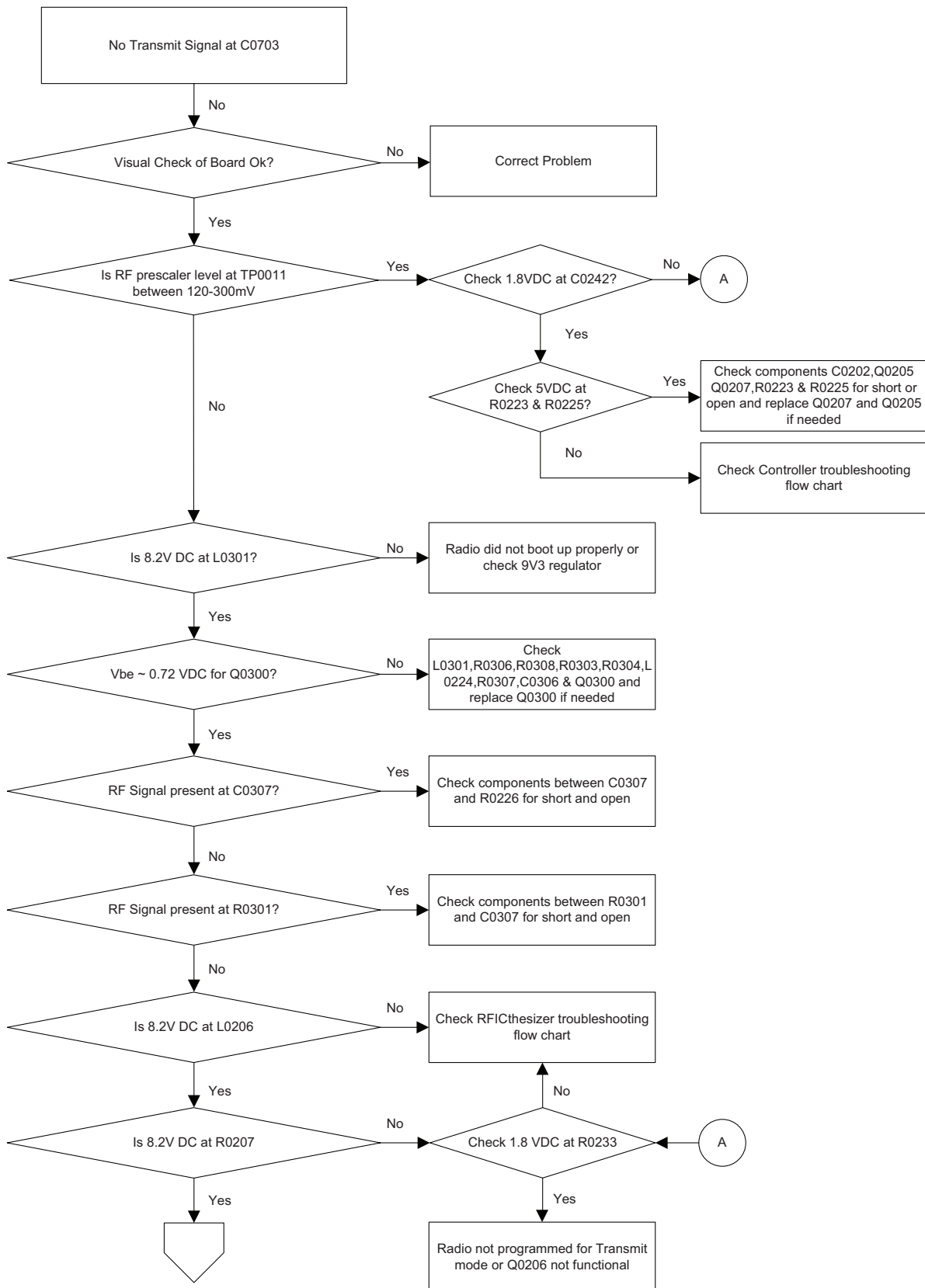
4.1 Troubleshooting Flow Chart for Rx VCO (Sheet 2 of 3)



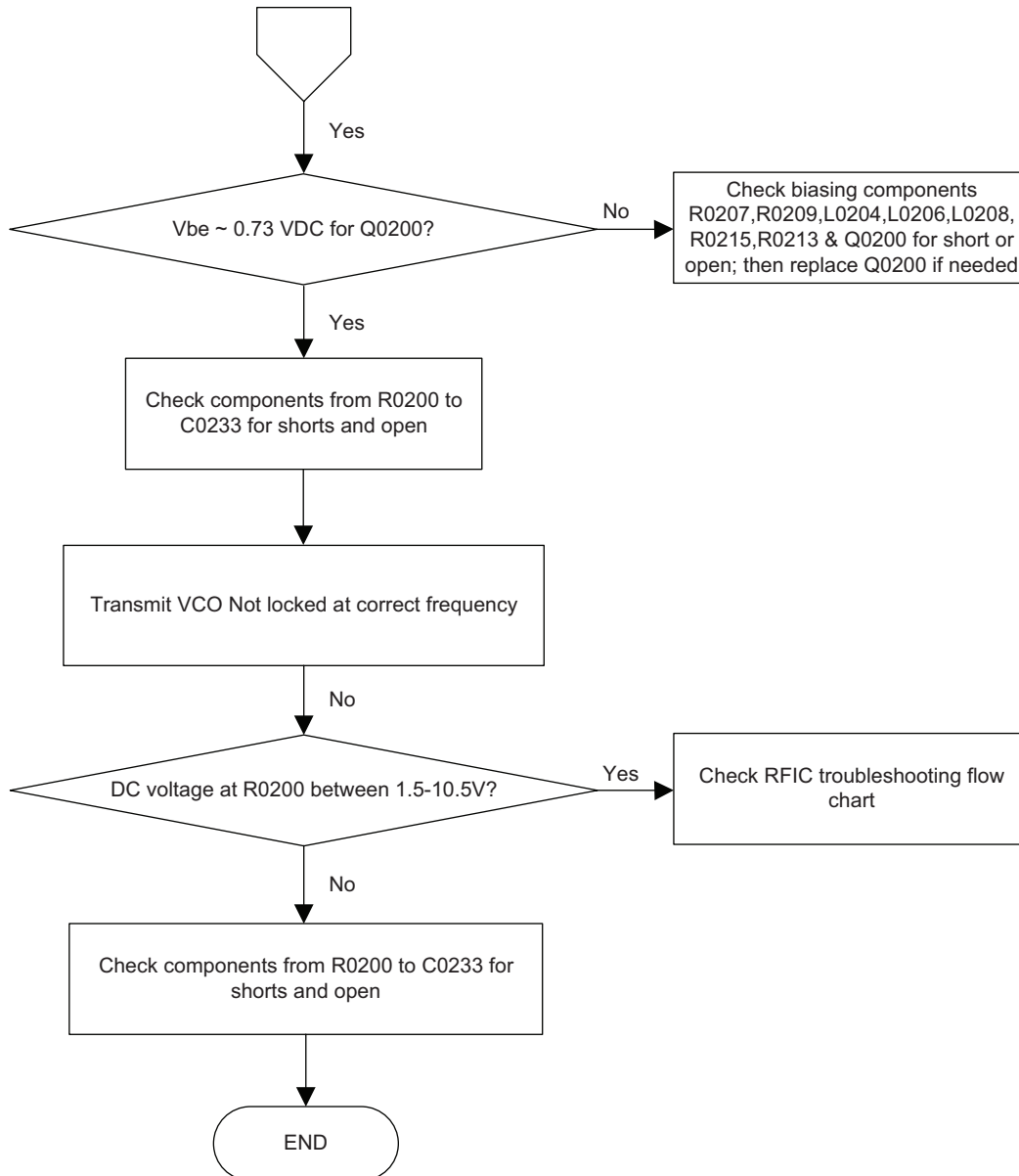
4.2 Troubleshooting Flow Chart for Rx VCO (Sheet 3 of 3)



5.0 Troubleshooting Flow Chart for Tx VCO (Sheet 1 of 2)



5.1 Troubleshooting Flow Chart for Tx VCO (Sheet 2 of 2)



Section 2

UHF1 PCB/SCHEMATICS/PARTS LIST

1.0 Allocation of Schematics and Circuit Boards

1.1 UHF1 25W Circuits

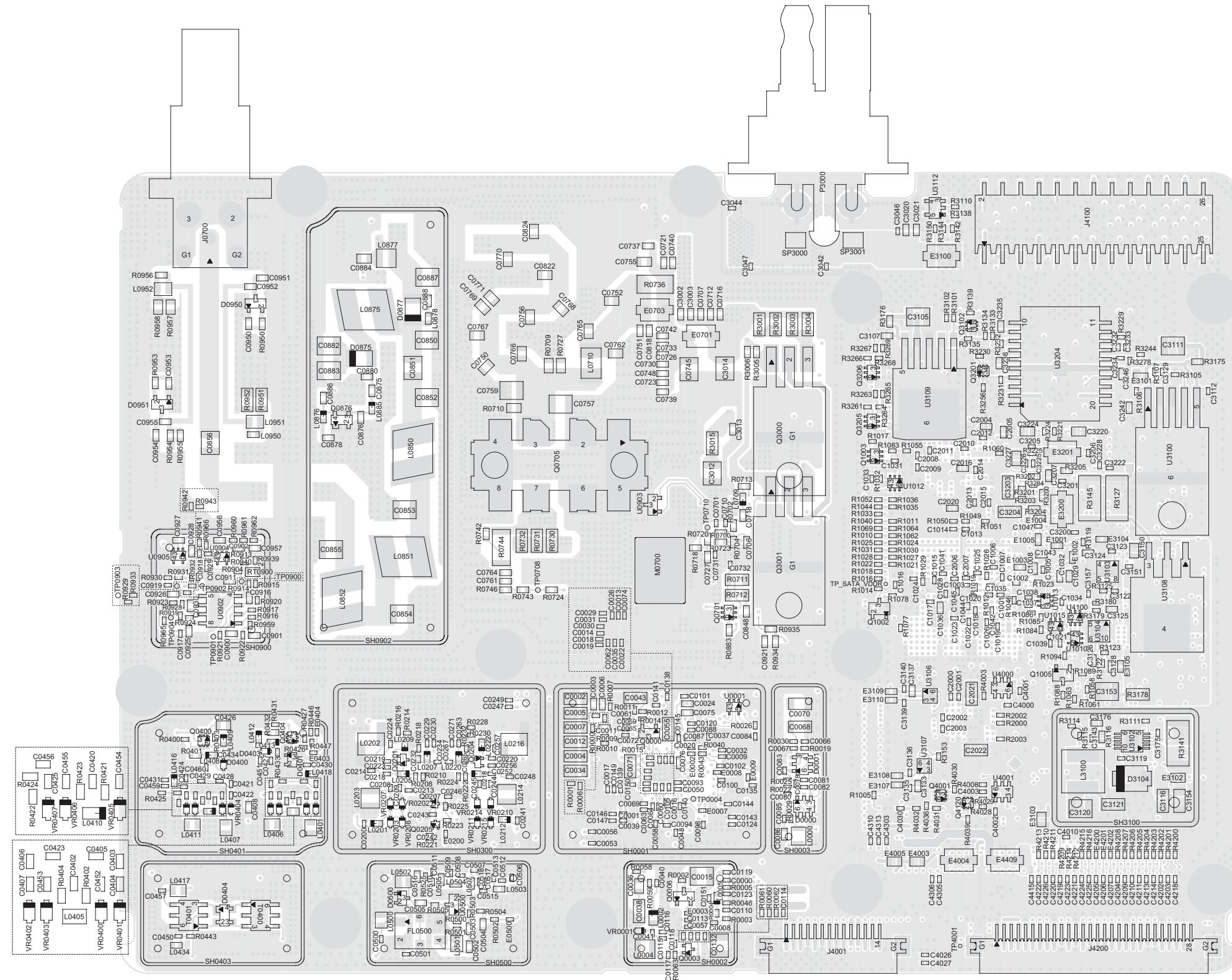
The UHF1 circuits are contained on the Printed Circuit Board (PCB) which also contains the Controller circuits. This chapter shows the schematics for the UHF1 25W circuits only, refer to the Controller section for details of the related Controller circuits. The PCB component layouts and the Parts List in this chapter show both the Controller and UHF1 25W circuit components. The UHF1 25W schematics and the related PCB and parts list are shown in the table below.

Table 2-1 UHF1 1–25W Schematic Diagrams and Parts List

PCB : 84012209001-A Main Board Top Side 84012209001-A Main Board Bottom Side	Page 2-3 Page 2-4
SCHEMATICS Overall Receiver Front- End Receiver IF Amp Transmitter Power Amplifier Power Control Transmitter Power Amplifier DC Distribution RFIC Receiver VCO Transmit VCO VCO Buffer	Page 2-5 Page 2-6 Page 2-7 Page 2-8 Page 2-9 Page 2-10 Page 2-11 Page 2-12 Page 2-13 Page 2-14
Parts List 84012209001-A (UHF1 25W Only)	Page 2-15

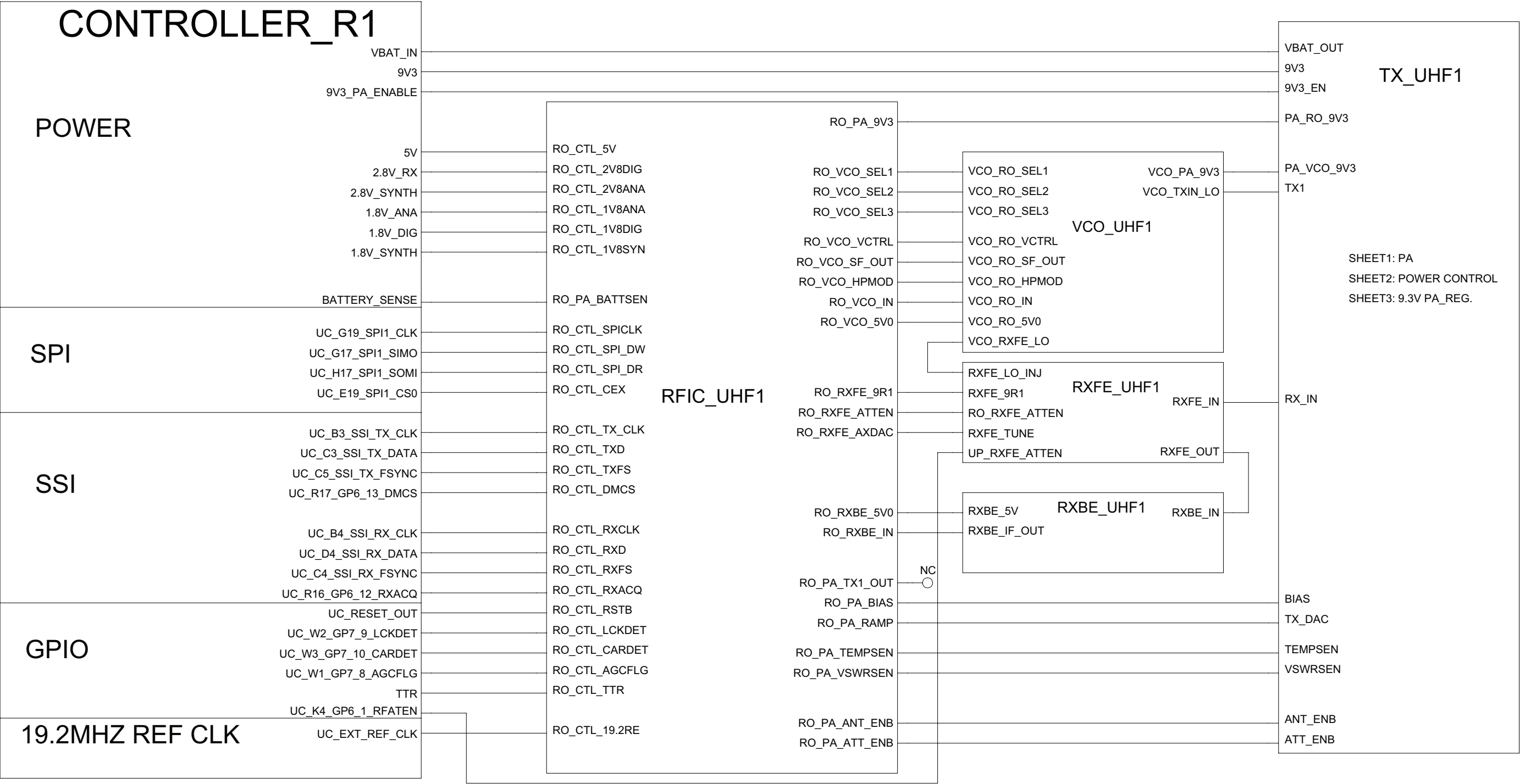
Notes

2.0 UHF1 (403–470 MHz) 1–25W PCB/Schematics/Parts List

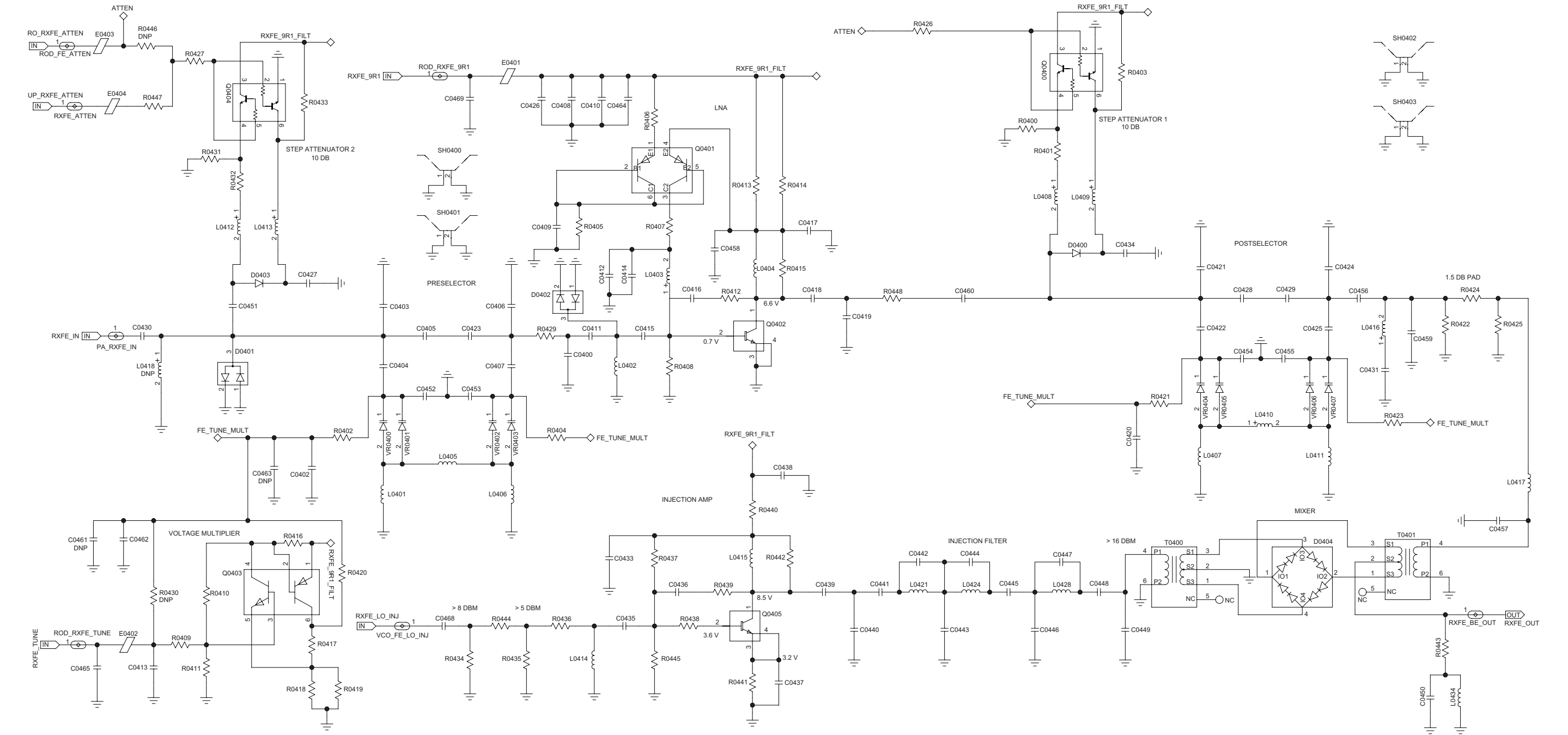


UHF1 (403–470 MHz) 1–25W 84012209001-A Top Side

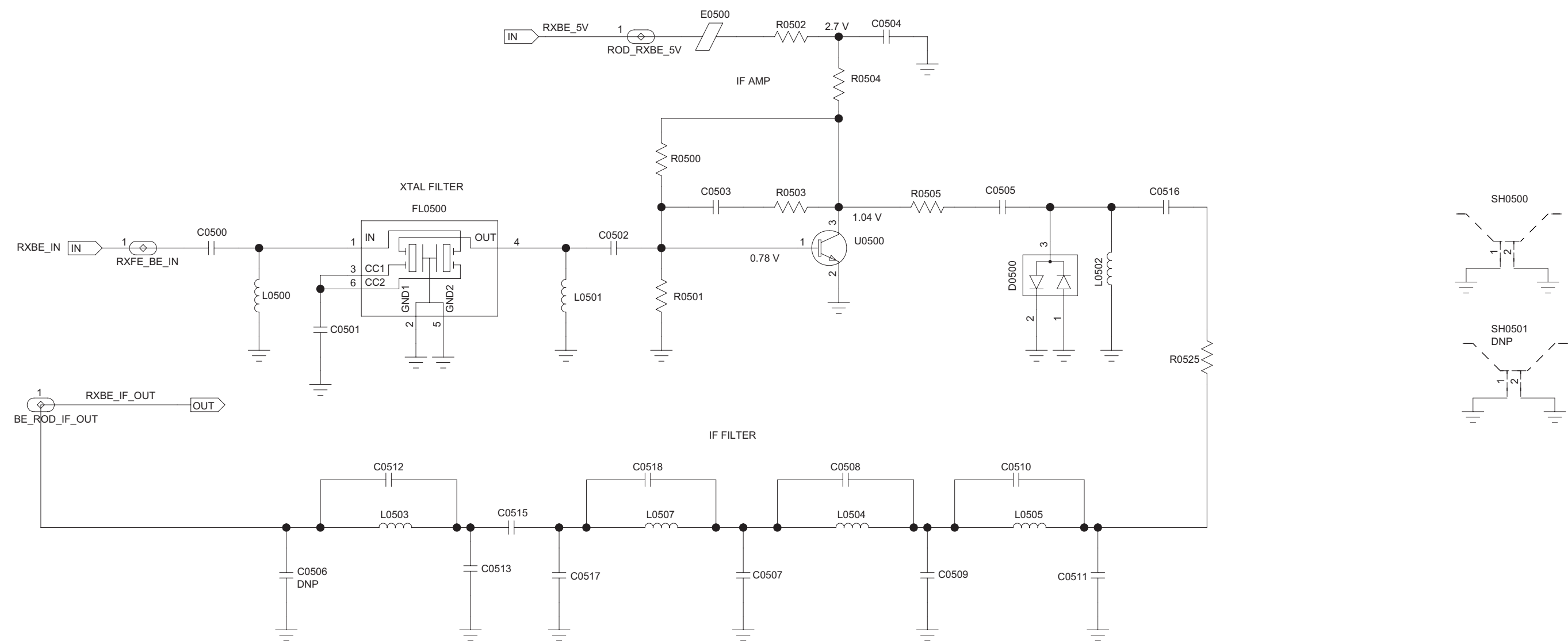




UHF1 (403–470 MHz) 1–25W Overall Schematic Diagram

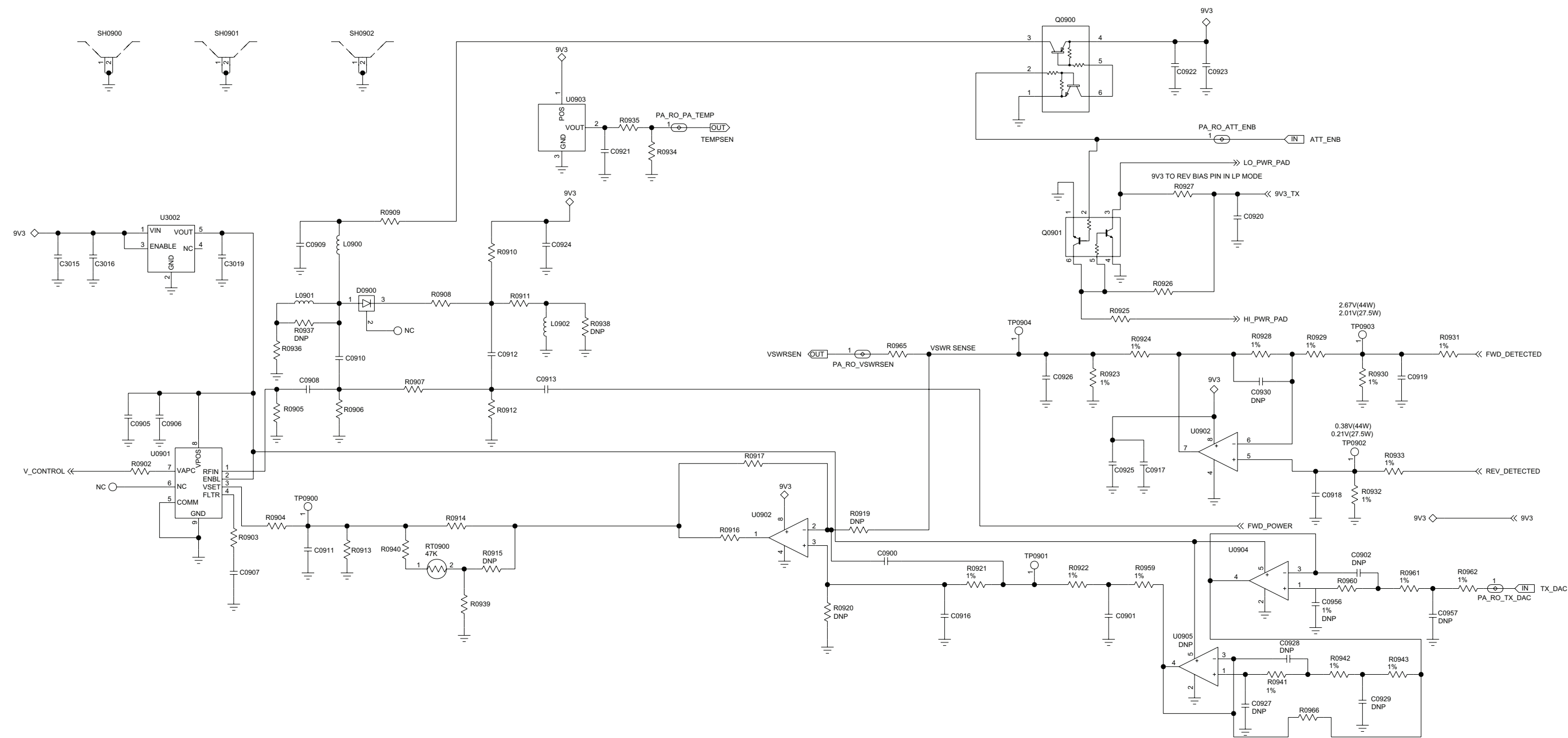


UHF1 (403–470 MHz) 1–25W Receiver Front-End Schematic Diagram



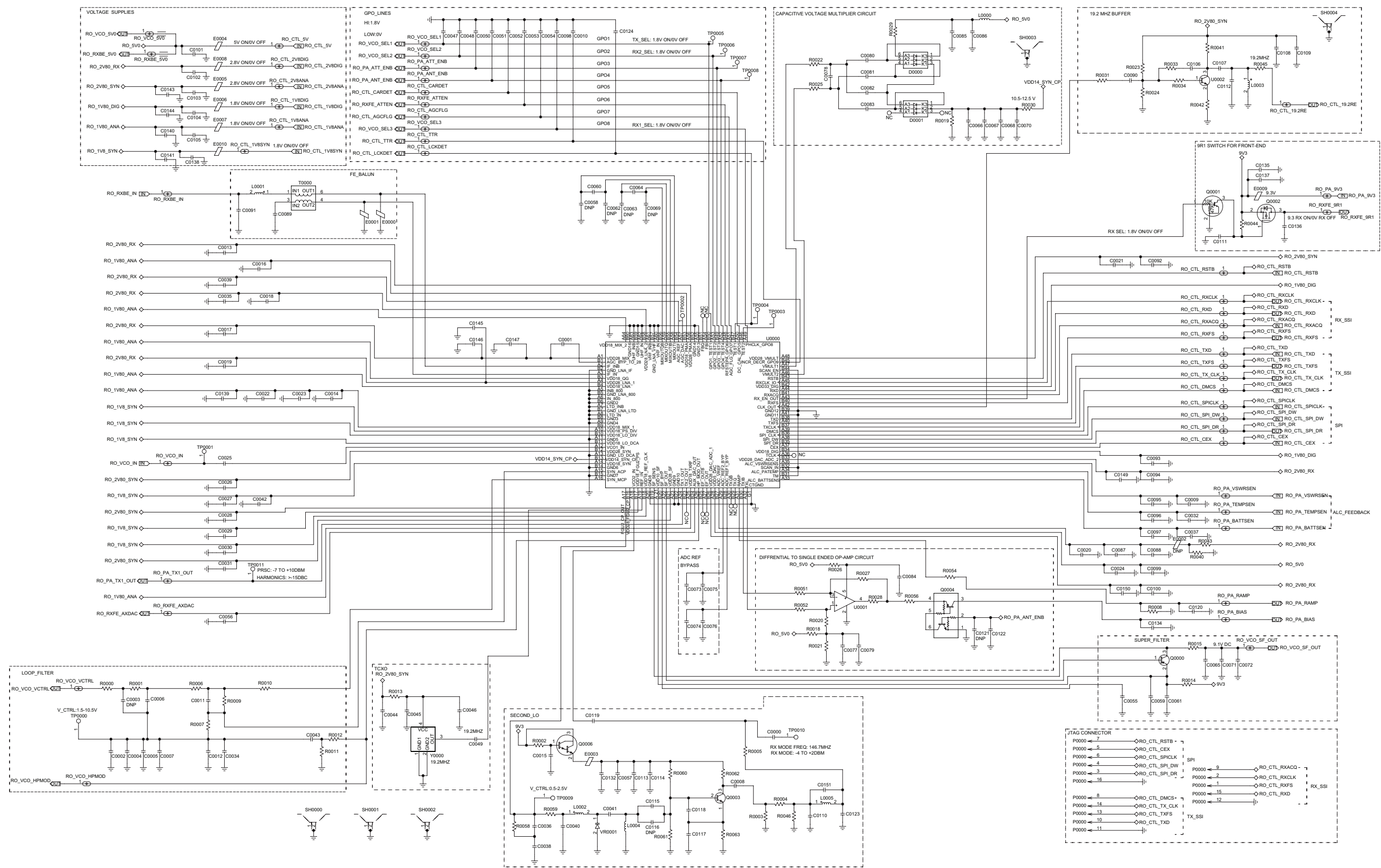
UHF1 (403–470 MHz) 1–25W Receiver IF Amp Schematic Diagram



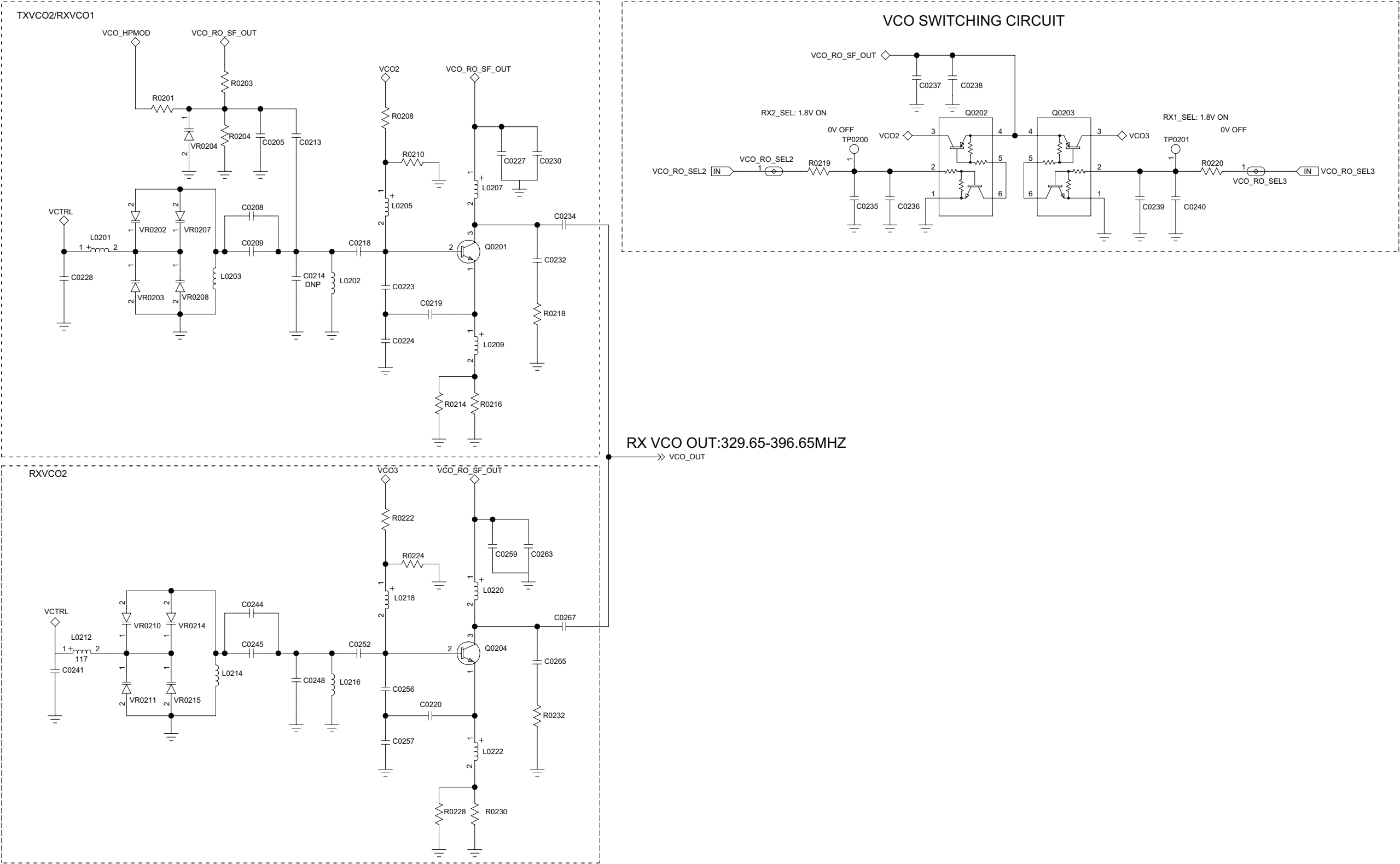


UHF1 (403–470 MHz) 1–25W Power Control Schematic Diagram

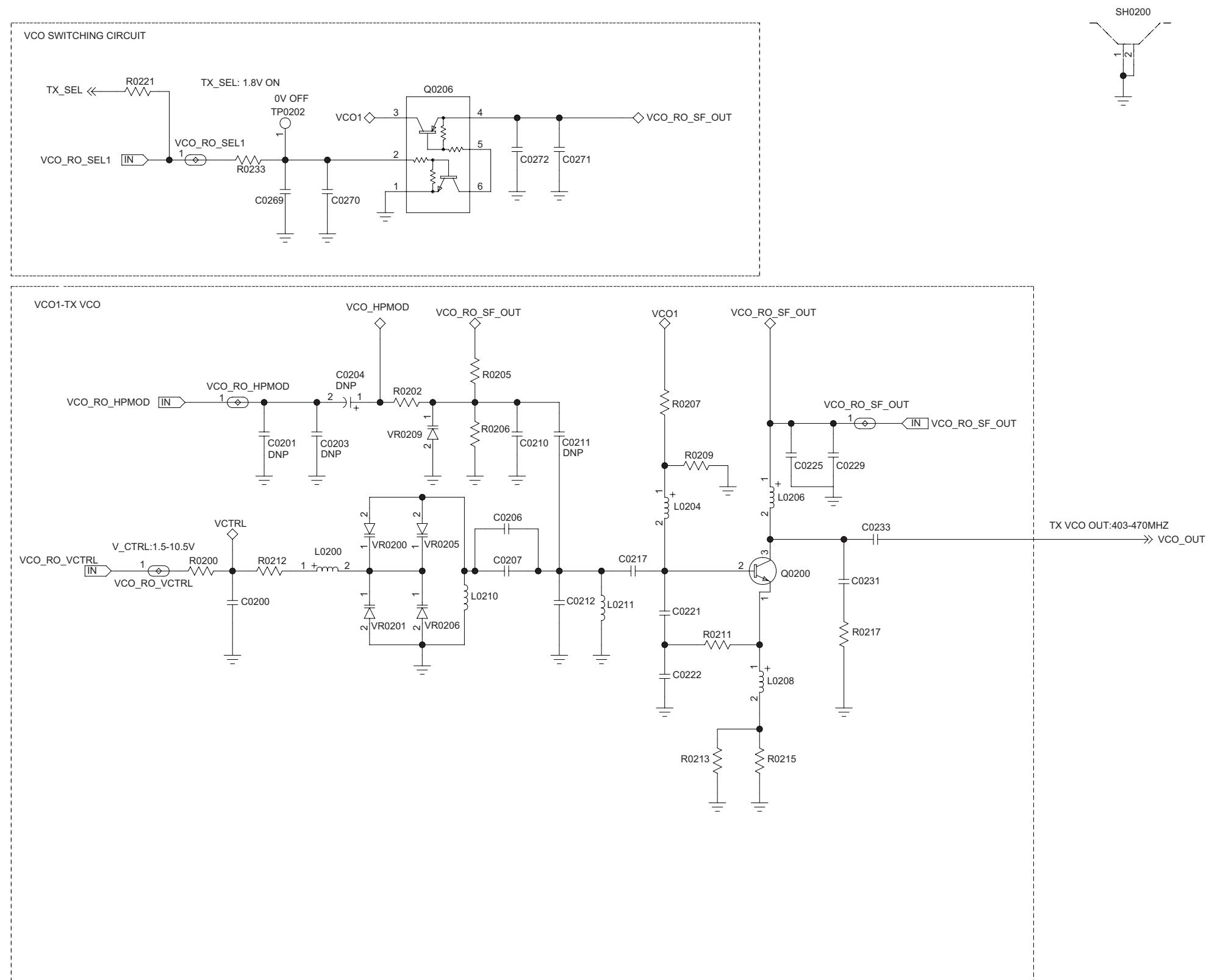




UHF1 (403–470 MHz) 1–25W RFIC Schematic Diagram



UHF1 (403–470 MHz) 1–25W Receiver VCO Schematic Diagram



UHF1 (403–470 MHz) 1–25W Transmit VCO Schematic Diagram

UHF1 PCB 84012209001-A
Parts List 1–25W

Circuit Ref.	Motorola Part No.
C0000M2	2115153H19
C0001M2	2113944A48
C0002M2	2185419D06
C0003M2	NOT PLACED
C0004M2	2185419D06
C0005M2	2185419D06
C0006M2	2113945C31
C0007M2	2185419D06
C0008M2	2115153H19
C0009M2	2113944A44
C0010M2	2113944A44
C0011M2	2113945C31
C0012M2	2185419D06
C0013M2	2113945Y02
C0014M2	2113945Y02
C0015M2	2113946J03
C0016M2	2113945A10
C0017M2	2113945Y02
C0018M2	2113945A10
C0019M2	2113945Y02
C0020M2	2113945A10
C0021M2	2113945Y02
C0022M2	2113945Y02
C0023M2	2113945Y02
C0024M2	2113956B45
C0025M2	2113944A44
C0026M2	2113944A52
C0027M2	2113945Y02
C0028M2	2113945Y02
C0029M2	2113945A10
C0030M2	2113945A10
C0031M2	2113945Y02
C0032M2	2113944A44
C0034M2	2185419D06
C0035M2	2113944A44
C0036M2	21012025001
C0037M2	2113944A44
C0038M2	2185419D06
C0039M2	2113945Y02
C0040M2	2113945A10
C0041M2	2115153H27
C0042M2	2113944A44
C0043M2	2185419D06
C0044M2	2113955D45
C0045M2	2113945Y02
C0046M2	2113944A44
C0047M2	2113944A44
C0048M2	2113944A44
C0049M2	2113945B02

Circuit Ref.	Motorola Part No.
C0050M2	2113944A44
C0051M2	2113944A44
C0052M2	2113944A44
C0053M2	2113944A44
C0054M2	2113944A44
C0055M2	2113955D37
C0056M2	2113945Y02
C0057M2	2113945B02
C0058M2	NOT PLACED
C0059M2	2113944A44
C0060M2	2113945A69
C0061M2	2113945Y02
C0062M2	NOT PLACED
C0063M2	NOT PLACED
C0064M2	2113945A69
C0065M2	2113945Y02
C0066M2	2113945B02
C0067M2	2113945Y02
C0068M2	2113955D37
C0069M2	NOT PLACED
C0070M2	2113955D37
C0071M2	2113955D37
C0072M2	2113944A44
C0073M2	2113944A44
C0074M2	2113944A44
C0075M2	2113946S35
C0076M2	2113946S35
C0077M2	2113944A44
C0078M2	2115153H41
C0079M2	2113955D37
C0080M2	2113945B02
C0081M2	2113945B02
C0082M2	2113945B02
C0083M2	2113945B02
C0084M2	2113944A44
C0085M2	2113944A44
C0086M2	2113945C31
C0087M2	2113946S35
C0088M2	2113945Y02
C0089M2	2113945Y02
C0090M2	2113945B02
C0091M2	2113944C82
C0092M2	2113944A44
C0093M2	2113945Y02
C0094M2	2113945Y02
C0095M2	2113945A13
C0096M2	2113945B02
C0097M2	2113945B02
C0098M2	2113944A44
C0099M2	2113945Y02
C0100M2	2113945Y02

Circuit Ref.	Motorola Part No.
C0101M2	2113944A44
C0102M2	2113944A44
C0103M2	2113944A44
C0104M2	2113944A44
C0105M2	2113944A44
C0106M2	2113945B02
C0107M2	2113945B02
C0108M2	2113944A44
C0109M2	2113945Y02
C0110M2	2115153H50
C0111M2	2113945Y02
C0112M2	2113944A44
C0113M2	2113944A44
C0114M2	2113945Y02
C0115M2	2115153H39
C0116M2	NOT PLACED
C0117M2	2115153H43
C0118M2	2115153H44
C0119M2	2113945A10
C0120M2	2113944A44
C0121M2	NOT PLACED
C0122M2	2113944A44
C0123M2	2115153H50
C0124M2	2113944A44
C0132M2	2113946J03
C0134M2	2113944A44
C0135M2	2113944A44
C0136M2	2113944A44
C0137M2	2113945Y02
C0138M2	2113944A44
C0139M2	2113944A44
C0140M2	2113945Y02
C0141M2	2113945Y02
C0143M2	2113945Y02
C0144M2	2113945Y02
C0145M2	2113944A44
C0146M2	2113945A10
C0147M2	2113945A10
C0149M2	2113944A44
C0150M2	2113944A44
C0151M2	2115153H37
C0200M7	2113944A44
C0201M7	NOT PLACED
C0202M7	2113944A44
C0203M7	NOT PLACED
C0204M7	NOT PLACED
C0205M7	2115153H03
C0206M7	2115153H35
C0207M7	2115153H34
C0208M7	2115153H19
C0209M7	2115153H19

Circuit Ref.	Motorola Part No.
C0210M7	2115153H03
C0211M7	NOT PLACED
C0212M7	2115153H14
C0213M7	2115153H03
C0214M7	NOT PLACED
C0215M7	2115153H20
C0216M7	2115153H19
C0217M7	2115153H25
C0218M7	2115153H24
C0219M7	2115153H47
C0220M7	2115153H49
C0221M7	2115153H40
C0222M7	2115153H35
C0223M7	2115153H39
C0224M7	2115153H38
C0225M7	2113945Y02
C0226M7	2115153H19
C0227M7	2113945Y02
C0228M7	2113944A44
C0229M7	2113944A44
C0230M7	2113944A44
C0231M7	2113944A44
C0232M7	2113944A44
C0233M7	2115153H10
C0234M7	2115153H10
C0235M7	2113944A44
C0236M7	2113945Y02
C0237M7	2113944A44
C0238M7	2113945Y02
C0239M7	2113945Y02
C0240M7	2113944A44
C0241M7	2113944A44
C0242M7	2113944A44
C0243M7	2113944A44
C0244M7	2115153H23
C0245M7	2115153H23
C0246M7	2113944A44
C0247M7	2113944A44
C0248M7	2115153H22
C0249M7	2113944A44
C0252M7	2115153H22
C0256M7	2115153H40
C0257M7	2115153H35
C0259M7	2113945Y02
C0263M7	2113944A44
C0265M7	2113944A44
C0267M7	2115153H10
C0269M7	2113944A44
C0270M7	2113945Y02
C0271M7	2113944A44
C0272M7	2113945Y02

Circuit Ref.	Motorola Part No.
C0276M7	2115153H19
C0300M7	NOT PLACED
C0301M7	NOT PLACED
C0302M7	2115153H11
C0304M7	2115153H59
C0305M7	2113945Y02
C0306M7	2113945B02
C0307M7	2115153H59
C0308M7	2113945B02
C0309M7	2115153H08
C0310M7	2115153H07
C0311M7	2115153H25
C0400M4	2115153H03
C0402M4	2113944A44
C0403M4	2115153H15
C0404M4	2115153H37
C0405M4	2115153H10
C0406M4	2115153H15
C0407M4	2115153H37
C0408M4	2113945C31
C0409M4	2113945C31
C0410M4	2113944A44
C0411M4	2115153H45
C0412M4	2113946F05
C0413M4	2113944A44
C0414M4	2113944A44
C0415M4	2115153H39
C0416M4	2113945C31
C0417M4	2113944A44
C0418M4	2113944A44
C0419M4	2115153H03
C0420M4	2113944A44
C0421M4	2115153H15
C0422M4	2115153H37
C0423M4	2115153H08
C0424M4	2115153H15
C0425M4	2115153H37
C0426M4	2113946F05
C0427M4	2115153H41
C0428M4	2115153H10
C0429M4	2115153H08
C0430M4	2113944A38
C0431M4	2115153H37
C0433M4	2113944A44
C0434M4	2115153H53
C0435M4	2115153H49
C0436M4	2113944A44
C0437M4	2113945C31
C0438M4	2113944A44
C0439M4	2115153H25
C0440M4	2115153H20

Circuit Ref.	Motorola Part No.
C0441M4	2115153H41
C0442M4	2115153H06
C0443M4	2115153H27
C0444M4	2115153H11
C0445M4	2115153H37
C0446M4	2115153H26
C0447M4	2115153H06
C0448M4	2115153H41
C0449M4	2115153H20
C0450M4	2115153H57
C0451M4	2113944A44
C0452M4	2115153H35
C0453M4	2115153H35
C0454M4	2115153H35
C0455M4	2115153H35
C0456M4	2115153H26
C0457M4	2115153H18
C0458M4	2113946F05
C0459M4	2115153H18
C0460M4	2113944A44
C0461M4	NOT PLACED
C0462M4	2113944A34
C0463M4	NOT PLACED
C0464M4	2113944A33
C0465M4	2113944A44
C0468M4	2113944A44
C0469M4	2113944A44
C0500M3	2115153H38
C0501M3	2115153H23
C0502M3	2113944M21
C0503M3	2113945C31
C0504M3	2113945C31
C0505M3	2113944M11
C0506M3	NOT PLACED
C0507M3	2115153H43
C0508M3	2115153H35
C0509M3	2115153H51
C0510M3	2115153H35
C0511M3	2115153H26
C0512M3	2115153H17
C0513M3	2115153H37
C0515M3	2115153H52
C0516M3	2113944M15
C0517M3	2115153H20
C0518M3	2115153H24
C0700M5	2113944C46
C0701M5	2113944A41
C0702M5	2113944C38
C0703M5	2113944C42
C0704M5	2113944A41
C0705M5	2113944A41

Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.
C0706M5	NOT PLACED	C0757M5	2111078B32	C0888M5	2113944C42	C3019M5	2113946S35	FL0500M3	9116854H02	L0418M4	NOT PLACED
C0707M5	2113944C82	C0758M5	NOT PLACED	C0900M5	NOT PLACED	C3020M5	2113945C26	J0700M5	09009348001	L0421M4	2414015B15
C0708M5	NOT PLACED	C0759M5	2111078B31	C0901M5	NOT PLACED	C3021M5	2113944C06	L0000M2	2466505A01	L0424M4	2414015B15
C0709M5	2113945C04	C0760M5	2113944C80	C0902M5	2113944C51	C3022M5	2113945A10	L0001M2	2414017N19	L0428M4	2414015B15
C0710M5	2113944A41	C0761M5	2113944C45	C0905M5	2113945C31	C3029M5	NOT PLACED	L0002M2	2414017K32	L0434M4	2414017N20
C0711M5	2113944C46	C0762M5	2113944F01	C0906M5	2113945A10	C3038M5	2115153H48	L0003M2	2414017N29	L0500M3	2414015B27
C0712M5	2113945C04	C0763M5	2113944C34	C0907M5	2113945L41	C3041M5	2115153H48	L0004M2	2414015A03	L0501M3	2414015B28
C0713M5	2113944A41	C0764M5	2113944C51	C0908M5	2113944A44	C3042M5	2115153H48	L0005M2	2414017N16	L0502M3	2414015B26
C0714M5	2113944F47	C0765M5	2113944F01	C0909M5	2113944C02	C3044M5	2115153H48	L0200M7	2414017N29	L0503M3	2414017N20
C0715M5	2113944A41	C0766M5	NOT PLACED	C0910M5	2113944A44	C3046M5	NOT PLACED	L0201M7	2414017N29	L0504M3	2414017N24
C0716M5	2113944C55	C0767M5	NOT PLACED	C0911M5	2113944C02	C3047M5	NOT PLACED	L0202M7	2415385H02	L0505M3	2414017N24
C0717M5	2113944C82	C0768M5	NOT PLACED	C0912M5	2113944A44	C3048M5	NOT PLACED	L0203M7	2414015A22	L0507M3	2414017N22
C0718M5	NOT PLACED	C0769M5	2111078A21	C0913M5	2113944A44	C3049M5	NOT PLACED	L0204M7	2414017N29	L0700M5	NOT PLACED
C0719M5	2113944A41	C0770M5	2111078A06	C0916M5	NOT PLACED	D0000M2	4815011H01	L0205M7	2414017N29	L0701M5	2414017N06
C0720M5	2113944C42	C0771M5	2111078A21	C0917M5	2113944A44	D0001M2	4815011H01	L0206M7	2414017N29	L0702M5	2414017N26
C0721M5	2113944C82	C0772M5	2113944F52	C0918M5	2113944A44	D0400M4	4884800Y03	L0207M7	2414017N29	L0703M5	2414017N26
C0722M5	2113944F42	C0773M5	2113944F47	C0919M5	2113944A44	D0401M4	4813974A19	L0208M7	2414017N29	L0704M5	2414017N26
C0723M5	2113945C04	C0789M5	2113944C38	C0920M5	2113944C02	D0402M4	4813974A19	L0209M7	2414017N29	L0705M5	2414017N06
C0724M5	2113944C83	C0793M5	2113944F57	C0921M5	2113944C02	D0403M4	4884800Y03	L0210M7	2414015A21	L0707M5	2414017N26
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C0727M5	NOT PLACED	C0803M5	2113944F01	C0924M5	2113944A44	D0700M5	4813974A06	L0214M7	2414015A21	L0710M5	2460591C53
C0728M5	2113944F39	C0804M5	2113944F02	C0925M5	2113945C31	D0875M5	4802482J02	L0216M7	2415385H02	L0720M5	2414017N13
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C0730M5	NOT PLACED	C0822M5	2111078A17	C0927M5	2113944C01	D0877M5	4802482J02	L0220M7	2414017N29	L0730M5	2414017N13
C0731M5	2113944A41	C0824M5	NOT PLACED	C0928M5	2113944C51	D0900M5	4815024H01	L0222M7	2414017N29	L0850M5	2460592A01
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C0735M5	2113944C30	C0848M5	2113944C45	C0951M5	2113944M12	E0000M2	2485449Y01	L0301M7	2414017N29	L0876M5	2414017N27
C0736M5	2113944F64	C0849M5	2113944C35	C0952M5	2113944C47	E0001M2	2485449Y01	L0302M7	2414017N28	L0877M5	2414032B49
C0737M5	2113944C51	C0850M5	2111078B05	C0953M5	2113944C47	E0002M2	NOT PLACED	L0303M7	2414017N12	L0878M5	2414017N22
C0738M5	2113944A41	C0851M5	2111078B21	C0954M5	2113944M14	E0003M2	2485449Y01	L0304M7	2414017N18	L0880M5	2414032B49
C0739M5	2113945C31	C0852M5	2111078B08	C0955M5	2113944C47	E0004M2	2485449Y01	L0305M7	2414017N13	L0885M5	2414017N13
C0740M5	2113944C51	C0853M5	2111078B16	C0956M5	2113944C01	E0005M2	2485449Y01	L0401M4	24012021001	L0900M5	2414017K31
C0741M5	2113944F53	C0854M5	2111078B15	C0957M5	2113944C49	E0006M2	2485449Y01	L0402M4	2414015B29	L0901M5	2414032F42
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C0743M5	2113944F56	C0856M5	2111078B42	C3001M5	2113944C06	E0008M2	2485449Y01	L0404M4	2414015B10	L0950M5	2414017N22
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C0745M5	2171630Y01	C0876M5	NOT PLACED	C3003M5	2113945C31	E0010M2	2485449Y01	L0406M4	24012021001	L0952M5	2414032F26
C0746M5	NOT PLACED	C0877M5	2113944C42	C3004M5	2113945C02	E0200M7	2485449Y01	L0407M4	24012021001	M0700M5	2686201B02
C0747M5	2113944C44	C0878M5	NOT PLACED	C3005M5	2113945C02	E0300M7	2485449Y01	L0408M4	2414017N28	P0000M2	NOT PLACED
C0748M5	NOT PLACED	C0879M5	2113944C42	C3008M5	2113944C51	E0401M4	2485449Y01	L0409M4	2414017N28	P3000M5	09009344001
C0749M5	2113944F64	C0880M5	2113944C75	C3009M5	2113945C31	E0402M4	2485449Y01	L0410M4	2414017N23	Q0000M2	4813973A13
C0750M5	2111078A25	C0881M5	2111078B42	C3010M5	2113944C46	E0403M4	2485449Y01	L0411M4	24012021001	Q0001M2	4816134H01
C0751M5	NOT PLACED	C0882M5	2111078B22	C3011M5	NOT PLACED	E0404M4	2485449Y01	L0412M4	2414017N28	Q0002M2	4813970A59
C0752M5	NOT PLACED	C0883M5	2111078B34	C3012M5	2113946J04	E0500M3	2409134J25	L0413M4	2414017N28	Q0003M2	4885061Y01
C0753M5	2111078A21	C0884M5	2113944F05	C3013M5	2113945C31	E0700M5	24012040001	L0414M4	2414015B15	Q0004M2	4815272H01
C0754M5	2111078B33	C0885M5	2113944C51	C3014M5	2171630Y01	E0701M5	24012040001	L0415M4	2414015B16	Q0006M2	4813973A04
C0755M5	NOT PLACED	C0886M5	2113944C47	C3015M5	2113946G01	E0703M5	24012040001	L0416M4	2414017N16	Q0200M7	4885061Y01
C0756M5	2111078A25	C0887M5	NOT PLACED	C3016M5	2113945C31	E3000M5	24012040001	L0417M4	2414015B30	Q0201M7	4885061Y01

Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.
Q0202M7	4815272H01	R0028M2	0613952R66	R0228M7	0613952Q67	R0438M4	0613958H25	R0736M5	0613959Q25	R0940M5	0613952Z76
Q0203M7	4815272H01	R0029M2	0613952Q25	R0230M7	0613952Q67	R0439M4	0613952Q83	R0742M5	NOT PLACED	R0941M5	0613952N58
Q0204M7	4885061Y01	R0030M2	0613952R66	R0232M7	0613952Q49	R0440M4	0613958H25	R0743M5	0613952J17	R0942M5	0613952N58
Q0205M7	4816134H01	R0031M2	0613952R66	R0233M7	0613952R66	R0441M4	0613958H49	R0744M5	0613959Q42	R0943M5	0613952N58
Q0206M7	4815272H01	R0033M2	0613952R01	R0300M7	0613952Q66	R0442M4	0613952Q83	R0745M5	0613952H25	R0950M5	0613952G67
Q0207M7	4816134H01	R0034M2	0613952Q57	R0301M7	0613952Q25	R0443M4	0613952Q25	R0746M5	0613952J25	R0951M5	0613958M18
Q0300M7	4802197J95	R0040M2	0613952Q70	R0302M7	0613952Q66	R0444M4	0613952K25	R0759M5	0613959H12	R0952M5	0613958M18
Q0400M4	4815271H01	R0041M2	0613952Q58	R0303M7	0613952R05	R0445M4	0613952Q75	R0849M5	0613952G67	R0953M5	0613952G67
Q0401M4	4815267H01	R0042M2	0613952Q42	R0304M7	0613952Q89	R0446M4	NOT PLACED	R0876M5	0613958S73	R0954M5	0613952H56
Q0402M4	4815118H01	R0043M2	0613952Q73	R0305M7	0613952Q33	R0447M4	0613952R66	R0877M5	0613959Y37	R0955M5	0613952H56
Q0403M4	4815270H01	R0044M2	0613952R25	R0306M7	0613952Q32	R0448M4	0613952Q25	R0878M5	0613959Y37	R0956M5	0613952H67
Q0404M4	4815271H01	R0045M2	0613952R66	R0307M7	0613952Q49	R0500M3	0613952Q87	R0879M5	0613952J25	R0957M5	0613958C25
Q0405M4	4815118H01	R0046M2	0613952Q57	R0308M7	0613952Q32	R0501M3	0613952R19	R0882M5	0613952G67	R0958M5	0613958C25
Q0700M5	4816547H01	R0051M2	0613952R01	R0309M7	0613952Q42	R0502M3	0613952Q66	R0883M5	0613952G67	R0959M5	0613952R66
Q0701M5	4816013H01	R0052M2	0613952R01	R0400M4	0613952R01	R0503M3	0613952Q88	R0902M5	0613952R66	R0960M5	0613952N58
Q0703M5	4802246J29	R0054M2	0613952R66	R0401M4	0613952H81	R0504M3	0613952Q61	R0903M5	0613952N01	R0961M5	0613952N58
Q0704M5	4816548H01	R0056M2	0613952R66	R0402M4	0613952R25	R0505M3	0613952R66	R0904M5	0613952R66	R0962M5	0613952N58
Q0705M5	48012067002	R0058M2	0613952Q74	R0403M4	0613952R01	R0525M3	0613952R66	R0905M5	0613952H42	R0965M5	NOT PLACED
Q0875M5	4813970A62	R0059M2	0613952R66	R0404M4	0613952R25	R0700M5	0613952J05	R0906M5	0613958H46	R0966M5	NOT PLACED
Q0876M5	4816134H01	R0060M2	0613952Q86	R0405M4	0613952R05	R0701M5	0613952G67	R0907M5	0613958H55	R3000M5	0613952H60
Q0900M5	4815272H01	R0061M2	0613952Q85	R0406M4	0613952Q91	R0702M5	0613952H89	R0908M5	0613952H42	R3001M5	0615871H01
Q0901M5	4815271H01	R0062M2	0613952Q61	R0407M4	0613952Q91	R0703M5	0613952J01	R0909M5	0613952R66	R3002M5	0615871H01
Q3000M5	0105959T72	R0063M2	0613952Q64	R0408M4	0613952Q75	R0704M5	0613952J06	R0910M5	0613952H91	R3003M5	0615871H01
Q3001M5	0105959T72	R0200M7	0613952R66	R0409M4	0613952Q69	R0705M5	0613952H47	R0911M5	0613952H85	R3004M5	0615871H01
Q3002M5	4813973B01	R0201M7	0613952R27	R0410M4	0613952R01	R0706M5	0613952H54	R0912M5	0613958H46	R3005M5	0613952H25
R0000M2	0613952R66	R0202M7	0613952R27	R0411M4	0613952R01	R0707M5	0613952H47	R0913M5	0613952M51	R3006M5	0613952H25
R0001M2	0613952R66	R0203M7	0613952R07	R0412M4	0613952Q83	R0708M5	0613952H45	R0914M5	0613952M81	R3007M5	0613952M30
R0002M2	0613952Q96	R0204M7	0613952R05	R0413M4	0613958H55	R0709M5	0613958J49	R0915M5	NOT PLACED	R3008M5	0613952G67
R0003M2	0613952Q57	R0205M7	0613952R07	R0414M4	0613958H55	R0710M5	0613958J49	R0916M5	0613952R66	R3009M5	0613952M43
R0004M2	0613952Q34	R0206M7	0613952R05	R0415M4	0613952Q57	R0711M5	0613958S44	R0917M5	0613952P01	R3010M5	0613952G67
R0005M2	0613952R66	R0207M7	0613952Q84	R0416M4	0613952Q69	R0712M5	0613958S44	R0919M5	0613952P01	R3011M5	0613959Q60
R0006M2	0613952Q25	R0208M7	0613952Q86	R0417M4	0613952Q69	R0713M5	NOT PLACED	R0920M5	0613952N01	R3012M5	0613959Q60
R0007M2	0613952Q51	R0209M7	0613952Q85	R0418M4	0613952Q69	R0714M5	0613952H09	R0921M5	0613952N01	R3013M5	0613952R01
R0008M2	0613952R01	R0210M7	0613952Q85	R0419M4	0613952Q69	R0715M5	0613952H09	R0922M5	0613952R66	R3014M5	0613952R01
R0009M2	0613952Q58	R0211M7	0613952Q18	R0420M4	0613952R25	R0716M5	0613952H09	R0923M5	0613952M42	R3015M5	0615871H01
R0010M2	0613952R66	R0212M7	0613952Q32	R0421M4	0613952R25	R0717M5	0613952H09	R0924M5	0613952N01	R3018M5	0613952H73
R0011M2	0613952Q36	R0213M7	0613952Q67	R0422M4	0613952Q67	R0718M5	0613952H94	R0925M5	0613952Q59	R3019M5	0613952H60
R0012M2	0613952Q86	R0214M7	0613952Q67	R0423M4	0613952R25	R0719M5	0613952H89	R0926M5	0613952H79	R3020M5	0613952G67
R0013M2	0613952Q35	R0215M7	0613952Q67	R0424M4	0613952Q23	R0720M5	0613952H95	R0927M5	0613952N01	R3021M5	0613952R25
R0014M2	0613952R66	R0216M7	0613952Q67	R0425M4	0613952Q67	R0721M5	0613952G67	R0928M5	0613952N81	RT0900M5	0615585H01
R0015M2	0613952R66	R0217M7	0613952Q49	R0426M4	0613952Q87	R0722M5	0613952H25	R0929M5	0613952N85	SH0000M2	26012095001
R0018M2	0613952Q80	R0218M7	0613952Q49	R0427M4	0613952Q93	R0723M5	0613952G67	R0930M5	0613952N42	SH0001M2	26012095001
R0019M2	0613952R01	R0219M7	0613952R66	R0429M4	0613952R66	R0724M5	0613952G67	R0931M5	0613952M66	SH0002M2	26012097001
R0020M2	0613952R12	R0220M7	0613952R66	R0430M4	NOT PLACED	R0725M5	0613958J49	R0932M5	0613952N30	SH0003M2	26012094001
R0021M2	0613952Q80	R0221M7	0613952R66	R0431M4	0613952R01	R0726M5	0613958J49	R0933M5	0613952N01	SH0004M2	26012094001
R0022M2	0613952R66	R0222M7	0613952Q84	R0432M4	0613952H73	R0727M5	0613958J49	R0934M5	0613952J17	SH0200M7	26012095001
R0023M2	0613952Q83	R0223M7	0613952Q73	R0433M4	0613952R01	R0730M5	NOT PLACED	R0935M5	0613952H91	SH0300M7	26012095001
R0024M2	0613952Q80	R0224M7	0613952Q85	R0434M4	0613952L46	R0731M5	NOT PLACED	R0936M5	0613952H91	SH0400M4	26012096001
R0025M2	0613952R66	R0225M7	0613952Q73	R0435M4	0613952L46	R0732M5	NOT PLACED	R0937M5	NOT PLACED	SH0401M4	26012096001
R0026M2	0613952R66	R0226M7	0613952Q29	R0436M4	0613952R66	R0733M5	0613958S29	R0938M5	NOT PLACED	SH0402M4	26012098001
R0027M2	0613952R12	R0227M7	0613952G67	R0437M4	0613952Q77	R0734M5	0613958S29	R0939M5	0613952R66	SH0403M4	26012098001

Circuit Ref.	Motorola Part No.
SH0500M3	26012098001
SH0501M3	NOT PLACED
SH0900M5	2686425Z02
SH0901M5	2686425Z02
SH0902M5	26012100001
SP3000M5	NOT PLACED
SP3001M5	NOT PLACED
T0000M2	2515396H02
T0400M4	2515121H01
T0401M4	2515121H01
U0000M2	51009277001
U0001M2	5109731C48
U0002M2	4802197J95
U0200M7	5186310Y39
U0500M3	4802197J95
U0901M5	5180390L83
U0902M5	51012221001
U0903M5	5115022H01
U0904M5	5109731C48
U0905M5	5109731C48
U3000M5	5116525H01
U3001M5	4813973M07
U3002M5	51012133001
VR0001M2	4815096H01
VR0200M7	4805656W87
VR0201M7	4805656W87
VR0202M7	4805656W87
VR0203M7	4805656W87
VR0204M7	4805656W87
VR0205M7	4805656W87
VR0206M7	4805656W87
VR0207M7	4805656W87
VR0208M7	4805656W87
VR0209M7	4805656W87
VR0210M7	4805656W87
VR0211M7	4805656W87
VR0214M7	4805656W87
VR0215M7	4805656W87
VR0400M4	4805656W87
VR0401M4	4805656W87
VR0402M4	4805656W87
VR0403M4	4805656W87
VR0404M4	4805656W87
VR0405M4	4805656W87
VR0406M4	4805656W87

Circuit Ref.	Motorola Part No.
VR0407M4	4805656W87
VR3000M5	48012070001
VR3002M5	4813977M10
Y0000M2	4875185M04

Note: The suffix “M1”, “M2”, etc. from the Circuit Ref is removed from the schematic and overlays.



XPR 5350/XPR 5550 Mobile Radios

Chapter 10

UHF1 (403–470 MHz)

25–40W

Service Information

Issue: January, 2012

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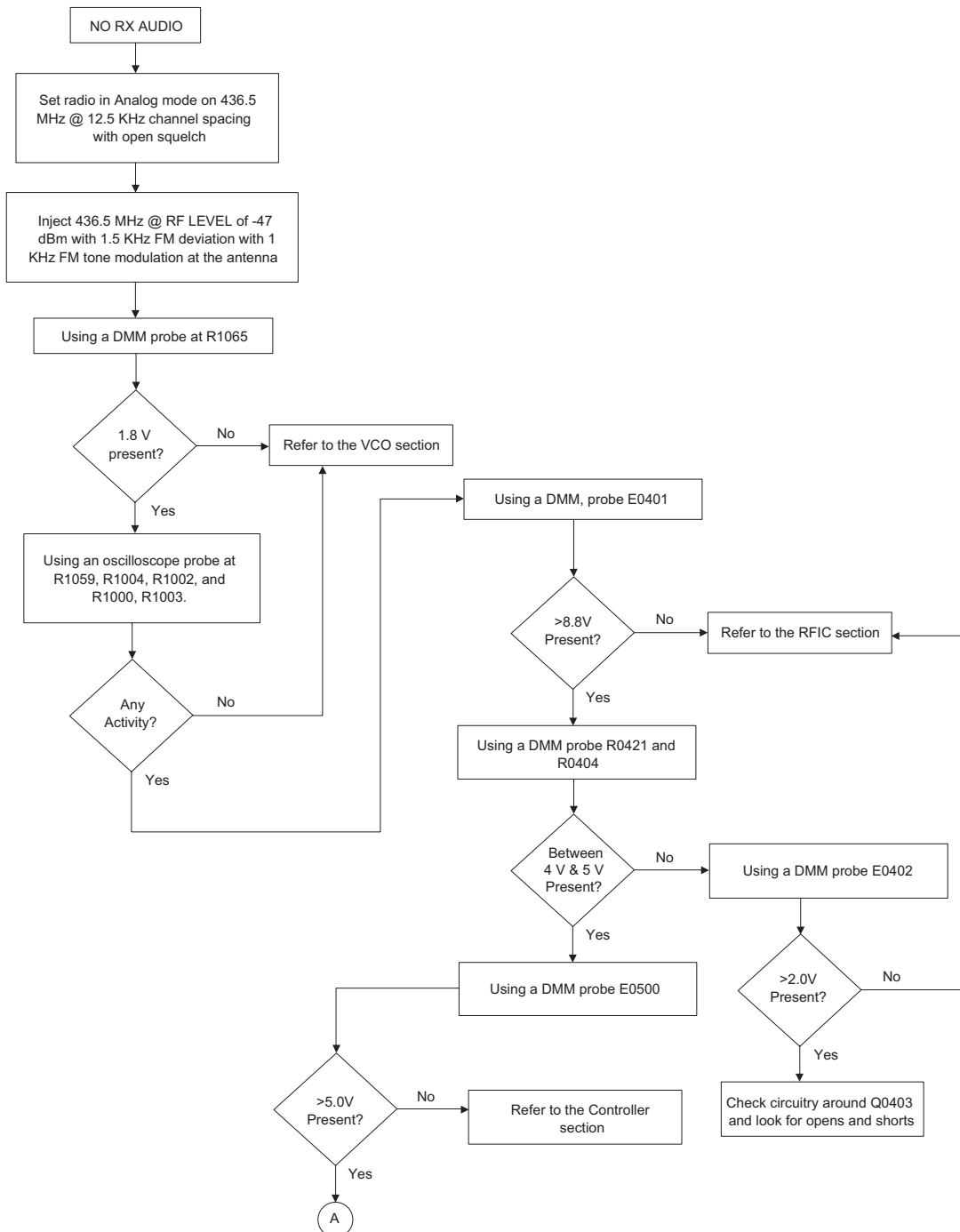
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Notes

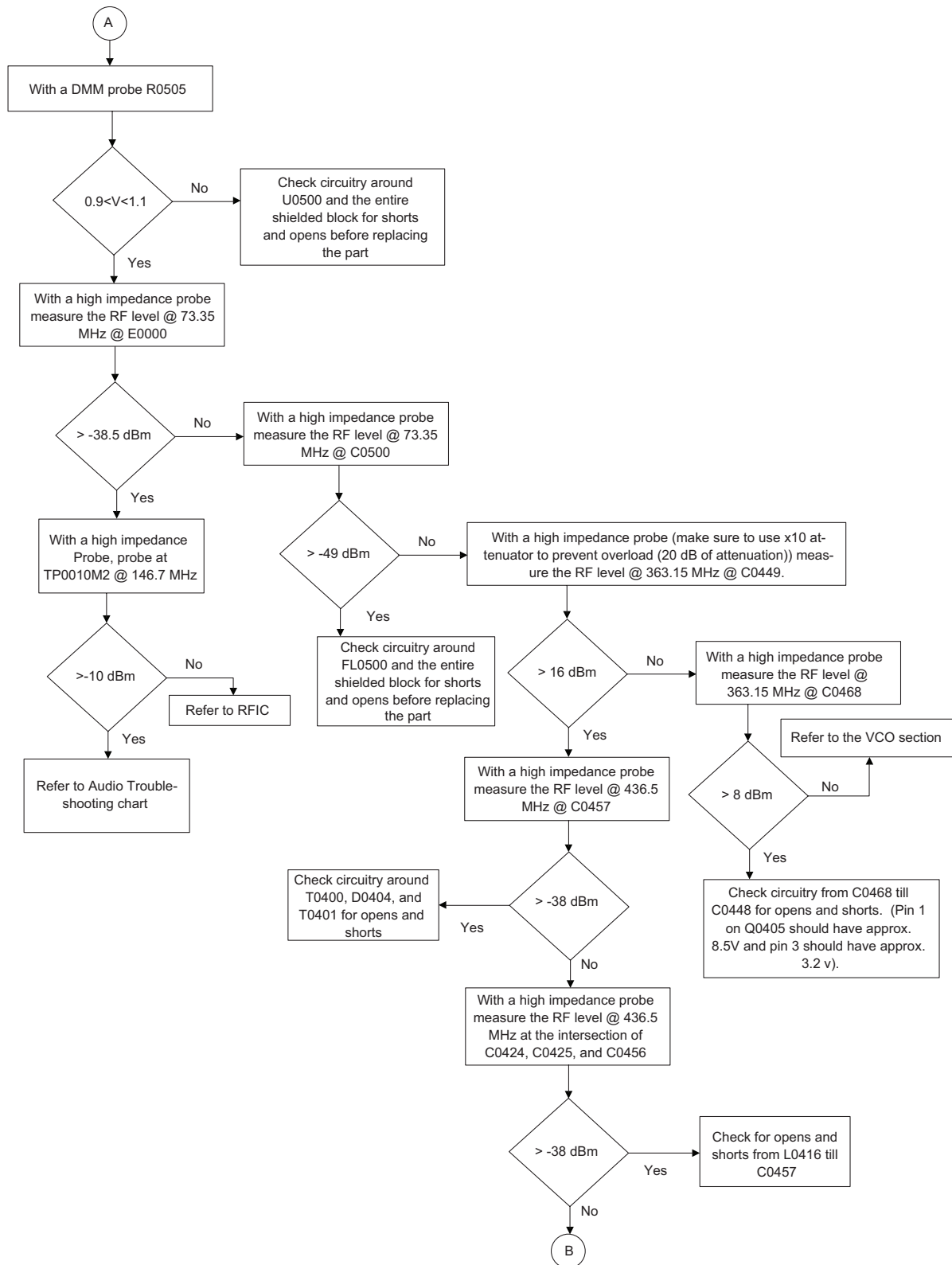
Section 1

TROUBLESHOOTING CHARTS

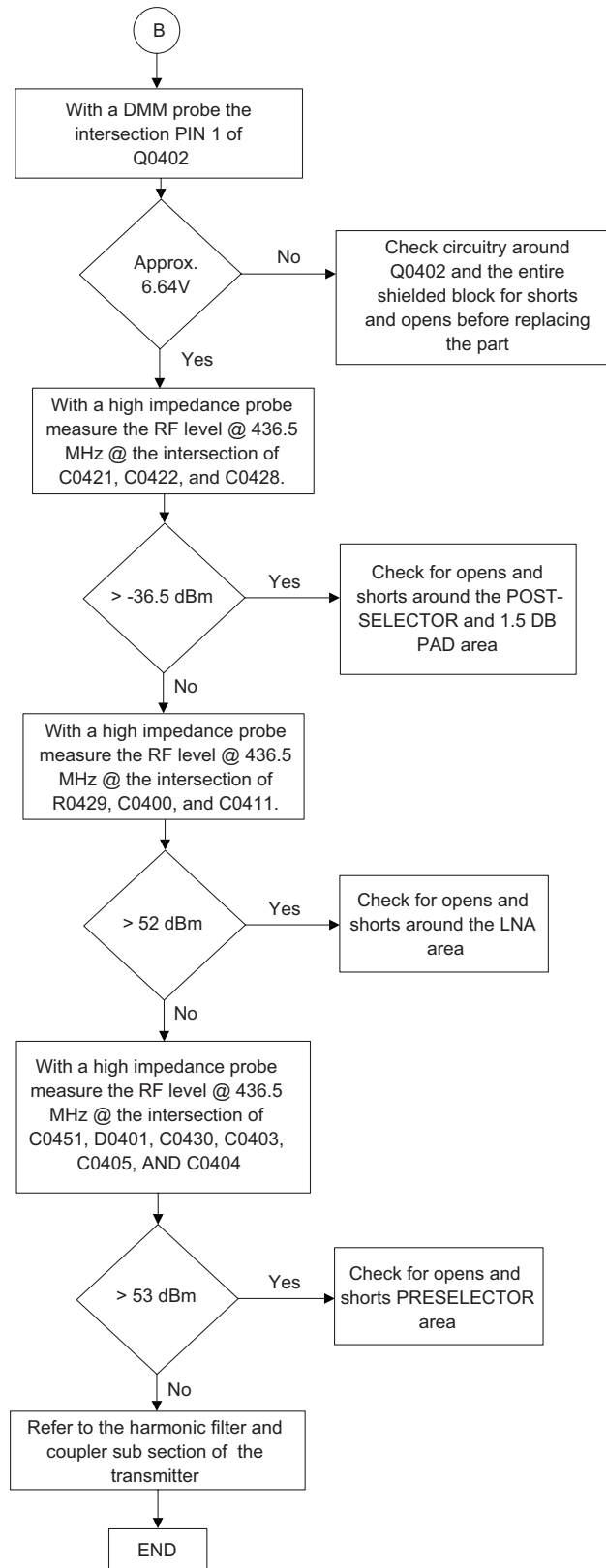
1.0 Troubleshooting Flow Chart for Receiver (Sheet 1 of 3)



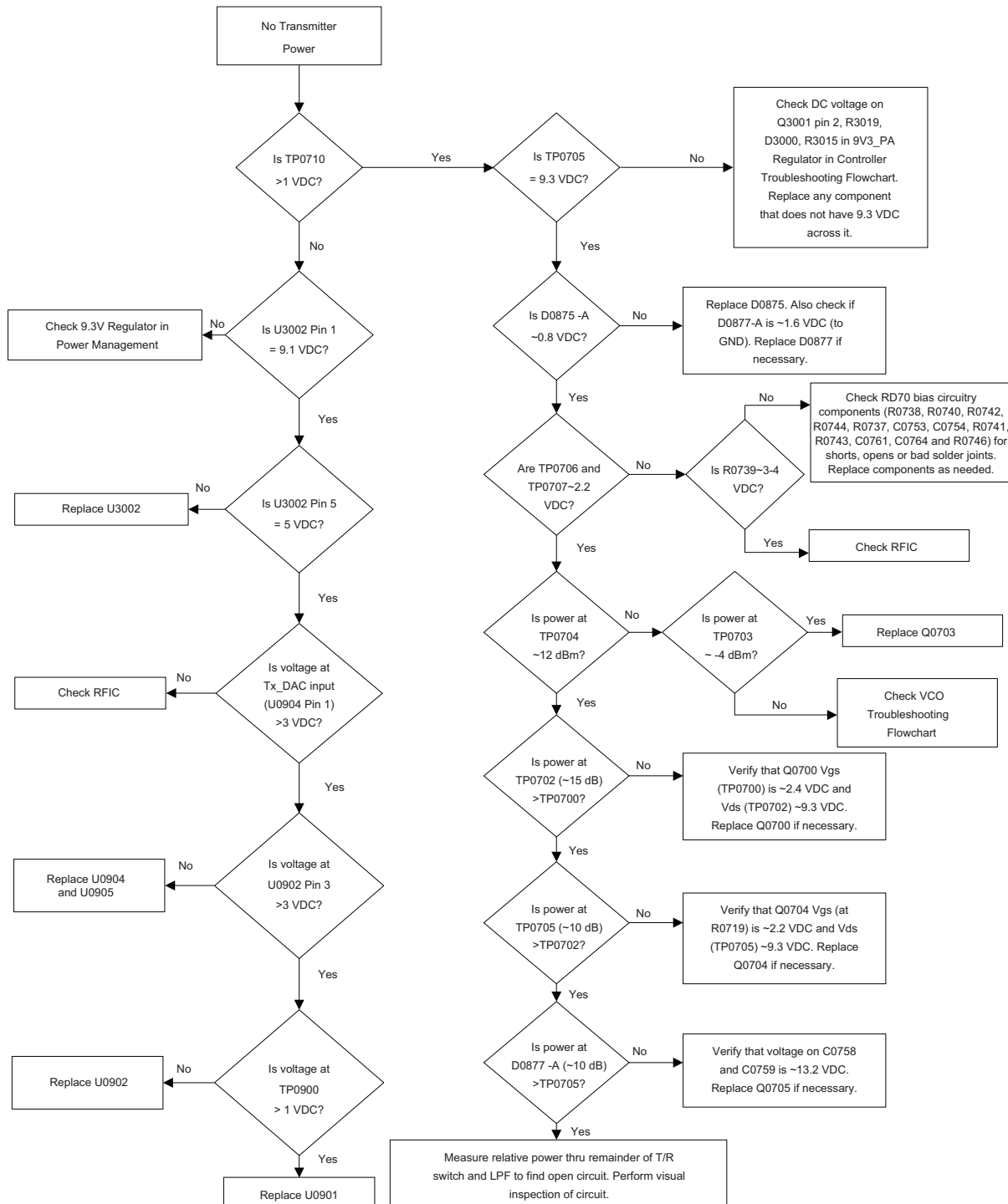
1.1 Troubleshooting Flow Chart for Receiver (Sheet 2 of 3)



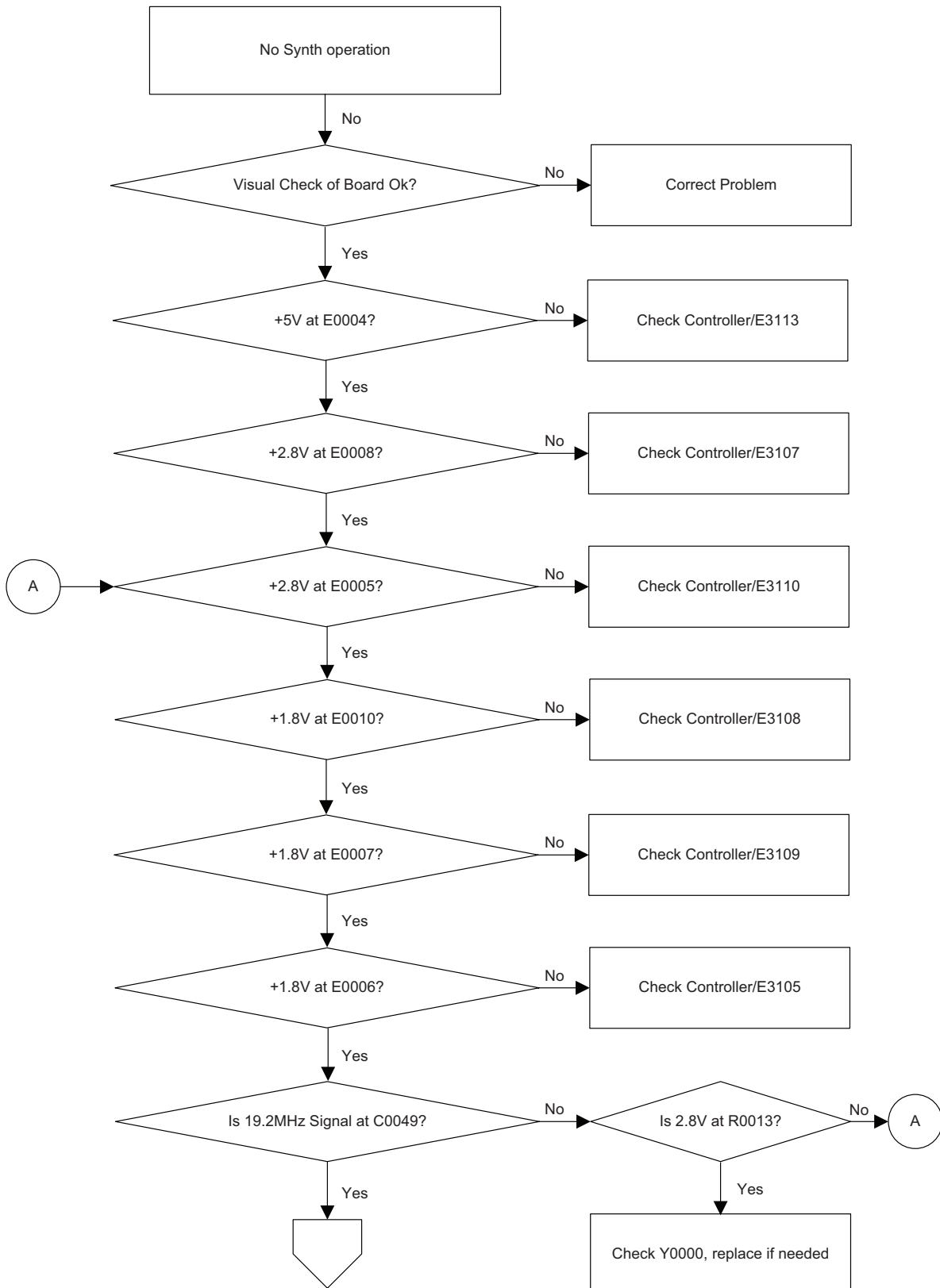
1.2 Troubleshooting Flow Chart for Receiver (Sheet 3 of 3)



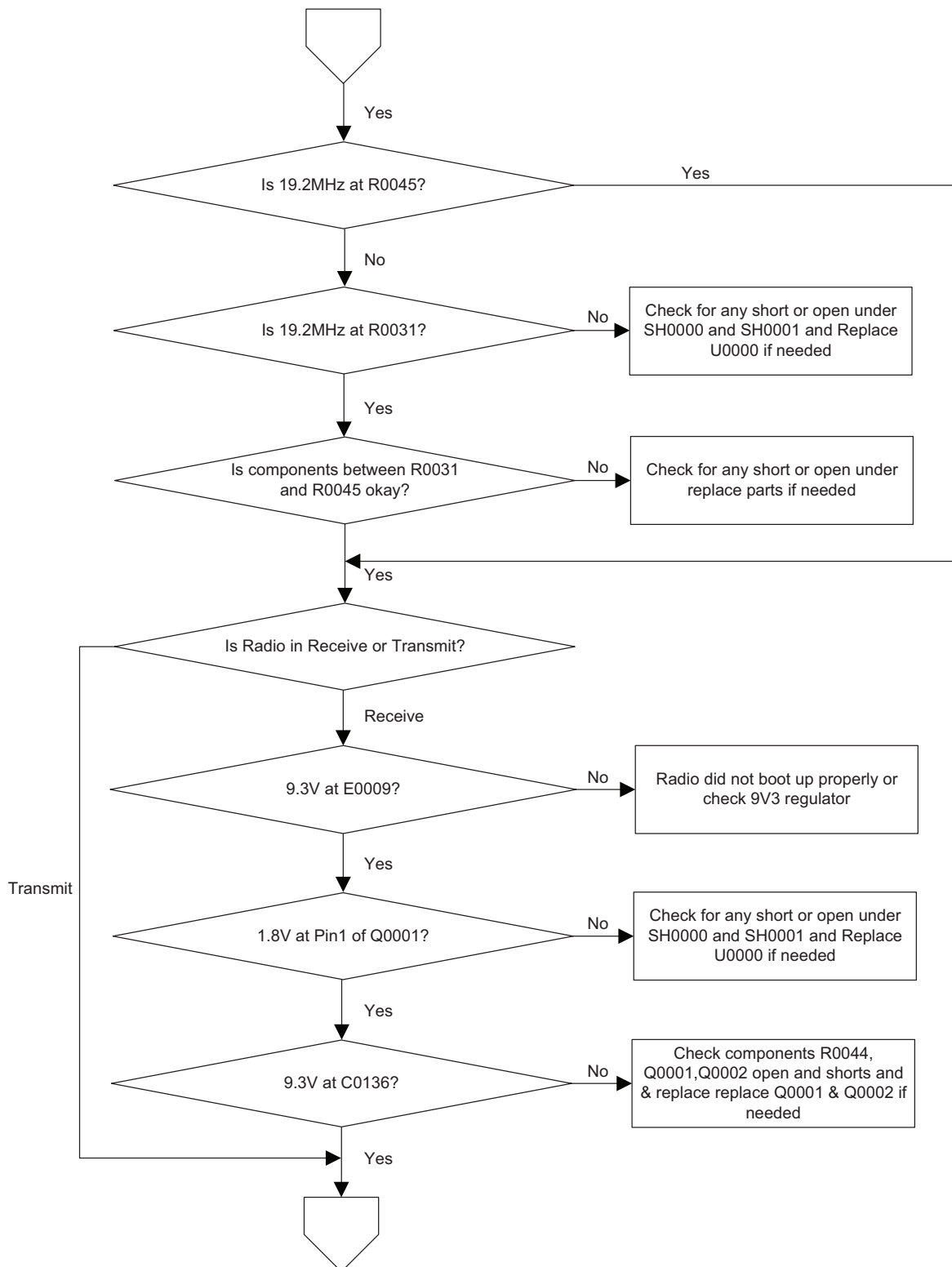
2.0 Troubleshooting Flow Chart for 40W Transmitter



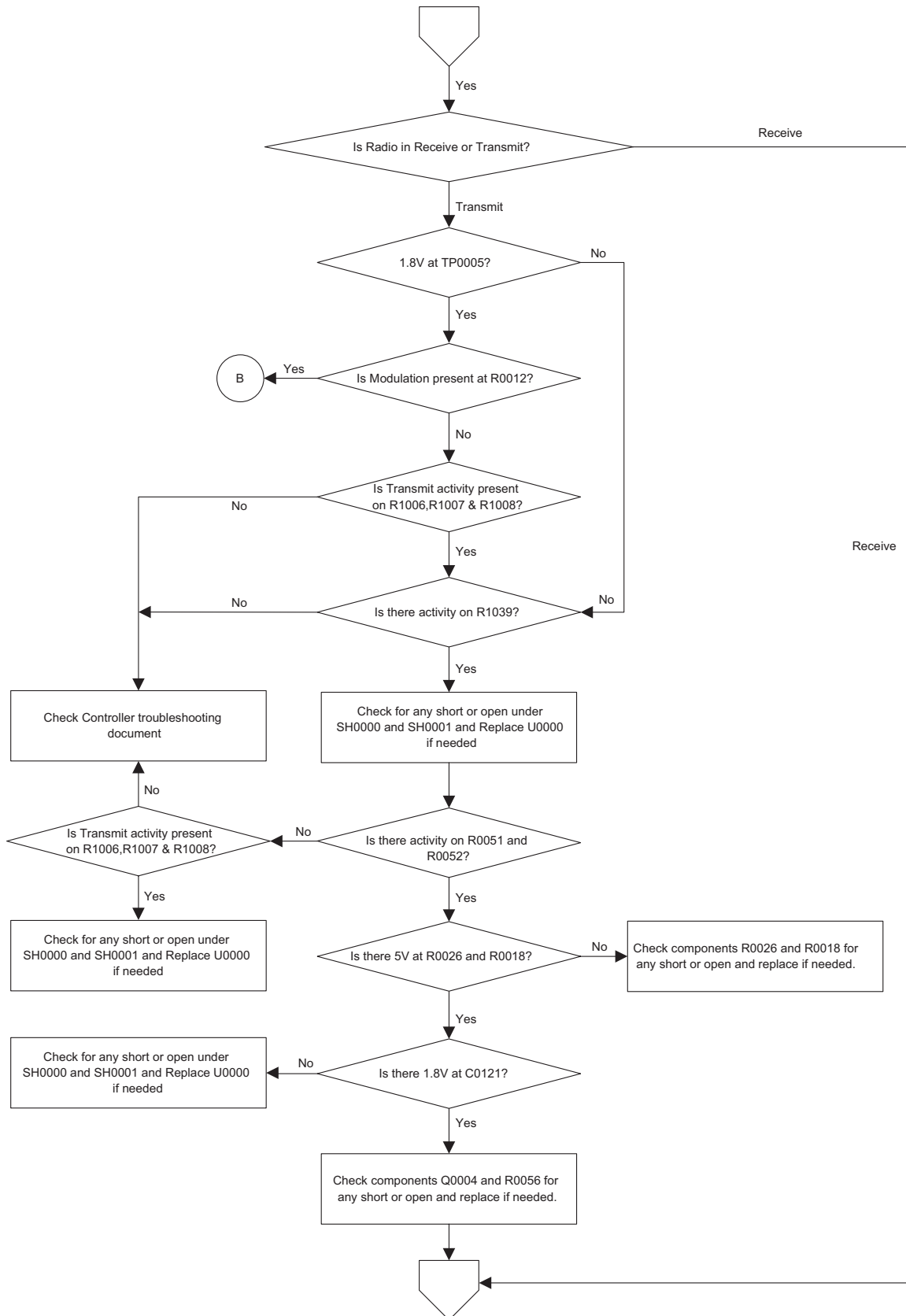
3.0 Troubleshooting Flow Chart for RFIC (Sheet 1 of 5)



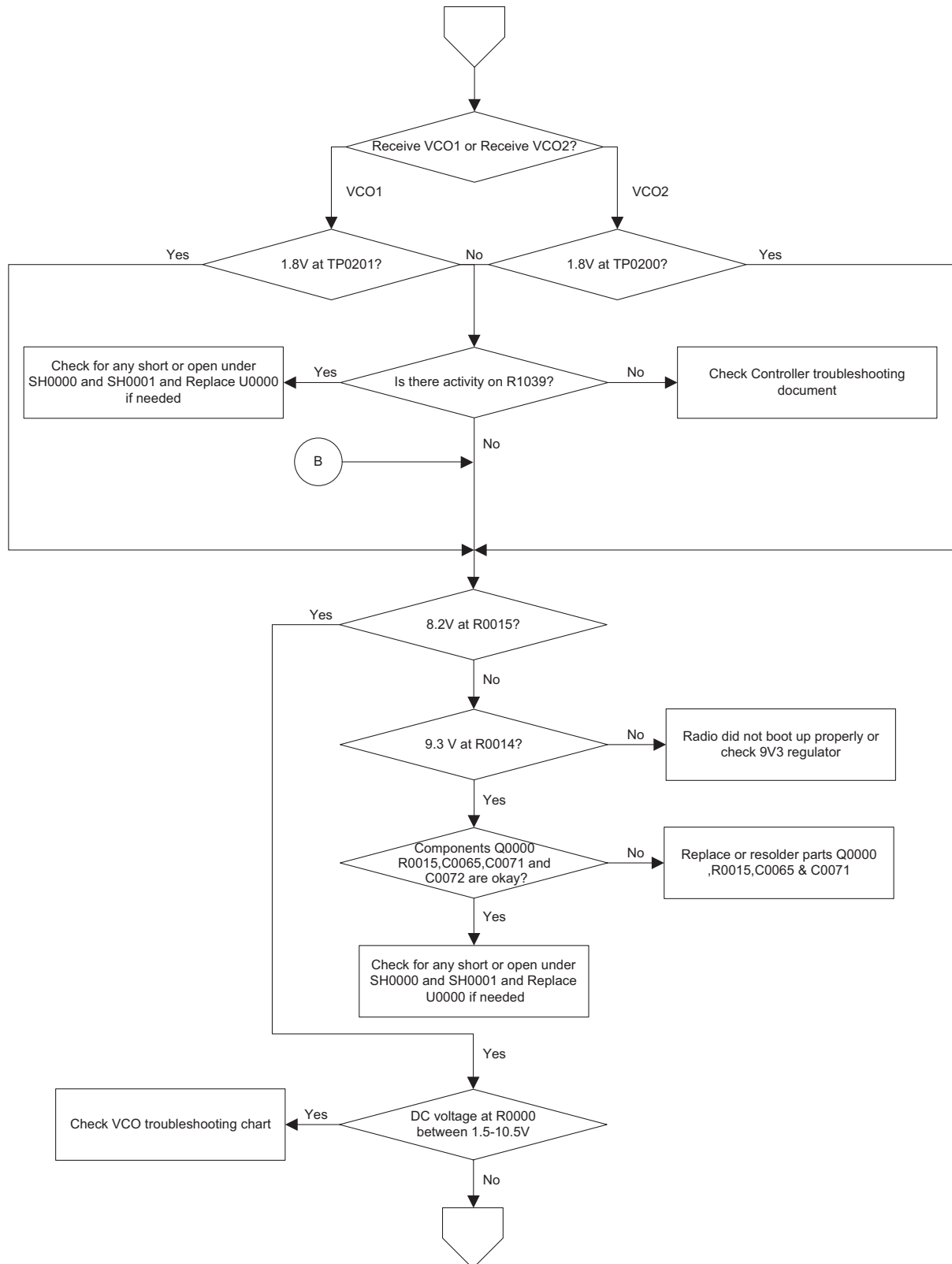
3.1 Troubleshooting Flow Chart for RFIC (Sheet 2 of 5)



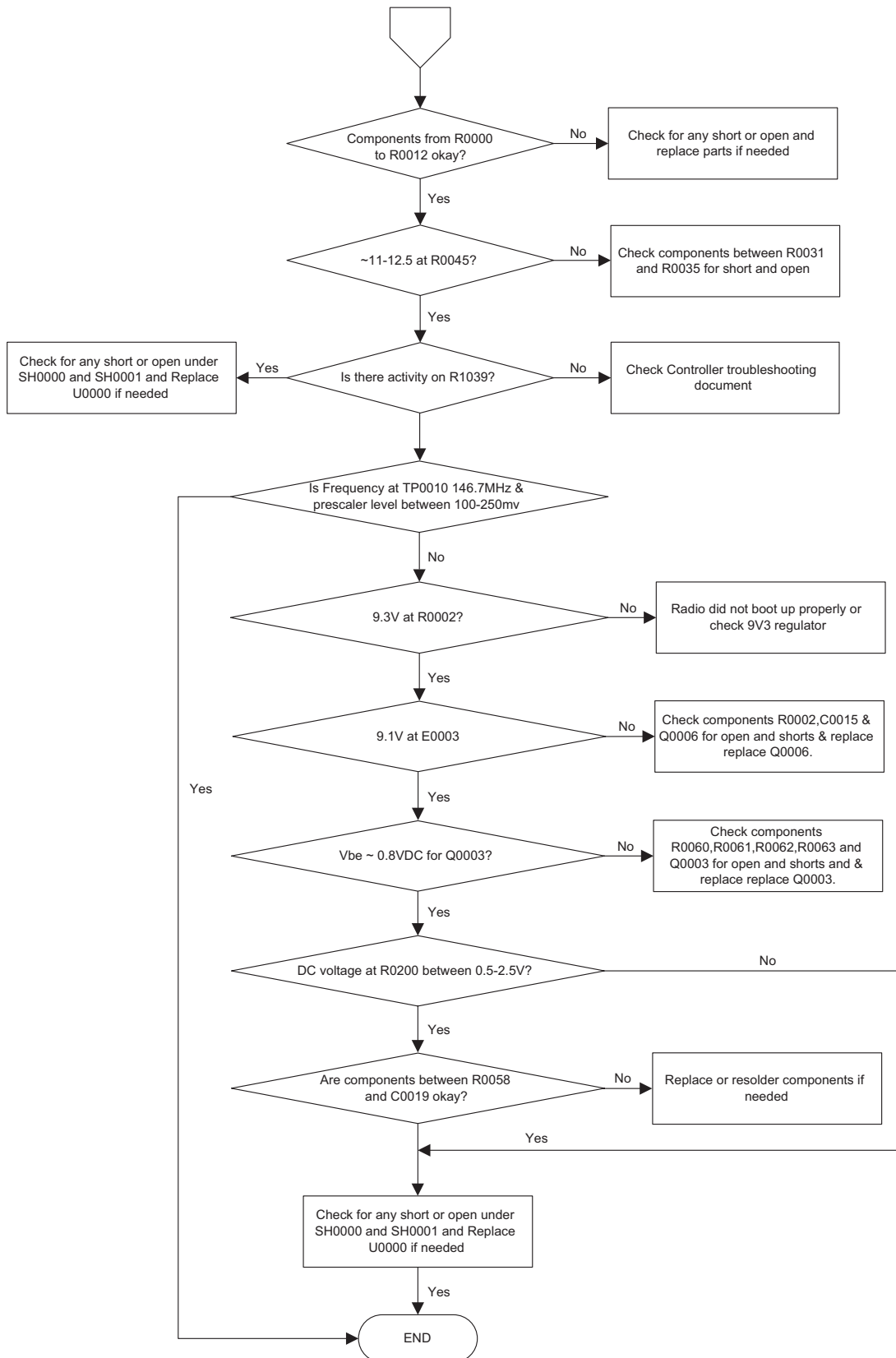
3.2 Troubleshooting Flow Chart for RFIC (Sheet 3 of 5)



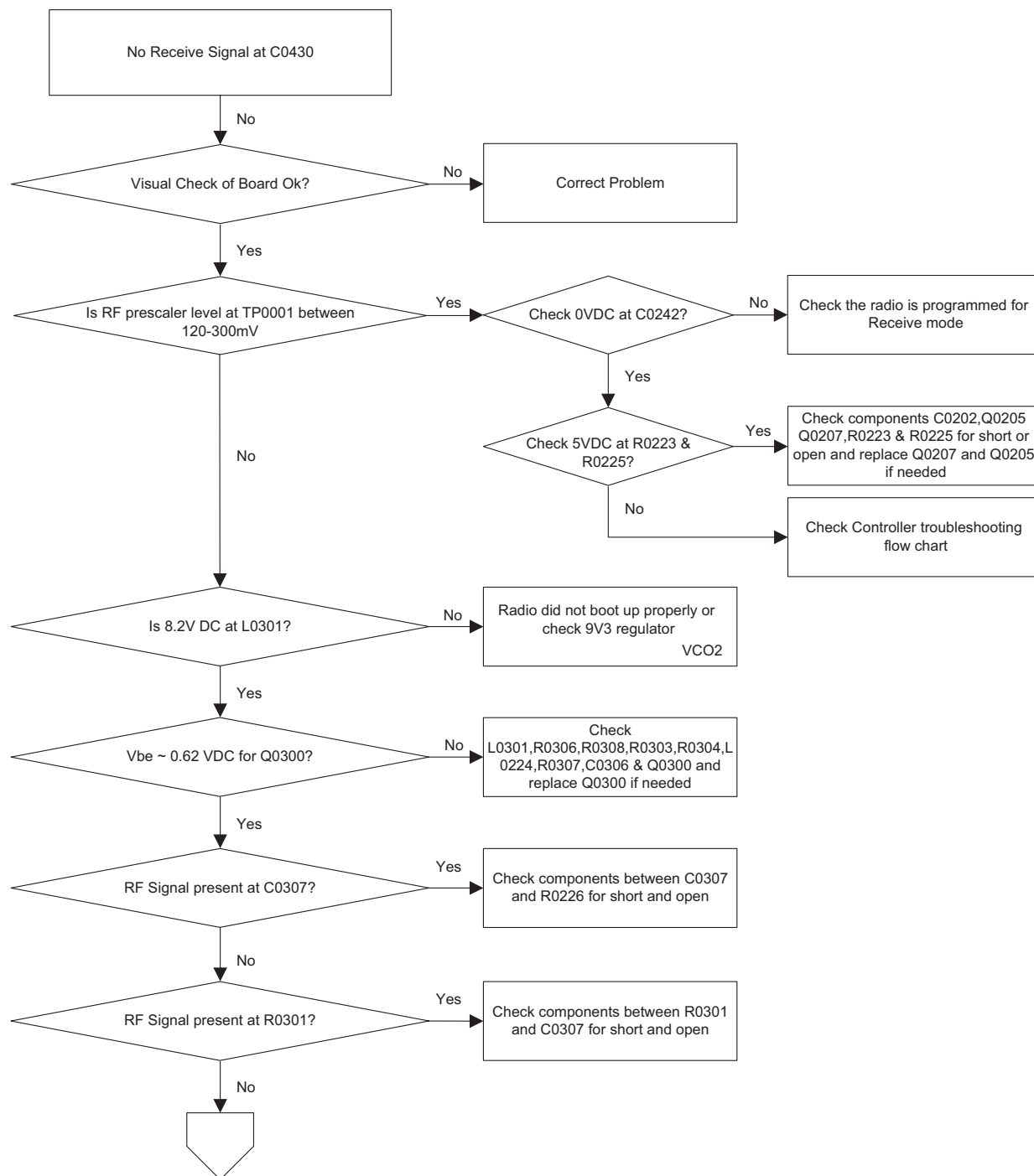
3.3 Troubleshooting Flow Chart for RFIC (Sheet 4 of 5)



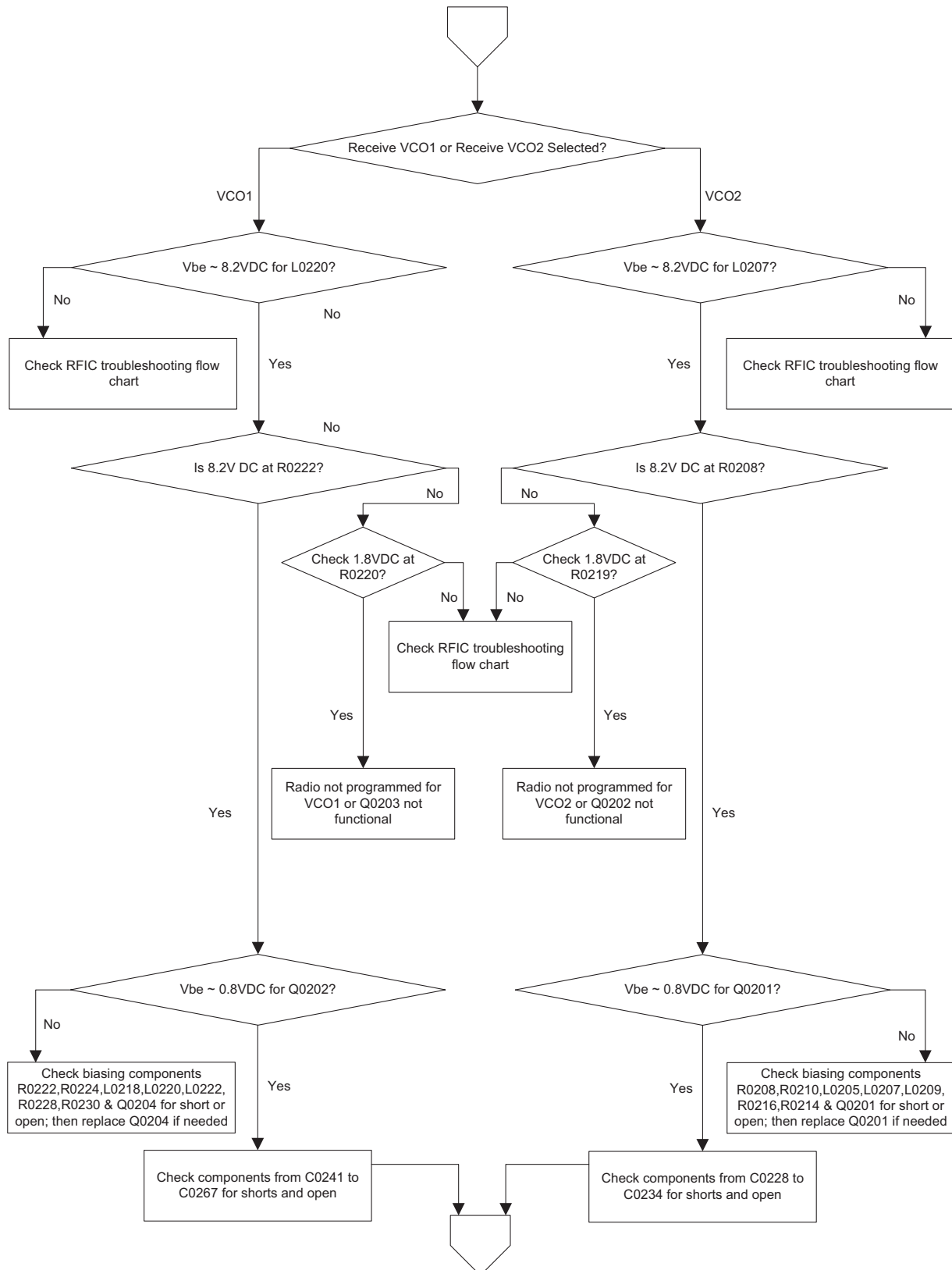
3.4 Troubleshooting Flow Chart for RFIC (Sheet 5 of 5)



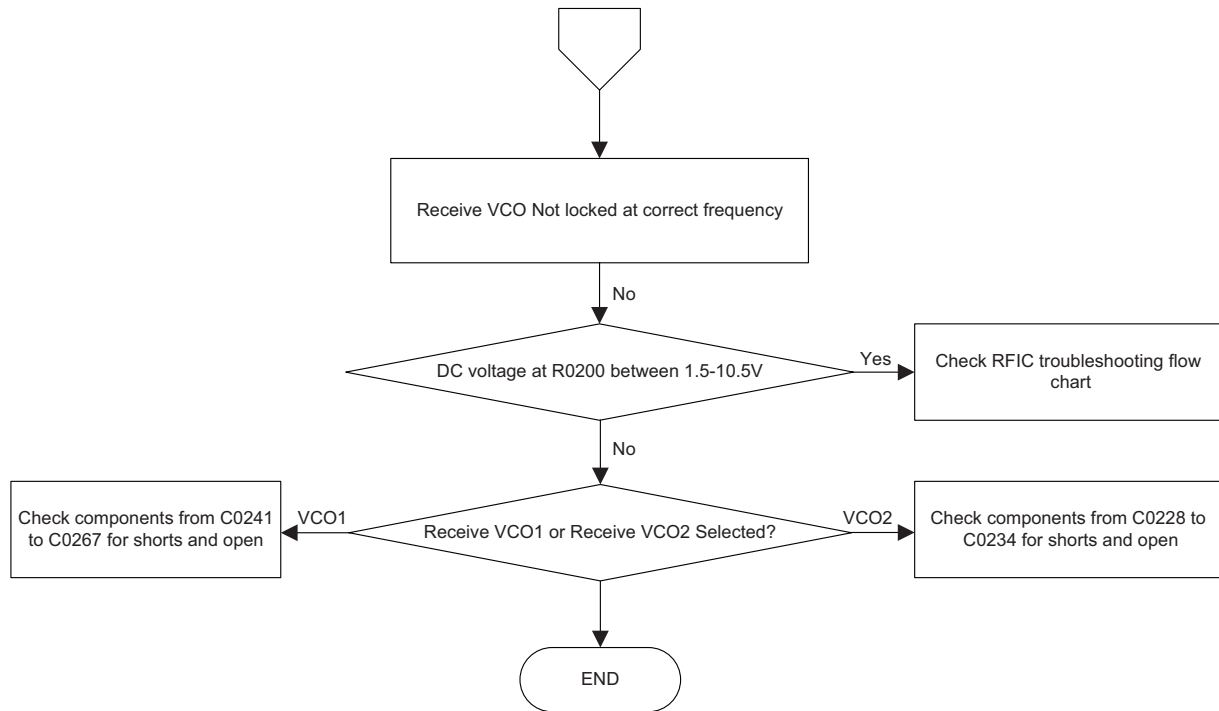
4.0 Troubleshooting Flow Chart for Rx VCO (Sheet 1 of 3)



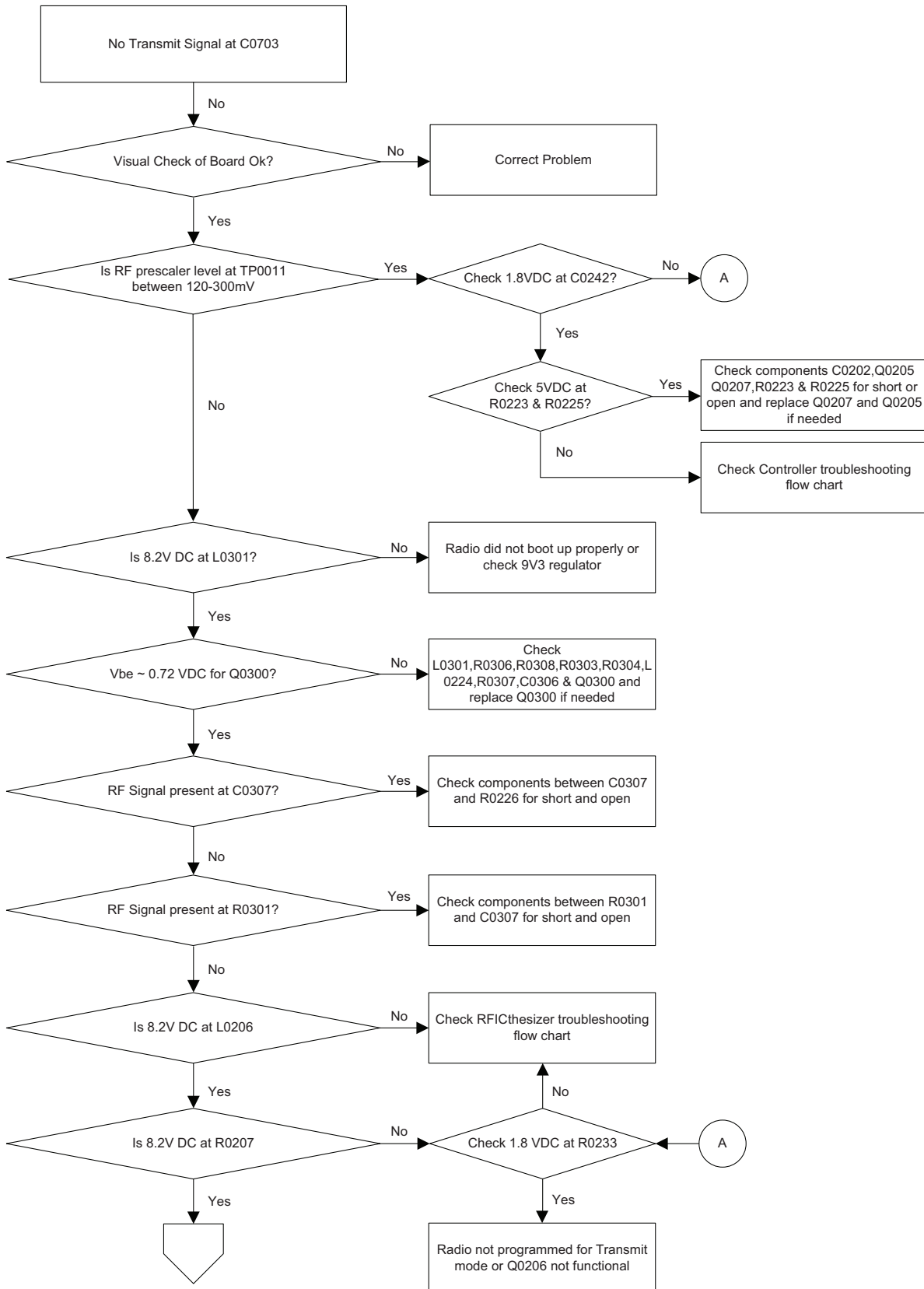
4.1 Troubleshooting Flow Chart for Rx VCO (Sheet 2 of 3)



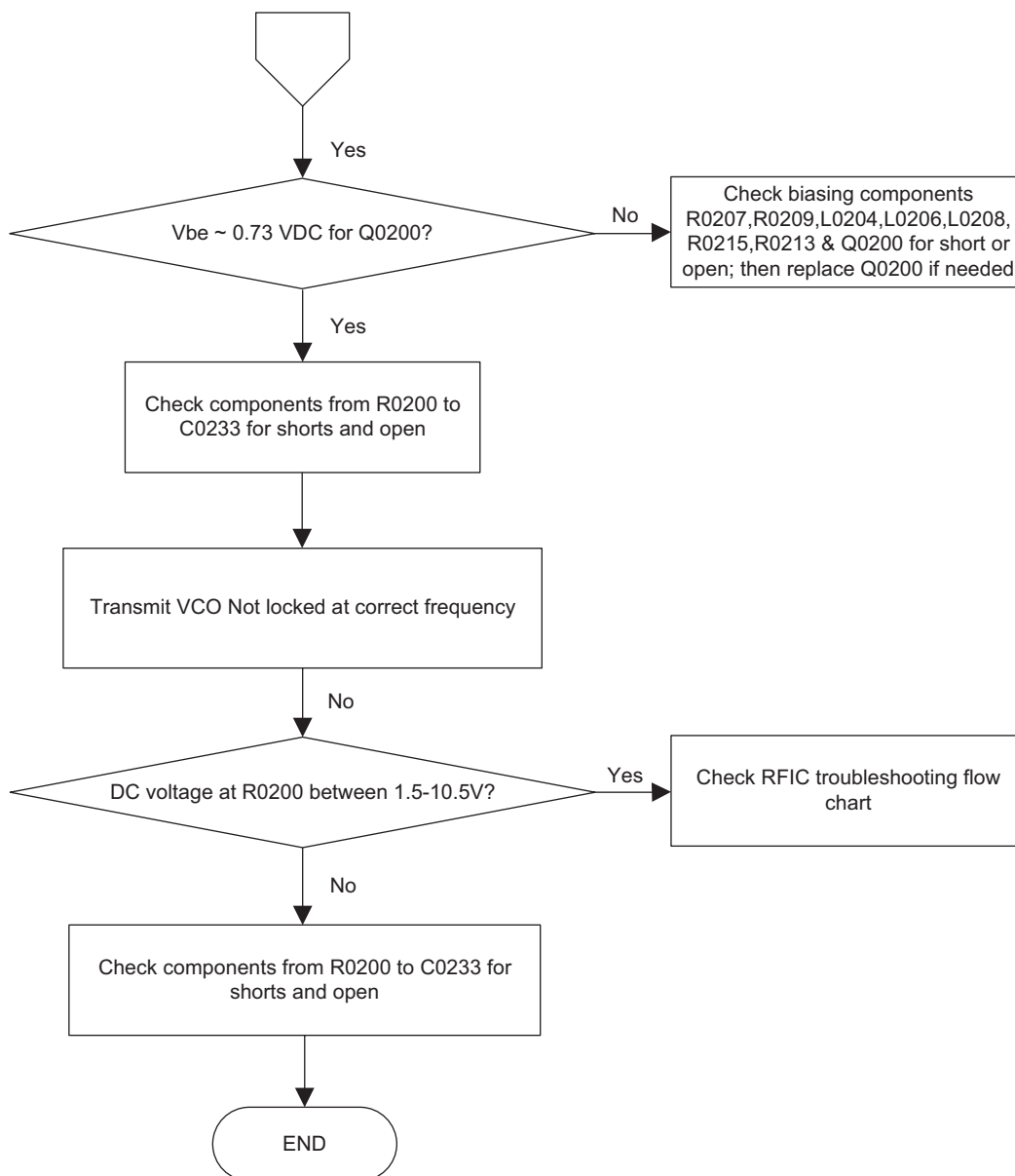
4.2 Troubleshooting Flow Chart for Rx VCO (Sheet 3 of 3)



5.0 Troubleshooting Flow Chart for Tx VCO (Sheet 1 of 2)



5.1 Troubleshooting Flow Chart for Tx VCO (Sheet 2 of 2)



Section 2

UHF1 PCB/SCHEMATICS/PARTS LISTS

1.0 Allocation of Schematics and Circuit Boards

1.1 UHF1 40W Circuits

The UHF1 circuits are contained on the Printed Circuit Board (PCB) which also contains the Controller circuits. This chapter shows the schematics for the UHF1 40W circuits only, refer to the Controller section for details of the related Controller circuits. The PCB component layouts and the Parts List in this chapter show both the Controller and UHF1 40W circuit components. The UHF1 40W schematics and the related PCB and parts list are shown in the table below.

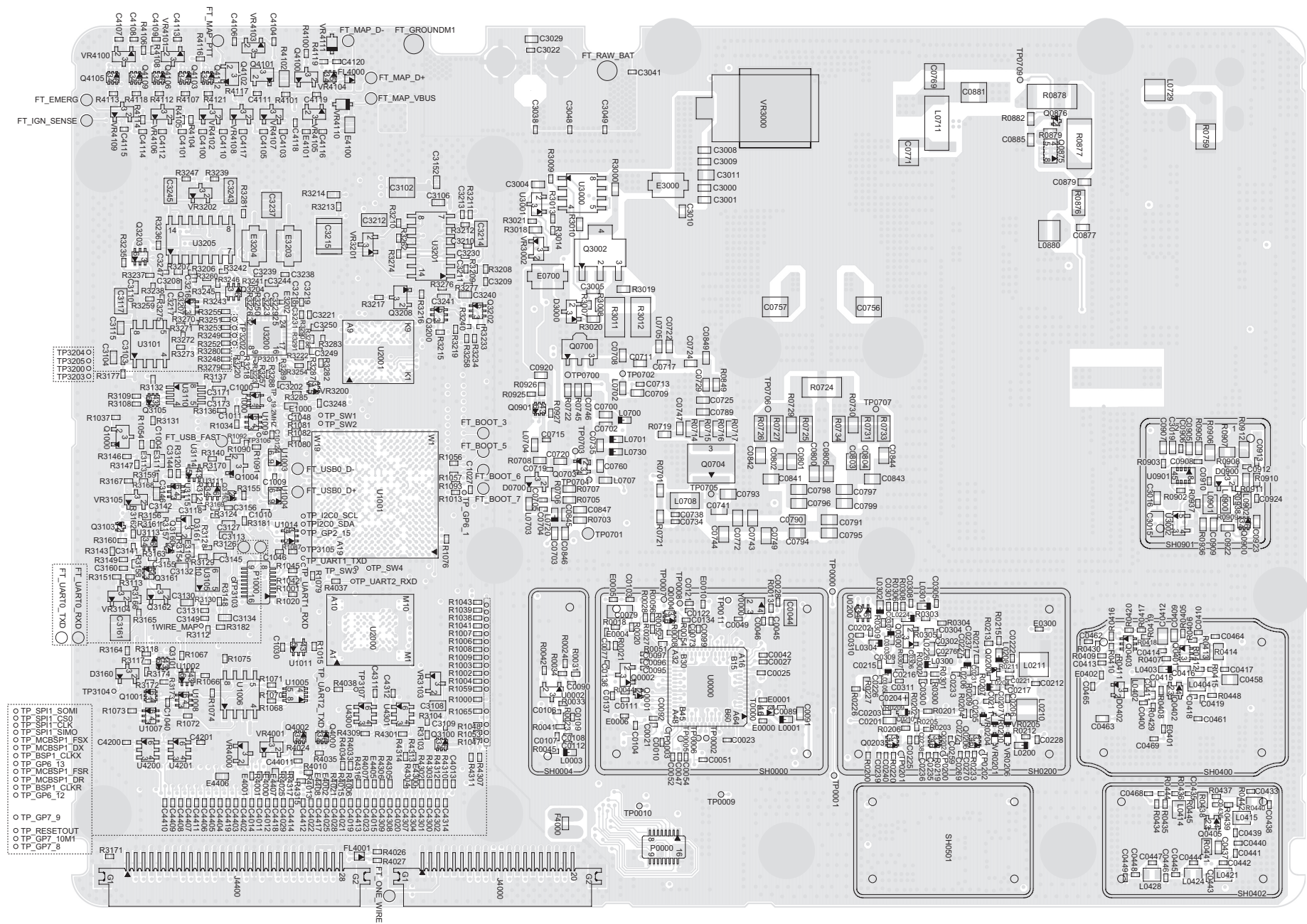
Table 2-1 UHF1 25–40W Schematic Diagrams and Parts List

PCB: 84012160001-A Main Board Top Side 84012160001-A Main Board Bottom Side	Page 2-3 Page 2-4
SCHEMATICS Overall Receiver Front-End Receiver IF Amp Transmitter Power Amplifier Power Control Transmitter Power Amplifier DC Distribution RFIC Receiver VCO Transmit VCO VCO Buffer	Page 2-5 Page 2-6 Page 2-7 Page 2-8 Page 2-9 Page 2-10 Page 2-11 Page 2-12 Page 2-13 Page 2-14
Parts List 84012160001-A (UHF1 40W Only)	Page 2-15

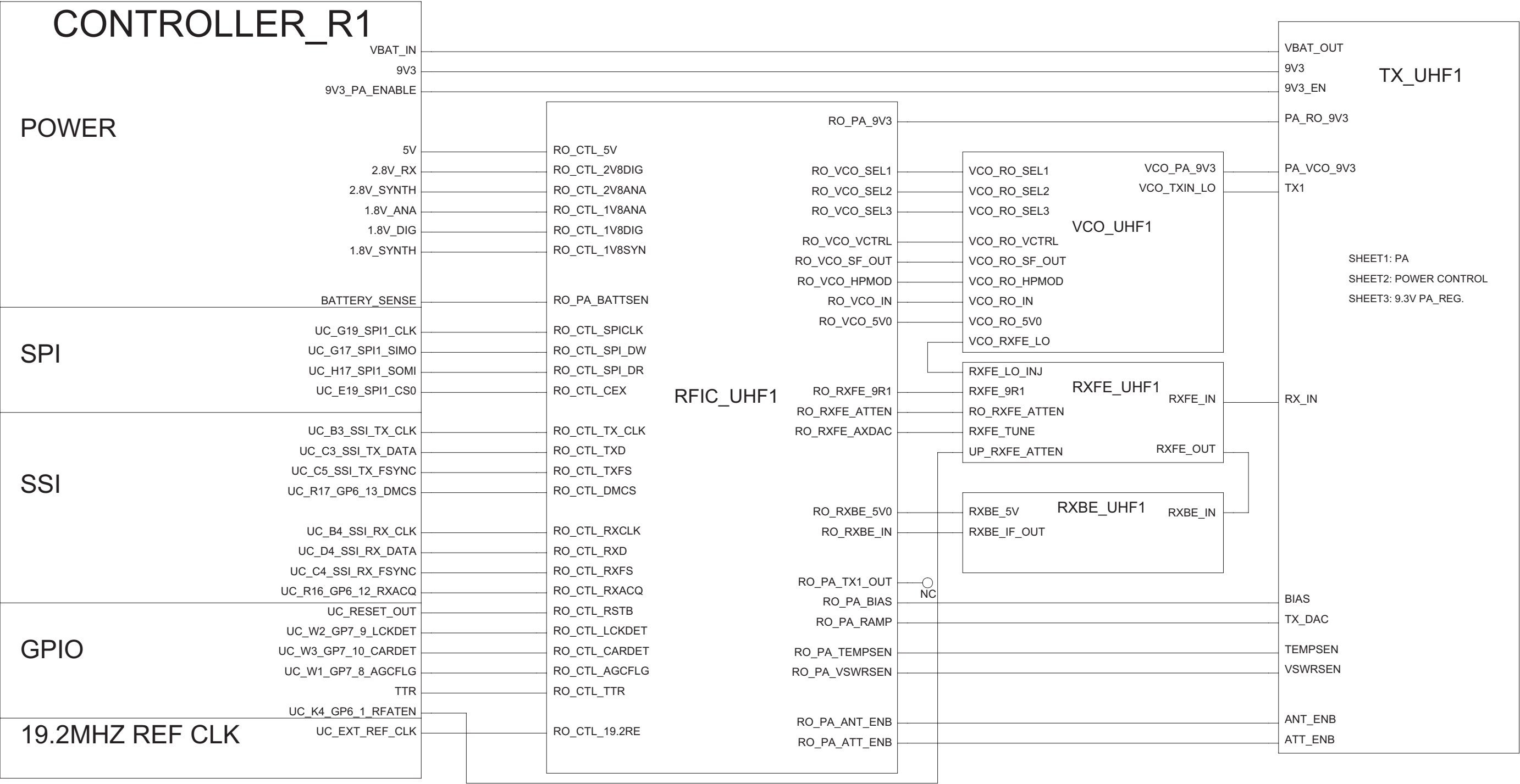
Notes

UHF1 (403–470 MHz) 25–40W 84012160001-A Top Side

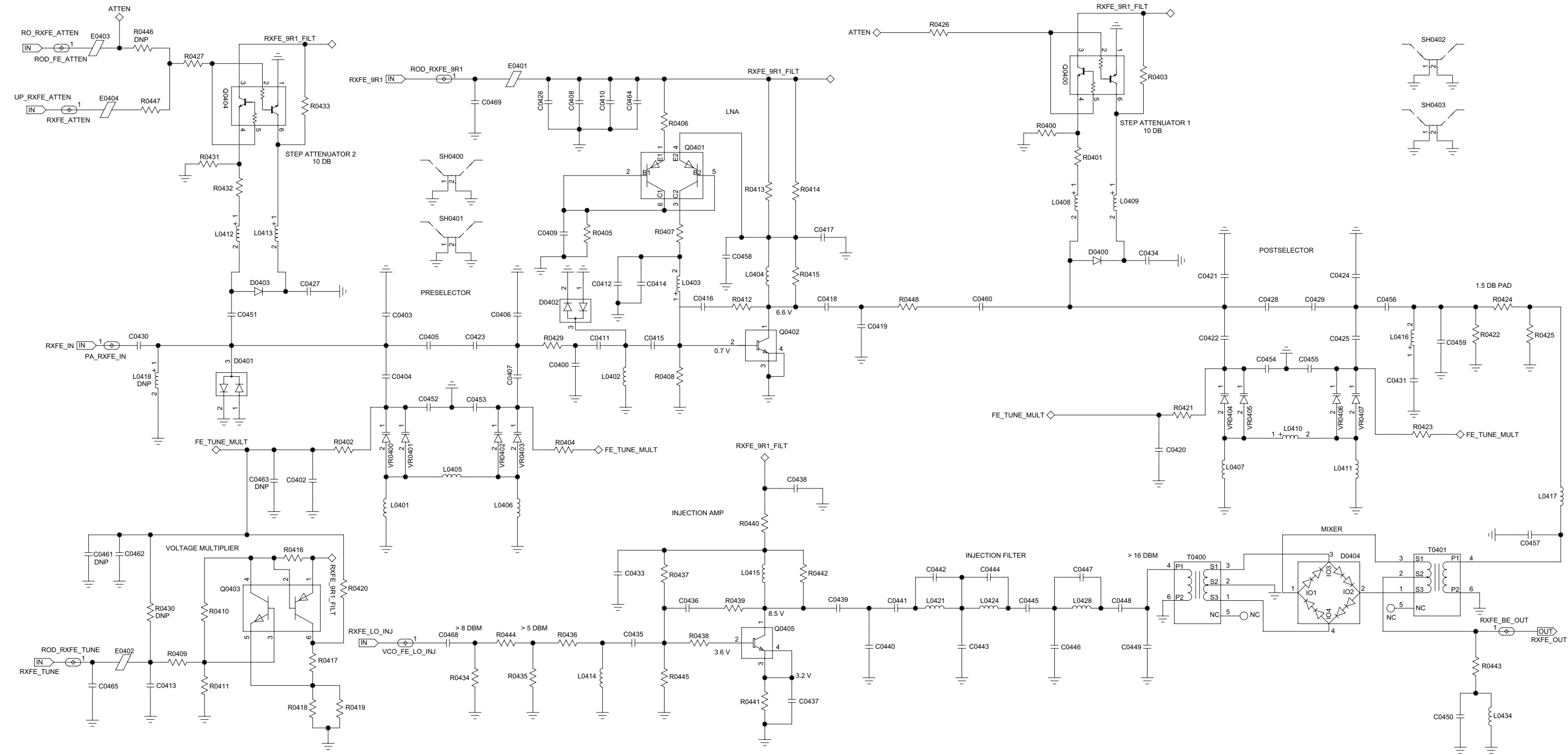




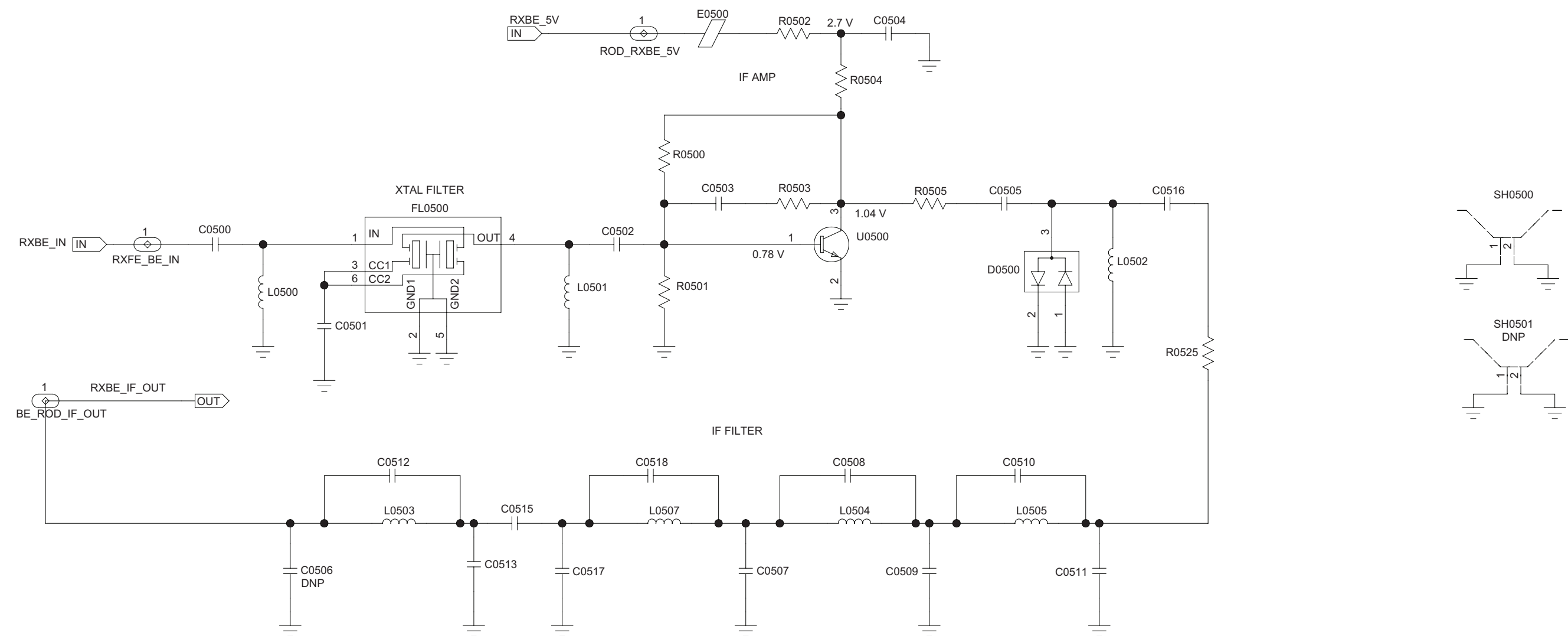
UHF1 (403–470 MHz) 25–40W 84012160001-A Bottom Side



UHF1 (403–470 MHz) 25–40W Overall Schematic Diagram



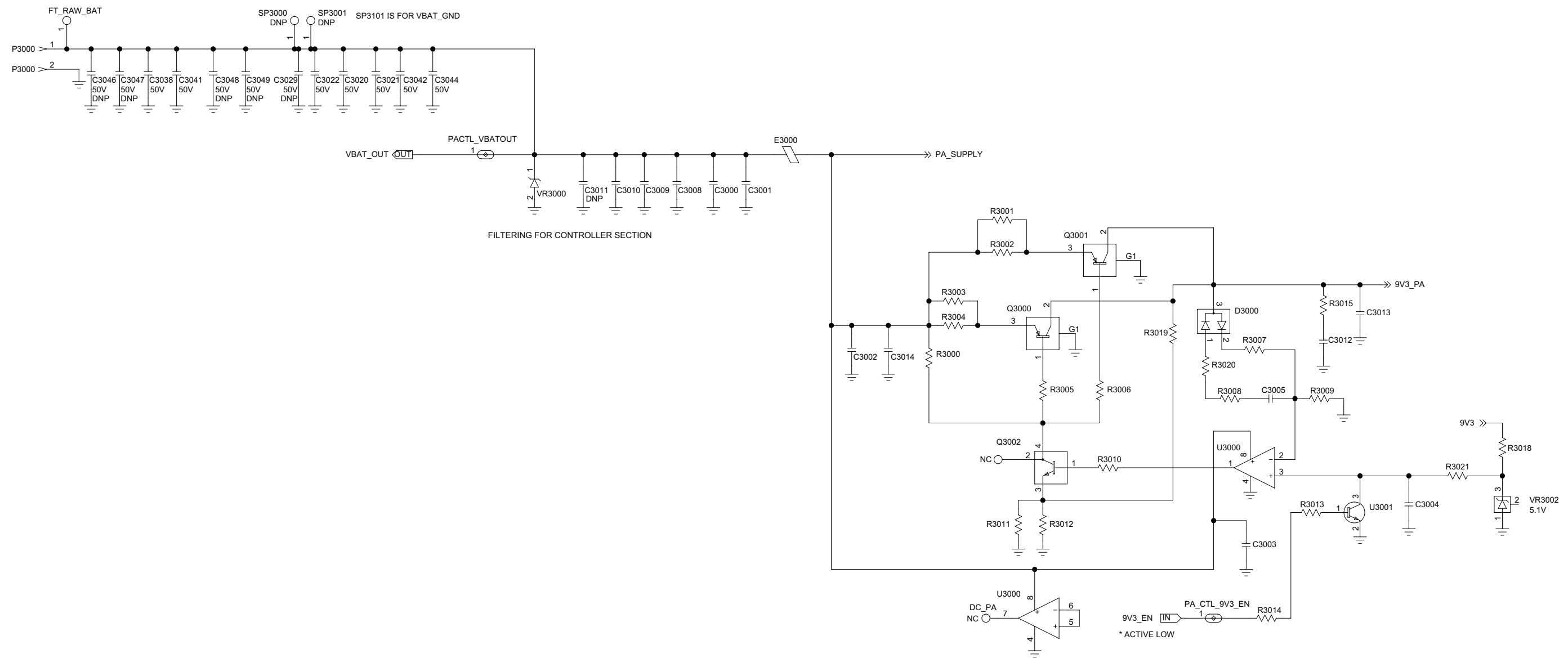
UHF1 (403–470 MHz) 25–40W Receiver Front-End Schematic Diagram



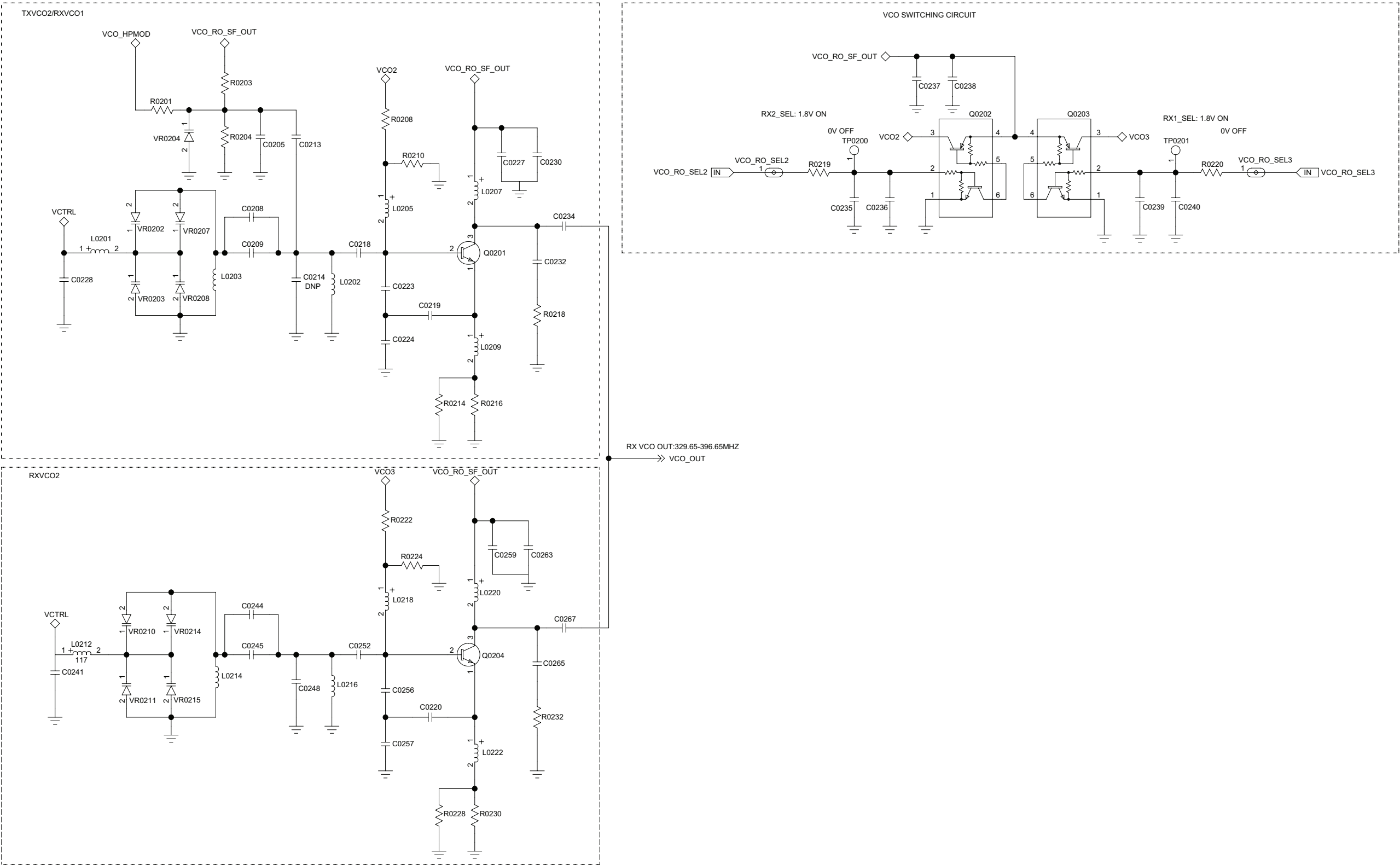
UHF1 (403–470 MHz) 25–40W Receiver IF Amp Schematic Diagram



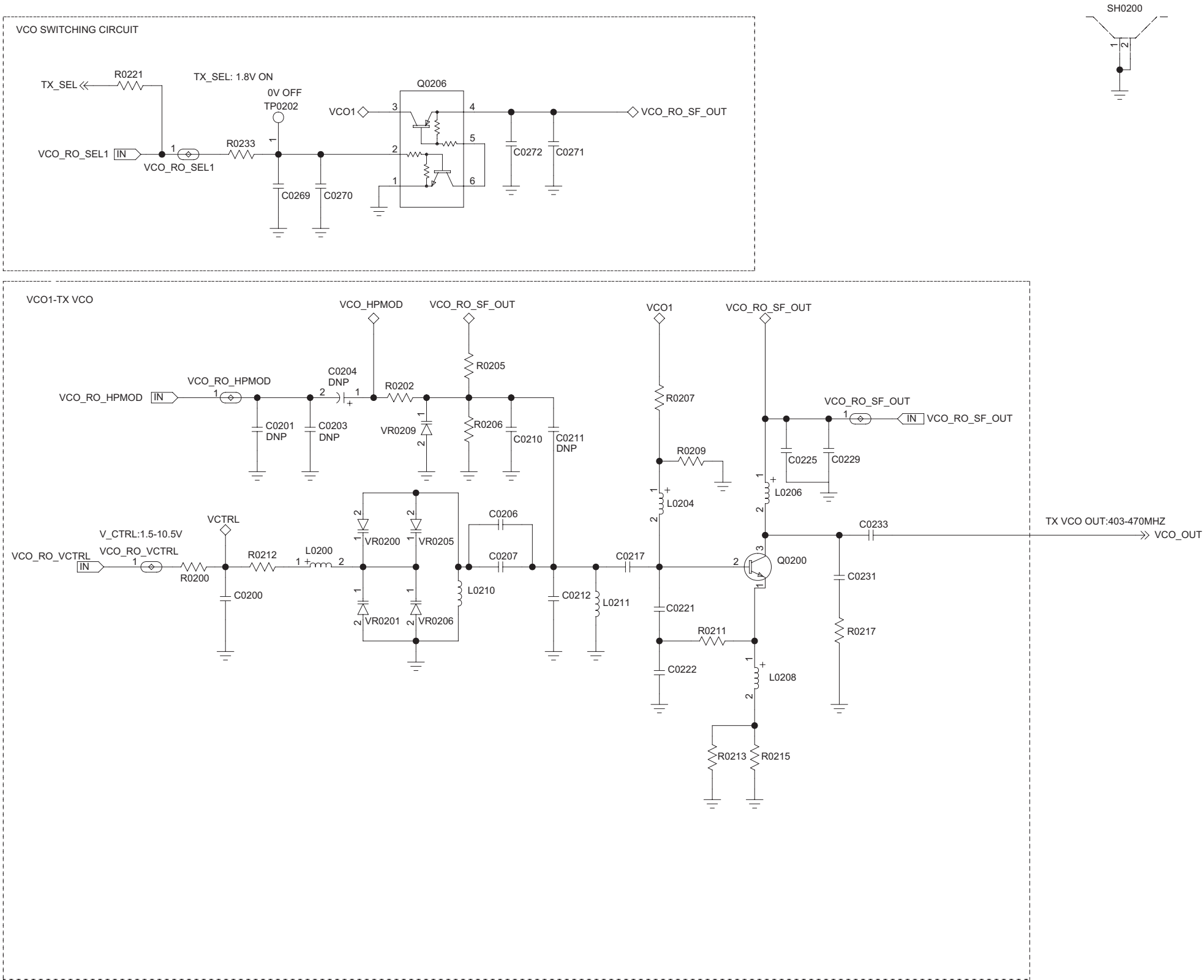








UHF1 (403–470 MHz) 25–40W Receiver VCO Schematic Diagram



UHF1 (403–470 MHz) 25–40W Transmit VCO Schematic Diagram

UHF1 PCB 84012160001-A
Parts List 25–40W

Circuit Ref.	Motorola Part No.
C0000M2	2115153H19
C0001M2	2113944A48
C0002M2	2185419D06
C0003M2	NOT PLACED
C0004M2	2185419D06
C0005M2	2185419D06
C0006M2	2113945C31
C0007M2	2185419D06
C0008M2	2115153H19
C0009M2	2113944A44
C0010M2	2113944A44
C0011M2	2113945C31
C0012M2	2185419D06
C0013M2	2113945Y02
C0014M2	2113945Y02
C0015M2	2113946J03
C0016M2	2113945A10
C0017M2	2113945Y02
C0018M2	2113945A10
C0019M2	2113945Y02
C0020M2	2113945A10
C0021M2	2113945Y02
C0022M2	2113945Y02
C0023M2	2113945Y02
C0024M2	2113956B45
C0025M2	2113944A44
C0026M2	2113944A52
C0027M2	2113945Y02
C0028M2	2113945Y02
C0029M2	2113945A10
C0030M2	2113945A10
C0031M2	2113945Y02
C0032M2	2113944A44
C0034M2	2185419D06
C0035M2	2113944A44
C0036M2	21012025001
C0037M2	2113944A44
C0038M2	2185419D06
C0039M2	2113945Y02
C0040M2	2113945A10
C0041M2	2115153H27
C0042M2	2113944A44
C0043M2	2185419D06
C0044M2	2113955D45
C0045M2	2113945Y02
C0046M2	2113944A44
C0047M2	2113944A44
C0048M2	2113944A44
C0049M2	2113945B02

Circuit Ref.	Motorola Part No.
C0050M2	2113944A44
C0051M2	2113944A44
C0052M2	2113944A44
C0053M2	2113944A44
C0054M2	2113944A44
C0055M2	2113955D37
C0056M2	2113945Y02
C0057M2	2113945B02
C0058M2	NOT PLACED
C0059M2	2113944A44
C0060M2	2113945A69
C0061M2	2113945Y02
C0062M2	NOT PLACED
C0063M2	NOT PLACED
C0064M2	2113945A69
C0065M2	2113945Y02
C0066M2	2113945B02
C0067M2	2113945Y02
C0068M2	2113955D37
C0069M2	NOT PLACED
C0070M2	2113955D37
C0071M2	2113955D37
C0072M2	2113944A44
C0073M2	2113944A44
C0074M2	2113944A44
C0075M2	2113946S35
C0076M2	2113946S35
C0077M2	2113944A44
C0078M2	2115153H41
C0079M2	2113955D37
C0080M2	2113945B02
C0081M2	2113945B02
C0082M2	2113945B02
C0083M2	2113945B02
C0084M2	2113944A44
C0085M2	2113944A44
C0086M2	2113945C31
C0087M2	2113946S35
C0088M2	2113945Y02
C0089M2	2113945Y02
C0090M2	2113945B02
C0091M2	2113944C82
C0092M2	2113944A44
C0093M2	2113945Y02
C0094M2	2113945Y02
C0095M2	2113945A13
C0096M2	2113945B02
C0097M2	2113945B02
C0098M2	2113944A44
C0099M2	2113945Y02
C0100M2	2113945Y02

Circuit Ref.	Motorola Part No.
C0101M2	2113944A44
C0102M2	2113944A44
C0103M2	2113944A44
C0104M2	2113944A44
C0105M2	2113944A44
C0106M2	2113945B02
C0107M2	2113945B02
C0108M2	2113944A44
C0109M2	2113945Y02
C0110M2	2115153H50
C0111M2	2113945Y02
C0112M2	2113944A44
C0113M2	2113944A44
C0114M2	2113945Y02
C0115M2	2115153H39
C0116M2	NOT PLACED
C0117M2	2115153H43
C0118M2	2115153H44
C0119M2	2113945A10
C0120M2	2113944A44
C0121M2	NOT PLACED
C0122M2	2113944A44
C0123M2	2115153H50
C0124M2	2113944A44
C0132M2	2113946J03
C0134M2	2113944A44
C0135M2	2113944A44
C0136M2	2113944A44
C0137M2	2113945Y02
C0138M2	2113944A44
C0139M2	2113944A44
C0140M2	2113945Y02
C0141M2	2113945Y02
C0143M2	2113945Y02
C0144M2	2113945Y02
C0145M2	2113944A44
C0146M2	2113945A10
C0147M2	2113945A10
C0149M2	2113944A44
C0150M2	2113944A44
C0151M2	2115153H37
C0200M7	2113944A44
C0201M7	NOT PLACED
C0202M7	2113944A44
C0203M7	NOT PLACED
C0204M7	NOT PLACED
C0205M7	2115153H03
C0206M7	2115153H35
C0207M7	2115153H34
C0208M7	2115153H19
C0209M7	2115153H19

Circuit Ref.	Motorola Part No.
C0210M7	2115153H03
C0211M7	NOT PLACED
C0212M7	2115153H14
C0213M7	2115153H03
C0214M7	NOT PLACED
C0215M7	2115153H20
C0216M7	2115153H19
C0217M7	2115153H25
C0218M7	2115153H24
C0219M7	2115153H47
C0220M7	2115153H49
C0221M7	2115153H40
C0222M7	2115153H35
C0223M7	2115153H39
C0224M7	2115153H38
C0225M7	2113945Y02
C0226M7	2115153H19
C0227M7	2113945Y02
C0228M7	2113944A44
C0229M7	2113944A44
C0230M7	2113944A44
C0231M7	2113944A44
C0232M7	2113944A44
C0233M7	2115153H10
C0234M7	2115153H10
C0235M7	2113944A44
C0236M7	2113945Y02
C0237M7	2113944A44
C0238M7	2113945Y02
C0239M7	2113945Y02
C0240M7	2113944A44
C0241M7	2113944A44
C0242M7	2113944A44
C0243M7	2113944A44
C0244M7	2115153H23
C0245M7	2115153H23
C0246M7	2113944A44
C0247M7	2113944A44
C0248M7	2115153H22
C0249M7	2113944A44
C0252M7	2115153H22
C0256M7	2115153H40
C0257M7	2115153H35
C0259M7	2113945Y02
C0263M7	2113944A44
C0265M7	2113944A44
C0267M7	2115153H10
C0269M7	2113944A44
C0270M7	2113945Y02
C0271M7	2113944A44
C0272M7	2113945Y02

Circuit Ref.	Motorola Part No.
C0276M7	2115153H19
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C0301M7	NOT PLACED
C0302M7	2115153H11
C0304M7	2115153H59
C0305M7	2113945Y02
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C0307M7	2115153H59
C0308M7	2113945B02
C0309M7	2115153H08
C0310M7	2115153H07
C0311M7	2115153H25
C0400M4	2115153H03
C0402M4	2113944A44
C0403M4	2115153H15
C0404M4	2115153H37
C0405M4	2115153H10
C0406M4	2115153H15
C0407M4	2115153H37
C0408M4	2113945C31
C0409M4	2113945C31
C0410M4	2113944A44
C0411M4	2115153H45
C0412M4	2113946F05
C0413M4	2113944A44
C0414M4	2113944A44
C0415M4	2115153H39
C0416M4	2113945C31
C0417M4	2113944A44
C0418M4	2113944A44
C0419M4	2115153H03
C0420M4	2113944A44
C0421M4	2115153H15
C0422M4	2115153H37
C0423M4	2115153H08
C0424M4	2115153H15
C0425M4	2115153H37
C0426M4	2113946F05
C0427M4	2115153H41
C0428M4	2115153H10
C0429M4	2115153H08
C0430M4	2113944A38
C0431M4	2115153H37
C0433M4	2113944A44
C0434M4	2115153H53
C0435M4	2115153H49
C0436M4	2113944A44
C0437M4	2113945C31
C0438M4	2113944A44
C0439M4	2115153H25
C0440M4	2115153H20

Circuit Ref.	Motorola Part No.
C0441M4	2115153H41
C0442M4	2115153H06
C0443M4	2115153H27
C0444M4	2115153H11
C0445M4	2115153H37
C0446M4	2115153H26
C0447M4	2115153H06
C0448M4	2115153H41
C0449M4	2115153H20
C0450M4	2115153H57
C0451M4	2113944A44
C0452M4	2115153H35
C0453M4	2115153H35
C0454M4	2115153H35
C0455M4	2115153H35
C0456M4	2115153H26
C0457M4	2115153H18
C0458M4	2113946F05
C0459M4	2115153H18
C0460M4	2113944A44
C0461M4	NOT PLACED
C0462M4	2113944A34
C0463M4	NOT PLACED
C0464M4	2113944A33
C0465M4	2113944A44
C0468M4	2113944A44
C0469M4	2113944A44
C0500M3	2115153H38
C0501M3	2115153H23
C0502M3	2113944M21
C0503M3	2113945C31
C0504M3	2113945C31
C0505M3	2113944M11
C0506M3	NOT PLACED
C0507M3	2115153H43
C0508M3	2115153H35
C0509M3	2115153H51
C0510M3	2115153H35
C0511M3	2115153H26
C0512M3	2115153H17
C0513M3	2115153H37
C0515M3	2115153H52
C0516M3	2113944M15
C0517M3	2115153H20
C0518M3	2115153H24
C0700M6	2113944C45
C0701M6	2113944A41
C0702M6	2113944C41
C0703M6	2113944C42
C0704M6	NOT PLACED
C0705M6	NOT PLACED

Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.
C0706M6	NOT PLACED	C0761M6	2113944C45	C0855M6	2111078B08	C3000M6	2113944C38	E0007M2	2485449Y01	L0403M4	2414017N28
C0707M6	2113944C82	C0762M6	2111078B26	C0856M6	2111078B42	C3001M6	2113944C06	E0008M2	2485449Y01	L0404M4	2414015B10
C0708M6	NOT PLACED	C0763M6	2111078B26	C0875M6	2113944C42	C3002M6	2113944C06	E0009M2	2485449Y01	L0405M4	2416540H31
C0709M6	2113945C04	C0764M6	2113944C51	C0876M6	NOT PLACED	C3003M6	2113945C31	E0010M2	2485449Y01	L0406M4	24012021001
C0710M6	2113944A41	C0765M6	NOT PLACED	C0877M6	2113944C42	C3004M6	2113945C02	E0200M7	2485449Y01	L0407M4	24012021001
C0711M6	2113944C46	C0766M6	NOT PLACED	C0878M6	NOT PLACED	C3005M6	2113945C02	E0300M7	2485449Y01	L0408M4	2414017N28
C0712M6	2113945C04	C0767M6	2111078B06	C0879M6	2113944C42	C3008M6	2113944C51	E0401M4	2485449Y01	L0409M4	2414017N28
C0713M6	2113944A41	C0768M6	2111078B07	C0880M6	2113944C28	C3009M6	2113945C31	E0402M4	2485449Y01	L0410M4	2414017N23
C0715M6	NOT PLACED	C0769M6	NOT PLACED	C0881M6	2111078B42	C3010M6	2113944C46	E0403M4	2485449Y01	L0411M4	24012021001
C0716M6	2113944C55	C0770M6	NOT PLACED	C0882M6	2111078B22	C3011M6	NOT PLACED	E0404M4	2485449Y01	L0412M4	2414017N28
C0717M6	2113944C39	C0771M6	NOT PLACED	C0883M6	2111078B34	C3012M6	2113946J04	E0500M3	2409134J25	L0413M4	2414017N28
C0718M6	NOT PLACED	C0772M6	NOT PLACED	C0884M6	2113944F05	C3013M6	2113945C31	E0700M6	24012040001	L0414M4	2414015B15
C0719M6	NOT PLACED	C0789M6	2113944C39	C0885M6	2113944C51	C3014M6	2171630Y01	E0701M6	24012040001	L0415M4	2414015B16
C0720M6	2113944C42	C0790M6	2113944F48	C0886M6	2113944C47	C3015M6	2113946G01	E0703M6	24012040001	L0416M4	2414017N16
C0721M6	2113944C82	C0791M6	NOT PLACED	C0887M6	NOT PLACED	C3016M6	2113945C31	E3000M6	24012040001	L0417M4	2414015B30
C0722M6	2113944C34	C0793M6	2113944F35	C0888M6	2113944C42	C3019M6	2113946S35	FL0500M3	9116854H02	L0418M4	NOT PLACED
C0723M6	2113945C04	C0794M6	2113944F48	C0900M6	NOT PLACED	C3020M6	2113945C26	J0700M6	09009348001	L0421M4	2414015B15
C0724M6	2113944C39	C0795M6	2113944F34	C0901M6	NOT PLACED	C3021M6	2113944C06	L0000M2	2466505A01	L0424M4	2414015B15
C0725M6	2113944C39	C0796M6	2113944F07	C0902M6	2113944C51	C3022M6	2113945A10	L0001M2	2414017N19	L0428M4	2414015B15
C0726M6	2113944C51	C0797M6	2113944F07	C0905M6	2113945C31	C3029M6	NOT PLACED	L0002M2	2414017K32	L0434M4	2414017N20
C0727M6	NOT PLACED	C0798M6	2113944F07	C0906M6	2113945A10	C3038M6	2115153H48	L0003M2	2414017N29	L0500M3	2414015B27
C0729M6	NOT PLACED	C0799M6	2113944F07	C0907M6	2113945L41	C3041M6	2115153H48	L0004M2	2414015A03	L0501M3	2414015B28
C0730M6	NOT PLACED	C0800M6	2113944F49	C0908M6	2113944A44	C3042M6	2115153H48	L0005M2	2414017N16	L0502M3	2414015B26
C0731M6	2113944A41	C0801M6	2113944F07	C0909M6	NOT PLACED	C3044M6	2115153H48	L0200M7	2414017N29	L0503M3	2414017N20
C0732M6	2113945A09	C0802M6	2113944F07	C0910M6	NOT PLACED	C3046M6	NOT PLACED	L0201M7	2414017N29	L0504M3	2414017N24
C0733M6	NOT PLACED	C0803M6	2113944F07	C0911M6	2113944C02	C3047M6	NOT PLACED	L0202M7	2415385H02	L0505M3	2414017N24
C0734M6	2113945A09	C0804M6	2113944F07	C0912M6	NOT PLACED	C3048M6	NOT PLACED	L0203M7	2414015A22	L0507M3	2414017N22
C0735M6	2113944C28	C0805M6	2113944F49	C0913M6	2113944A44	C3049M6	NOT PLACED	L0204M7	2414017N29	L0700M6	2414017N10
C0737M6	2113944C51	C0808M6	NOT PLACED	C0916M6	NOT PLACED	D0000M2	4815011H01	L0205M7	2414017N29	L0701M6	2414017N11
C0738M6	2113944A41	C0812M6	2113944F62	C0917M6	2113944A44	D0001M2	4815011H01	L0206M7	2414017N29	L0702M6	2414017N26
C0739M6	2113945C31	C0813M6	2113944F62	C0918M6	2113944A44	D0400M4	4884800Y03	L0207M7	2414017N29	L0703M6	NOT PLACED
C0740M6	2113944C51	C0814M6	2113944F62	C0919M6	2113944A44	D0401M4	4813974A19	L0208M7	2414017N29	L0704M6	NOT PLACED
C0741M6	2113944F53	C0815M6	2113944F62	C0920M6	2113944C02	D0402M4	4813974A19	L0209M7	2414017N29	L0705M6	2414017N06
C0742M6	2113945L49	C0816M6	NOT PLACED	C0921M6	2113944C02	D0403M4	4884800Y03	L0210M7	2414015A21	L0707M6	2414017N26
C0743M6	2113944F52	C0818M6	NOT PLACED	C0922M6	2113945C31	D0404M4	4815090H01	L0211M7	2415385H01	L0708M6	2479990G01
C0744M6	2113944F53	C0822M6	2111078B11	C0923M6	2113944C02	D0500M3	4813974A19	L0212M7	2414017N29	L0709M6	NOT PLACED
C0745M6	2113946J04	C0824M6	2111078B17	C0924M6	NOT PLACED	D0700M6	NOT PLACED	L0214M7	2414015A21	L0710M6	2485873L01
C0746M6	NOT PLACED	C0841M6	NOT PLACED	C0925M6	2113945C31	D0875M6	4802482J02	L0216M7	2415385H02	L0711M6	NOT PLACED
C0747M6	NOT PLACED	C0842M6	NOT PLACED	C0926M6	2113944C02	D0876M6	4886622Y06	L0218M7	2414017N29	L0720M6	2414017N13
C0748M6	NOT PLACED	C0843M6	NOT PLACED	C0927M6	2113944C01	D0877M6	4802482J02	L0220M7	2414017N29	L0729M6	2414032B60
C0749M6	2113944F53	C0844M6	NOT PLACED	C0928M6	2113944C51	D0900M6	NOT PLACED	L0222M7	2414017N29	L0730M6	2414017N11
C0751M6	NOT PLACED	C0845M6	2113944C08	C0929M6	2113944C49	D0950M6	4813974A21	L0224M7	2414017N28	L0850M6	2460592A01
C0752M6	2111078B42	C0846M6	2113944C26	C0930M6	NOT PLACED	D0951M6	4813974A21	L0226M7	2414017N20	L0851M6	2460592A01
C0753M6	2113944C51	C0847M6	2113944C26	C0950M6	2113944C47	D3000M6	4813978P07	L0300M7	2414017N13	L0852M6	2460592A01
C0754M6	2113944C45	C0848M6	2113944C45	C0951M6	2113944M12	E0000M2	2485449Y01	L0301M7	2414017N29	L0875M6	2460592A01
C0755M6	2111078B42	C0849M6	2113944C39	C0952M6	2113944C47	E0001M2	2485449Y01	L0302M7	2414017N28	L0876M6	2414017N27
C0756M6	2111078B22	C0850M6	2111078B05	C0953M6	2113944C47	E0002M2	NOT PLACED	L0303M7	2414017N12	L0877M6	2414032B49
C0757M6	2111078B22	C0851M6	2111078B21	C0954M6	2113944M14	E0003M2	2485449Y01	L0304M7	2414017N18	L0878M6	2414017N22
C0758M6	2111078B27	C0852M6	2111078B08	C0955M6	2113944C47	E0004M2	2485449Y01	L0305M7	2414017N13	L0880M6	2414032B49
C0759M6	2111078B27	C0853M6	2111078B16	C0956M6	2113944C01	E0005M2	2485449Y01	L0401M4	24012021001	L0885M6	2414017N13
C0760M6	2113944C45	C0854M6	2111078B15	C0957M6	2113944C49	E0006M2	2485449Y01	L0402M4	2414015B29	L0900M6	NOT PLACED

Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.	Circuit Ref.	Motorola Part No.
L0901M6	NOT PLACED	R0010M2	0613952R66	R0212M7	0613952Q32	R0421M4	0613952R25	R0719M6	0613952H89	R0917M6	0613952P01
L0902M6	NOT PLACED	R0011M2	0613952Q36	R0213M7	0613952Q67	R0422M4	0613952Q67	R0720M6	0613952H95	R0919M6	0613952P01
L0950M6	2414017N21	R0012M2	0613952Q86	R0214M7	0613952Q67	R0423M4	0613952R25	R0721M6	0613952G67	R0920M6	0613952N01
L0951M6	2414032F64	R0013M2	0613952Q35	R0215M7	0613952Q67	R0424M4	0613952Q23	R0722M6	0613952H29	R0921M6	0613952N01
L0952M6	2414032F25	R0014M2	0613952R66	R0216M7	0613952Q67	R0425M4	0613952Q67	R0723M6	0613952G67	R0922M6	0613952R66
M0700M6	2686201B02	R0015M2	0613952R66	R0217M7	0613952Q49	R0426M4	0613952Q87	R0724M6	NOT PLACED	R0923M6	0613952M42
P0000M2	NOT PLACED	R0018M2	0613952Q80	R0218M7	0613952Q49	R0427M4	0613952Q93	R0725M6	0613958S29	R0924M6	0613952N01
P3000M6	09009344001	R0019M2	0613952R01	R0219M7	0613952R66	R0429M4	0613952R66	R0726M6	NOT PLACED	R0925M6	NOT PLACED
Q0000M2	4813973A13	R0020M2	0613952R12	R0220M7	0613952R66	R0430M4	NOT PLACED	R0727M6	0613958S29	R0926M6	NOT PLACED
Q0001M2	4816134H01	R0021M2	0613952Q80	R0221M7	0613952R66	R0431M4	0613952R01	R0728M6	NOT PLACED	R0927M6	NOT PLACED
Q0002M2	4813970A59	R0022M2	0613952R66	R0222M7	0613952Q84	R0432M4	0613952H73	R0729M6	NOT PLACED	R0928M6	0613952N81
Q0003M2	4885061Y01	R0023M2	0613952Q83	R0223M7	0613952Q73	R0433M4	0613952R01	R0730M6	NOT PLACED	R0929M6	0613952N85
Q0004M2	4815272H01	R0024M2	0613952Q80	R0224M7	0613952Q85	R0434M4	0613952L46	R0731M6	0613958S29	R0930M6	0613952N42
Q0006M2	4813973A04	R0025M2	0613952R66	R0225M7	0613952Q73	R0435M4	0613952L46	R0732M6	NOT PLACED	R0931M6	0613952M66
Q0200M7	4885061Y01	R0026M2	0613952R66	R0226M7	0613952Q29	R0436M4	0613952R66	R0733M6	NOT PLACED	R0932M6	0613952N30
Q0201M7	4885061Y01	R0027M2	0613952R12	R0227M7	0613952G67	R0437M4	0613952Q77	R0734M6	0613958S29	R0933M6	0613952N01
Q0202M7	4815272H01	R0028M2	0613952R66	R0228M7	0613952Q67	R0438M4	0613958H25	R0735M6	NOT PLACED	R0934M6	0613952J17
Q0203M7	4815272H01	R0029M2	0613952Q25	R0230M7	0613952Q67	R0439M4	0613952Q83	R0736M6	0613959Q25	R0935M6	0613952H91
Q0204M7	4885061Y01	R0030M2	0613952R66	R0232M7	0613952Q49	R0440M4	0613958H25	R0737M6	0613952F01	R0936M6	NOT PLACED
Q0205M7	4816134H01	R0031M2	0613952R66	R0233M7	0613952R66	R0441M4	0613958H49	R0738M6	0613959Q32	R0937M6	NOT PLACED
Q0206M7	4815272H01	R0033M2	0613952R01	R0300M7	0613952Q66	R0442M4	0613952Q83	R0739M6	0613952H73	R0938M6	NOT PLACED
Q0207M7	4816134H01	R0034M2	0613952Q57	R0301M7	0613952Q25	R0443M4	0613952Q25	R0740M6	NOT PLACED	R0939M6	0613952Z76
Q0300M7	4802197J95	R0040M2	0613952Q70	R0302M7	0613952Q66	R0444M4	0613952K25	R0741M6	0613952E66	R0940M6	0613952R66
Q0400M4	4815271H01	R0041M2	0613952Q58	R0303M7	0613952R05	R0445M4	0613952Q75	R0742M6	NOT PLACED	R0941M6	0613952N58
Q0401M4	4815267H01	R0042M2	0613952Q42	R0304M7	0613952Q89	R0446M4	NOT PLACED	R0743M6	0613952E66	R0942M6	0613952N58
Q0402M4	4815118H01	R0043M2	0613952Q73	R0305M7	0613952Q33	R0447M4	0613952R66	R0744M6	0613959Q32	R0943M6	0613952N58
Q0403M4	4815270H01	R0044M2	0613952R25	R0306M7	0613952Q32	R0448M4	0613952Q25	R0745M6	0613952H29	R0950M6	0613952G67
Q0404M4	4815271H01	R0045M2	0613952R66	R0307M7	0613952Q49	R0500M3	0613952Q87	R0746M6	0613952F01	R0951M6	0613958M18
Q0405M4	4815118H01	R0046M2	0613952Q57	R0308M7	0613952Q32	R0501M3	0613952R19	R0759M6	0613959H12	R0952M6	0613958M18
Q0700M6	4816547H01	R0051M2	0613952R01	R0309M7	0613952Q42	R0502M3	0613952Q66	R0849M6	0613952G67	R0953M6	0613952G67
Q0701M6	4816013H01	R0052M2	0613952R01	R0400M4	0613952R01	R0503M3	0613952Q88	R0876M6	0613958S73	R0954M6	0613952H56
Q0703M6	4802246J29	R0054M2	0613952R66	R0401M4	0613952H81	R0504M3	0613952Q61	R0877M6	0613959Y37	R0955M6	0613952H56
Q0704M6	4816548H01	R0056M2	0613952R66	R0402M4	0613952R25	R0505M3	0613952R66	R0878M6	0613959Y37	R0956M6	0613952H67
Q0705M6	48012022001	R0058M2	0613952Q74	R0403M4	0613952R01	R0525M3	0613952R66	R0879M6	0613952J25	R0957M6	0613958C25
Q0875M6	4813970A62	R0059M2	0613952R66	R0404M4	0613952R25	R0700M6	0613952J05	R0882M6	0613952G67	R0958M6	0613958C25
Q0876M6	4816134H01	R0060M2	0613952Q86	R0405M4	0613952R05	R0701M6	0613952G67	R0883M6	0613952G67	R0959M6	0613952R66
Q0900M6	NOT PLACED	R0061M2	0613952Q85	R0406M4	0613952Q91	R0702M6	0613952H89	R0902M6	0613952R66	R0960M6	0613952N58
Q0901M6	NOT PLACED	R0062M2	0613952Q61	R0407M4	0613952Q91	R0703M6	0613952J01	R0903M6	0613952N01	R0961M6	0613952N58
Q3000M6	0105959T72	R0063M2	0613952Q64	R0408M4	0613952Q75	R0704M6	0613952J06	R0904M6	0613952R66	R0962M6	0613952N58
Q3001M6	0105959T72	R0200M7	0613952R66	R0409M4	0613952Q69	R0705M6	0613952H48	R0905M6	0613952H42	R0965M6	NOT PLACED
Q3002M6	4813973B01	R0201M7	0613952R27	R0410M4	0613952R01	R0706M6	0613952H45	R0906M6	0613958H46	R0966M6	NOT PLACED
R0000M2	0613952R66	R0202M7	0613952R27	R0411M4	0613952R01	R0707M6	0613952H48	R0907M6	0613958H55	R3000M6	0613952H60
R0001M2	0613952R66	R0203M7	0613952R07	R0412M4	0613952Q83	R0708M6	NOT PLACED	R0908M6	NOT PLACED	R3001M6	0615871H01
R0002M2	0613952Q96	R0204M7	0613952R05	R0413M4	0613958H55	R0711M6	0613958S44	R0909M6	NOT PLACED	R3002M6	0615871H01
R0003M2	0613952Q57	R0205M7	0613952R07	R0414M4	0613958H55	R0712M6	0613958S44	R0910M6	NOT PLACED	R3003M6	0615871H01
R0004M2	0613952Q34	R0206M7	0613952R05	R0415M4	0613952Q57	R0713M6	NOT PLACED	R0911M6	NOT PLACED	R3004M6	0615871H01
R0005M2	0613952R66	R0207M7	0613952Q84	R0416M4	0613952Q69	R0714M6	0613958H15	R0912M6	0613958H46	R3005M6	0613952H25
R0006M2	0613952Q25	R0208M7	0613952Q86	R0417M4	0613952Q69	R0715M6	0613958H15	R0913M6	0613952M51	R3006M6	0613952H25
R0007M2	0613952Q51	R0209M7	0613952Q85	R0418M4	0613952Q69	R0716M6	0613958H15	R0914M6	0613952M81	R3007M6	0613952M30
R0008M2	0613952R01	R0210M7	0613952Q85	R0419M4	0613952Q69	R0717M6	0613958H15	R0915M6	NOT PLACED	R3008M6	0613952G67
R0009M2	0613952Q58	R0211M7	0613952Q18	R0420M4	0613952R25	R0718M6	0613952H96	R0916M6	0613952R66	R3009M6	0613952M43

Circuit Ref.	Motorola Part No.
R3010M6	0613952G67
R3011M6	0613959Q60
R3012M6	0613959Q60
R3013M6	0613952R01
R3014M6	0613952R01
R3015M6	0615871H01
R3018M6	0613952H73
R3019M6	0613952H60
R3020M6	0613952G67
R3021M6	0613952R25
RT0900M6	0615585H01
SH0000M2	26012095001
SH0001M2	26012095001
SH0002M2	26012097001
SH0003M2	26012094001
SH0004M2	26012094001
SH0200M7	26012095001
SH0300M7	26012095001
SH0400M4	26012096001
SH0401M4	26012096001
SH0402M4	26012098001
SH0403M4	26012098001
SH0500M3	26012098001
SH0501M3	NOT PLACED
SH0850M6	26012100001
SH0900M6	2686425Z02
SH0901M6	2686425Z02
SP3000M6	NOT PLACED
SP3001M6	NOT PLACED
T0000M2	2515396H02
T0400M4	2515121H01
T0401M4	2515121H01
U0000M2	51009277001
U0001M2	5109731C48
U0002M2	4802197J95
U0200M7	5186310Y39
U0500M3	4802197J95
U0901M6	5180390L83
U0902M6	51012221001
U0903M6	5115022H01
U0904M6	5109731C48
U0905M6	5109731C48
U3000M6	5116525H01
U3001M6	4813973M07
U3002M6	51012133001
VR0001M2	4815096H01
VR0200M7	4805656W87
VR0201M7	4805656W87
VR0202M7	4805656W87
VR0203M7	4805656W87
VR0204M7	4805656W87

Circuit Ref.	Motorola Part No.
VR0205M7	4805656W87
VR0206M7	4805656W87
VR0207M7	4805656W87
VR0208M7	4805656W87
VR0209M7	4805656W87
VR0210M7	4805656W87
VR0211M7	4805656W87
VR0214M7	4805656W87
VR0215M7	4805656W87
VR0400M4	4805656W87
VR0401M4	4805656W87
VR0402M4	4805656W87
VR0403M4	4805656W87
VR0404M4	4805656W87
VR0405M4	4805656W87
VR0406M4	4805656W87
VR0407M4	4805656W87
VR3000M6	48012070001
VR3002M6	4813977M10
Y0000M2	4875185M04

Note: The suffix “M1”, “M2”, etc. from the Circuit Ref is removed from the schematic and overlays.

Appendix A Replacement Parts Ordering

A.1 Basic Ordering Information

Some replacement parts, spare parts, and/or product information can be ordered directly. While parts may be assigned with a Motorola part number, this does not guarantee that they are available from Motorola Radio Products and Solutions Organization (RPSO). If no Motorola part number is assigned, the part is normally not available from Motorola, or is not a user-serviceable part. Part numbers appended with an asterisk are serviceable by Motorola Depot only.

A.2 Motorola Online

Motorola Online users can access our online catalog at

<http://motorola.com/businessonline>

To register for online access, please call 1-800-422-4210 (for U.S. and Canada Service Centers only). International customers can obtain assistance at <http://motorola.com/businessonline>

A.3 Mail Orders

Mail orders are only accepted by the US Federal Government Markets Division (USFGMD).

Motorola
7031 Columbia Gateway Drive
3rd Floor - Order Processing
Columbia, MD 21046
U.S.A.

A.4 Telephone Orders

Radio Products and Solutions Organization*
(United States and Canada)
7:00 AM to 7:00 PM (Central Standard Time)
Monday through Friday (Chicago, U.S.A.)
1-800-422-4210
1-847-538-8023 (United States and Canada)

U.S. Federal Government Markets Division (USFGMD)
1-877-873-4668
8:30 AM to 5:00 PM (Eastern Standard Time)

A.5 Fax Orders

Radio Products and Solutions Organization*
(United States and Canada)
1-800-622-6210
1-847-576-3023 (United States and Canada)

USFGMD
(Federal Government Orders)
1-800-526-8641 (For Parts and Equipment Purchase Orders)

A.6 Parts Identification

Radio Products and Solutions Organization*
(United States and Canada)
1-800-422-4210

A.7 Product Customer Service

Radio Products and Solutions Organisation (United States and Canada)
1-800-927-2744

* The Radio Products and Solutions Organization (RPSO) was formerly known as the Radio Products Services Division (RPSD) and/or the Accessories and Aftermarket Division (AAD).

Appendix B Motorola Service Centers

B.1 Servicing Information

If a unit requires further complete testing, knowledge and/or details of component level troubleshooting or service than is customarily performed at the basic level, please send the radio to a Motorola Service Center as listed below.

B.2 Motorola Service Center

1220 Don Haskins Drive
Suite A
El Paso, TX 79936
Tel: 915-872-8200

B.3 Motorola Federal Technical Center

10105 Senate Drive
Lanham, MD 20706
Tel: 1-800-969-6680
Fax: 1-800-784-4133

B.4 Motorola Canadian Technical Logistics Center

Motorola Canada Ltd.
8133 Warden Avenue
Markham, Ontario, L6G 1B3
Tel: 1-800-543-3222
Fax: 1-888-331-9872 or 1-905-948-5970

Notes

Glossary

This glossary contains an alphabetical listing of terms and their definitions that are applicable to portable and mobile subscriber radio products. All terms do not necessarily apply to all radios, and some terms are merely generic in nature.

Term	Definition
Analog	Refers to a continuously variable signal or a circuit or device designed to handle such signals.
Band	Frequencies allowed for a specific purpose.
CMOS	Complementary Metal Oxide Semiconductor.
CPS	Customer Programming Software: Software with a graphical user interface containing the feature set of a radio.
Default	A pre-defined set of parameters.
Digital	Refers to data that is stored or transmitted as a sequence of discrete symbols from a finite set; most commonly this means binary data represented using electronic or electromagnetic signals.
DPL	Digital Private-Line: A type of digital communication that utilizes privacy call, as well as memory channel and busy channel lock out to enhance communication efficiency.
FCC	Federal Communications Commission.
Frequency	Number of times a complete electromagnetic-wave cycle occurs in a fixed unit of time (usually one second).
GPIO	General-Purpose Input/Output: Pins whose function is programmable.
GPS	Global Positioning System
IC	Integrated Circuit: An assembly of interconnected components on a small semiconductor chip, usually made of silicon. One chip can contain millions of microscopic components and perform many functions.
IF	Intermediate Frequency.
kHz	kilohertz: One thousand cycles per second. Used especially as a radio-frequency unit.
LCD	Liquid-Crystal Display: An LCD uses two sheets of polarizing material with a liquid-crystal solution between them. An electric current passed through the liquid causes the crystals to align so that light cannot pass through them.
LDMOS	Laterally Diffused Metal Oxide Semiconductor.
LED	Light Emitting Diode: An electronic device that lights up when electricity is passed through it.
MDC	Motorola Digital Communications.

Term	Definition
MHz	Megahertz: One million cycles per second. Used especially as a radio-frequency unit.
Paging	One-way communication that alerts the receiver to retrieve a message.
PC Board	Printed Circuit Board. Also referred to as a PCB.
PL	Private-Line Tone Squelch: A continuous sub-audible tone that is transmitted along with the carrier.
Programming Cable	A cable that allows the CPS to communicate directly with the radio using USB.
Receiver	An electronic device that recovers information from a modulated RF signal. A receiver separates the audio signal from the RF carrier, amplifies it, and converts it back to the original sound waves.
Repeater	Remote transmit/receive facility that re-transmits received signals in order to improve communications range and coverage (conventional operation).
RF	Radio Frequency: The portion of the electromagnetic spectrum between audio sound and infrared light (approximately 10 kHz to 10 GHz).
RX	Receive.
Signal	An electrically transmitted electromagnetic wave.
Spectrum	Frequency range within which radiation has specific characteristics.
Squelch	Muting of audio circuits when received signal levels fall below a pre-determined value. With carrier squelch, all channel activity that exceeds the radio's preset squelch level can be heard.
TOT	Time-out Timer: A timer that limits the length of a transmission.
TPL	Tone Private Line
Transceiver	Transmitter-receiver. A device that both transmits and receives analog or digital signals. Also abbreviated as XCVR.
Transmitter	Electronic equipment that generates and amplifies an RF carrier signal, modulates the signal, and then radiates it into space.
TX	Transmit.
UHF	Ultra-High Frequency.
USB	Universal Serial Bus: An external bus standard that supports data transfer rates of 12 Mbps.
USB_DM_MAP	USB D- Connection at the rear accessory connector.
USB_DP_MAP	USB D+ Connection at the rear accessory connector.
VHF	Very High Frequency.
VIP	Vehicle Interface Port.
XPR	Refers to Digital Professional Radio model names in the MOTOTRBO Professional Digital Two-Way Radio System.



Motorola Solutions, Inc.
1303 East Algonquin Road
Schaumburg, Illinois 60196 U.S.A.

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January 2012.

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