Service Manual
Level III

MOTOROLA

CDMA 800/AMPS-V2260, T2260
CDMA Dual Mode 800-1900-V2267,
T2267

CDMA

MOTOROLA

Cellular Subscriber Sector

CONTENTS

CDMA 800/AMPS-V2260, T2260
CDMA Dual Mode 800-1900-V2267, T2267

Logic Changes

General:

1. Dual Mode single band-800MHz AMPSand 800MHz CDMA. There are two models -(1)V. V2260 (II) Timeport T2260.
2. Dual band dual Mode- 800 MHz AMPS and 1900 MHz CDMA (PCS) There are two models-

V. 2267

Time port T2267

Competitively priced with the value added fictionalizing and feature set(s)

Microbrowser capable.

Full matrix 95x32 Pixel dot matrix display with hard icons.

Intergrated headset jack conveniently located on the top left side of the unit.

MT and MO SMS

Form factor proven through global research. Designed to be the most comfortable phone on the market

Smart button

Main Housings:

This product utilizes completely new front and rear housings, the housing utilizes new materials, finishes and textures which maximizes the feeling of comfort.

AAAL Battery door protects the batteries, but allow for the unit to fully function (charge, Tx and Rx) without the door in place. The door connects with the phone and be released with the push of a button.

Contact points on the back of the phone below the antenna for factory, and service testing, flexing, flashing etc.

A power port for the internal charger / CLA for all the models. This is located on the lower right

side of the unit.

The integrated Headset Jack is located on the top left side of the unit.

All the rear housings accommodate the removable belt clip attachments.

V/T-2260/2267 LOGIC CIRCUIT

The main chip sets of V/T-2260/2267 CDMA are the CASPER, CIA and CCAP-LITE.

The CASPER include the 32 bits 68338 MCU, which controls the whole part of the phone and the CSP, which processes the CDMA baseband digital signals and DSP, which performs the 8K/13Kbps Q-CELP Vocoding function.

The CIA provides the analog CDMA signal interface and the Audio function.

CCAP-LITE provides the power management function of the phone.

The memory consist of 16Mbits of Flash(1M x 16) and 2Mbits SRAM

(128K x 16).

The logic parts have the watchdog, keypad, backlite, oscillator circuit

And display and charging circuit.

The charging circuit contains COVIC IC which is 8 pin. Aids in Kick

Start charging/ overvoltage protection.

Display is a LCD 96 x 32 graphic matrix with additional icon COG and KS0717 Driver IC.

There is no butt plug, the communication to the phone takes place using special cable that plugs at the back of the phone, above the batteries, you have to remove the battery door to access these test points.

V/T-2260/2267 uses 3 AAAL cells 1.2Volts.

V/T-2260/2267 RF CIRCUIT

The RF circuit is very similar to the ST7867W product, The Dual-Band

The CDMA V/T-2260/2267 contains two completely separate receiver paths: an 800 MHz path that converts analog signals and a 1900 MHz path for the digital CDMA signal. The two paths have different RF, LO and IF frequencies.

In the V/T-2260/2267 there is no accessory port for RF from the butt plug. To perform RX and TX test attach the special cable to the RF test point on the back side near the antenna, remove the groumet.

Frequency of operation and channel

1900 Mhz Receiver Band 1930 to 1990 Mhz

1900 Mhz Transmitter Band 1850 to 1910 Mhz

The maximum output power applied to the antenna is:

Analog: 24.5dBm

PCS CDMA: 23.5dBm

The V/T-2260/2267 uses the ME3C mixer-exciter IC rather than the MOON IC part.

The ME3C allows full control of the RF power range from –39 dBm to +11dBm without having to vary the ZIFSYN output power. The ME3 requires two LO's, one for PCS, the other for analog. The IF input pins are the same regardless of analog/PCS. There is one enable pin for the ME3C, one pin for analog/PCS mode, and one for AGC pin. The two separate RF mixer outputs are combined and drive to exciter. The ME3C PCS does require an interstage RF filter between the Mixer and the exciter, but AMPS mode doesn't require an interstage RF filter.

The V/T-2260/2267 uses DUAL BAND VCO Module for main LO, 14 pin part with two outputs one for AMPS and another for PCS, the control voltage from ZIFSYN IC varies from 0.5 V to 2.2 V, the VCC to the IC is supplied by the VSF 1900 and VSF 800. The output is split into RX_LO and TX_LO for both AMPS and PCS LO.

The rest of the RF circuit is similar to DUAL BAND ST7867W product.

CDMA –PCS 1900 Mhz BAND

Performance specification:

General

Frequency and channel information:

Channel	Tx Frequency (Mhz)	Rx Frequency(Mhz)
25	1851.25	1931.25
200	1860.00	1940.00
400	1870.00	1950.00
600	1880.00	1960.00
800	1890.00	1970.00
1000	1900.00	1980.00
1175	1908.50	1988.50

CDMA 1900MHz Performance Specifications General

Table 1:

Function	*Specification*
Frequency Range	1850 to 1910 MHz(tx), 1930 to 1990(RX)
RF Channel Bandwidth	1.25 MHz
Channels	48 (Channels spaced at an increment of-25)
Duplex Spacing	80 MHz
Frequency Stability	Center Frequency* + / - 8.5 $X10^{-8}$ + / - 150 Hz of incoming RX CDMA signal.
Operation Voltage	+3.6 V nominal (3.0 -4.2 V DC)
RF Power output	0.20 Watts - 23 dBm into 50 ohms (CDMA, nominal)
input/output impedance	50 ohms(nominal)
Spurious /Harmonic emissions	Complies with title 47, Part 22 of the code of federal regulations.
Vocoders	8kbps, 13kbps, EVRC
Transmit Time Error	+/- 1 US
Modulation Type	1M25D1W(1.25MHz bandwidth), OQPSK, G7W(CDMA)
Transmit Duty Cycle	Variable- full, 1/2, 1/4, 1/8 rate(CDMA Mode)
CDMA Transmit Waveform Quality(rho)	0.94
Receive Sensitivity	-104dBm(CDMA, 0.5% Static FER, 8kbps Vocoder)
Display	96 X 32 LCD

Specifications

Overall System CDMA 800MHz

Table 2:

Function	*Specification*
Frequency Range	824.04 - 848.97 MHz Tx, Channels 1 to 799, $f_{Tx} = 0.03 * N + 825$ MHz Channels 990 to 1023, $f_{Tx} = 0.03(N—1023) + 825$ MHz 869.04 - 893.97 MHz Rx Channels 1 to 799 is $f_{Rx} = 0.03 * N + 870$ MHz Channels 990 to 1023, $f_{Rx} = 0.03(N—1023) + 870$ MHz

Table 2:

Function	*Specification*
Channel Spacing	30 KHz
Channels	832
Duplex spacing	45 MHz(amps)
Frequency Stability	+/- 2.5 ppm (Amps)
Operating Voltage	3.6 - 4.8 VDC
Display	96 X 32 LCD
RF Power Output	0.6 watts - 28.0 dBM into 50 ohms (AMPS, nominal) 0.25 watts - 24.0 dBM into 50 ohms (CDMA, nominal)
Input/Output Impedance	50 ohms (nominal)
Spurious / Harmonic Emissions	Complies with Title 47, Part 22 of the code of Federal Regulations.
Audio Distortion	Less than 5% at
Hum and Noise(C-MSG)	32 dBm below +/- 8kHz deviation(transmit and receive)
Modulation	F3: + 12 kHz for 100% at 1 kHz, AMPS (wide) 1M25D1W (1.25 MHz bandwidth) CDMA
Transmit Audio Response	6 dBm/octave pre-emphasis
Transmit Audio sensitivity	(AMPS) + 2.9 kHz deviation (nom.) @ 97 dBm SPL input @ 1 kHz
Transmit Duty Cycle	full, 1/2, 1/4, 1/8 rate (CDMA Mode)
CDMA Transmit Waveform Quality(Rho)	0.94
Receiver Sensitivity	-116 dBm (AMPS, SINAD, C-MSG weighted) -104 dBm (CDMA, 0.5% Static FER)
Alternate Channel Desense Protection	-60 db@+/- 60kHz (Amps)

Table 3: Environmental

Function	*Specification*
Temperature Range	Operational -30 $_{o}$C to +60 $_{o}$C (-22 $_{o}$F to +140 $_{o}$F) Storage -55 $_{o}$C to +85 $_{o}$C (-67 $_{o}$F to +185 $_{o}$F) Thermal Shock -40 $_{o}$C to +85 $_{o}$C (-40 $_{o}$F to +185 $_{o}$F) meets Mil. Std. 810C
Shock	Exceeds EIA Standards RS152B (Section 15) and IS-19

Table 3: Environmental

Function	*Specification*
Drop	Exceeds EIA Standards RS316B and IS-19
Humidity	95% Relative Humidity; meets EIA Standard IS-19
Vibration	Exceeds EIA Standards RS316B and IS-19
Salt Fog	Salt Solution fog at 35 ^{o}C (95 ^{o}F), tested for 48 hours
Dust	140 mesh blown silica flour test, tested for 5 hours
Notes:	• EIA (Electronic Industries Association) Standard RS152B states the minimum stan-dards for Land Mobile Communications, FM or PM transmitters 25-470 MHz. • EIA IS-19 states the recommended standards for 800 MHz cellular subscriber units. • EIA Standard RS316B states the standards for portable land mobile communications. • U.S. Military Standard 810D establishes uniform environmental test methods for deter-mining the resistance of equipment to the effects of natural and induced environments peculiar to military operations. • TIA / EIA / IS-98 Recommended Minimum Performance Standards for Dual-Mode Wide band Spread spectrum Cellular Mobile Stations.

Specifications subject to change without notice.

Foreword

Scope of Manual

This manual is intended for use by experienced technicians familiar with similar types of equipment. It is intended primarily to support basic servicing, which consists primarily of mechanical repairs and circuit board replacement.

Authorized distributors may opt to receive additional training to become authorized to perform limited component repairs. Contact your regional Customer Support Manager for details.

Model and Kit Identification

Motorola products are specifically identified by an overall model number on the product label. In most cases, assemblies and kits which make up the equipment also have kit numbers stamped on them.

Replacement Parts Ordering

Motorola maintains a parts office staffed to process parts orders, identify part numbers, and otherwise assist in the maintenance and repair of Motorola Cellular products. Orders for all parts should be sent to the Motorola International Logistics Department at the following address:

Attn.: Global Spare Parts Department
Motorola Cellular Subscriber Group
2001 N, Division St.
Harvard, IL 60033-3674
U. S. A.
FAX: 1-815-884-8354

When ordering replacement parts or equipment information, the complete identification number should be included. This applies to all components, kits, and chassis. If the component part number is not known, the order should include the number of the chassis or kit of which it is a part, and sufficient description of the desired component to identify it.

Service

Motorola's regional Cellular Subscriber Service Centers offer some of the finest repair capabilities available to Motorola Subscriber equipment users. The Cellular Subscriber Service Centers are able to perform computerized adjustments and repair most defective transceivers and boards. Contact your regional Customer Service Manager for more information about Motorola's repair capabilities and policy for in-warranty and out-of-warranty repairs in your region.

General Safety Information

CAUTION

Do not jump start vehicle or use an automotive battery charger while the vehicle adapter option and the portable radiotelephone are connected to the vehicle electrical system, as this may cause serious damage to the radio. Disconnect the radio by removing the cable kit fuses.

Portable Operation

DO NOT hold the radio so that the antenna is very close to, or touching, exposed parts of the body, especially the face or eyes, while transmitting. The radio will perform best if it is held in the same manner as you would hold a telephone handset, with the antenna angled up and over your shoulder. Speak directly into the mouthpiece.

DO NOT operate the telephone in an airplane.

DO NOT allow children to play with any radio equipment containing a transmitter.

Mobile Operation (Vehicle Adaptor)

As with other mobile radio transmitting equipment, users are advised that for satisfactory operation of the equipment and for the safety of personnel, it is recommended that no part of the human body shall be allowed to come within 20 centimeters of the antenna during operation of the equipment.

DO NOT operate this equipment near electrical blasting caps or in an explosive atmosphere. Mobile telephones are under certain conditions capable of interfering with blasting operations. When in the vicinity of construction work, look for and observe signs cautioning against mobile radio transmission. If transmission is prohibited, the cellular telephone **must be turned off** to prevent any transmission. *In standby mode, the mobile telephone will automatically transmit to acknowledge a call if it is not turned off.*

All equipment must be properly grounded according to installation instructions for safe operation.

DESCRIPTION

Table 4:

Note
The following description is intended only as a preliminary general introduction to cellular systems. This description is greatly simplified and does not illustrate the full operating capabilities, techniques, or technology involved in cellular systems.

Overall Concept

Cellular systems are used to provide radio-telephone

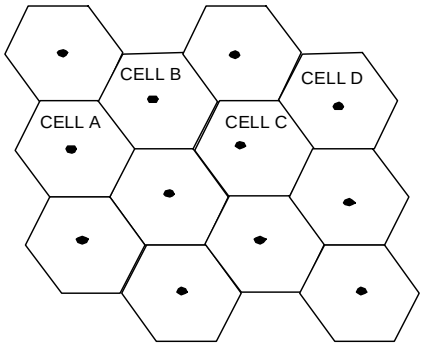
service in the frequency range of 824-894 MHz.

A cellular system provides higher call handling capacity and system availability than would be possible with conventional radio-telephone systems that require total system area coverage on every operating

channel. The cellular system divides the system coverage area into several adjoining sub-areas, or cells.

Each cell contains a base station (cell site) which provides transmitting and receiving facilities. CDMA is a “spread spectrum” technology, which means that it spreads the information contained in a particular signal of interest over a greater bandwidth than the original signal. With CDMA, unique digital codes, rather than separate RF frequencies or channels are

used to differentiate subscribers. The codes are shared by both the mobile station and base station and are called “pseudo-random code sequences”. Since CDMA is a spread



spectrum technology, all users share a range of the radio spectrum. CDMA cell coverage is dependent upon the way the network is designed. For each system 3 characteristics must be considered: coverage, quality, and capacity. These 3

must be balanced for desired lever of performance.

Some of the CDMA benefits are:

- Improved call quality with better and more consistent sound.
- Enhanced privacy.
- Variable rate vocoder.

Figure 1: Hypothetical Cell System

Operation

In Figure 1: “Hypothetical Cell System”, the area bounded by bold lines represents the total coverage area of a cellular system. This area is divided into several cells, each

containing a cell site base station which interfaces radiotelephone subscribers to the switching system. Since there are no channels in CDMA, a user has a better chance of completing a call. Also, now there is no hard handoff between
cell sites since all sites operate on the same frequency. This is called soft handoffs. In this system, subscribers in cell A & D simultaneously operate in the same frequency. As a user moves from cell site to cell site, the base station monitors the signal strength of the user. Based on this signal strength, the base station decides which cell shall carry the call. When a radiotelephone is in use well within a cell, the signal strength received at the cell site base station will be high. As the phone is moved towards the edge of the cell, its received signal strength decreases. Signal strength information therefore provides an indication of the subscriber's distance from a cell's base station. This change is handled automatically, and is completely transparent to the user. For example, assume that a cellular tele-phone
initiates a call in cell A and then moves across the system area through cells B and C to cell D. As the phone moves into cell B, it is instructed to change to a different frequency that operates through the B cell
on that frequency. A similar change is performed when the phone moves from cell B to cell C and again
when the phone moves from cell C to cell D. In this example, the radiotelephone has operated in four cell sites, through four cell sites, and on the same spread spectrum without interruptions in voice communications. As the radiotelephone leaves a cell, the frequency on which the phone and base station were operating is made available to another subscriber in that cell. Since this radiotelephone is dual mode, the radiotelephone can operate in either a CDMA system or Analog system.

Service Area

The area within which calls can be placed and received is defined by the system operator.
(Because this is a radio system, there is no exact boundary that can be drawn on a map.) If the portable is outside the radio service area, a No Svc (no service) message will appear on the phone's display, and calls cannot be placed or received. If this happens during a conversation, the call is lost. Places where the ability to place or receive calls would be lost are in totally enclosed areas, such as underground parking garages, in buildings without windows, and in elevators. This situation would be indicated either by the No Svc message illuminating, or by the sound of either a fast busy signal or a high-low siren signal when call placement is attempted. General usage in buildings having reason-able glass area is usually quite good. However, it may be necessary to move closer to a window to ensure reliable opera-tion.

Theory of Operation

AMPS

Reciever Circuitry

RF enters the phone via the internal antenna, A1. The received RF signal is routed through monoblock duplex filter FL13, and FL12. The RF signal is routed through additional gain and filtering stages,Q40, , FL40, and Q40. The received signal then enters the Mixer U120.

The local oscillator input to the Filter FL120 is a 978-1004 MHz VCO, U680 controlled by the IF/Synthesizer IC U700. The 109.65 MHz mixer output is routed through FL201 into the IFIC U700.

Transmitter Circuitry

The modulated TX Offset VCO signal is mixed with the 978-1004 MHz local oscillator signal in TX Mixer U600 to produce an 823-849 MHz transmit signal. This signal passes through filter FL600 and voltage control attenuator thru U600 which controls the TX output power. Then the TX signal is amplified by U430. The output passes through the mono-block duplex filter FL12 and FL13 to RF switch the internal antenna accessory connector.

CDMA PCS

Reciever Circuitry

RF enters the phone via the internal antenna, A1. The received RF signal is routed through monoblock duplex filter FL13 and FL10. Then the RF signal is routed through a direct path through additional gain and filtering stages,Q20, FL20. The received signal then enters the Mixer Q100.

The local oscillator input to the mixer is double of 1019-1050 MHz VCO, U600 controlled by the IF/Synthesizer IC U700. The 109.8 MHz mixer output is routed through FL200 into the IFIC U700.

Transmitter Circuitry

The modulated TX Offset VCO signal is mixed with the 1019-1050 MHz local oscillator signal in TX Mixer U600 to produce an 1850-1910 MHz transmit signal. This signal passes through filter FL601. Then the TX signal is amplified by U832 and passes through Tx coupler. The output passes through the mono-block duplex filter FL10 to FL13 to the internal antenna.

Frequency Synthesizer Circuitry

The phone contains three PLL frequency synthesizers in the IF/Synthesizer IC U700. One synthesizer controls the tunable 978-1004 MHz main local oscillator, U680 and the tunable 1019MHz - 1050MHz main local oscillator for PCS 1900 mode. The second synthesizer controls the TX offset oscillator (internal to U700) which operates at a fixed frequency of 309.3 MHz for AMPS, and 309.6 MHz for CDMA. The TX offset signal is divided by 2 before going to the TX mixer. TX modulation occurs in the TX offset synthesizer in AMPS mode. The third synthesizer (also internal to U700) operates at a fixed frequency of 219.3 MHz for AMPS, 219.8 MHz for CDMA. This oscillator is divided by 2 and used to mix the received first IF signal down to baseband. All synthesizers obtain their frequency reference from the 16.8 MHz reference oscillator, U325.

Transmit Power Control Circuitry

The power control signal controls voltage

controlled attenuator U600 which is the TX mixer. A detected sample of the TX output signal with a variable reference voltage. A closed loop adjusts the Power Control signal such that the sampled RF signal level matches the reference level. In AMPS mode, the RF power range is +8 dBm to +28 dBM. In CDMA mode the RF power range is -50 dBm to +24 dBm. In CDMA mode, the power control can operate in either open-loop or closed-loop modes. In open-loop mode, the power level is proportional to the received signal level. In closed loop mode, the power level is controlled by the CDMA cell, based on received signal strength at the cell site.

Receive Audio - AMPS Mode

AMPS discriminator audio is routed to U1900 to be digitized. All receive audio filtering and gain control is performed in the digital domain by DSP U1100. The processed RX

audio is converted back to analog by U1900

and amplified by the GCAP IC U2000. The

received audio is then routed to either the boom speaker or internal earpiece speaker.

Receive Audio - CDMA Mode

Received CDMA OQPSK data (RX I, RX Q) is gain controlled and converted to digital by U1900. The 1.2288 Mb/sec. RX data stream is then decoded by the U1100 Modem IC to produce a signal containing only the desired data. The digital speech data is routed

through the microprocessor U1100, decoded by the U1100 CELP Vocoder, and sent to U1900 to be converted into analog audio. The audio signal is then amplified by U2000 and sent to the earpiece speaker.

Transmit Audio - AMPS Mode

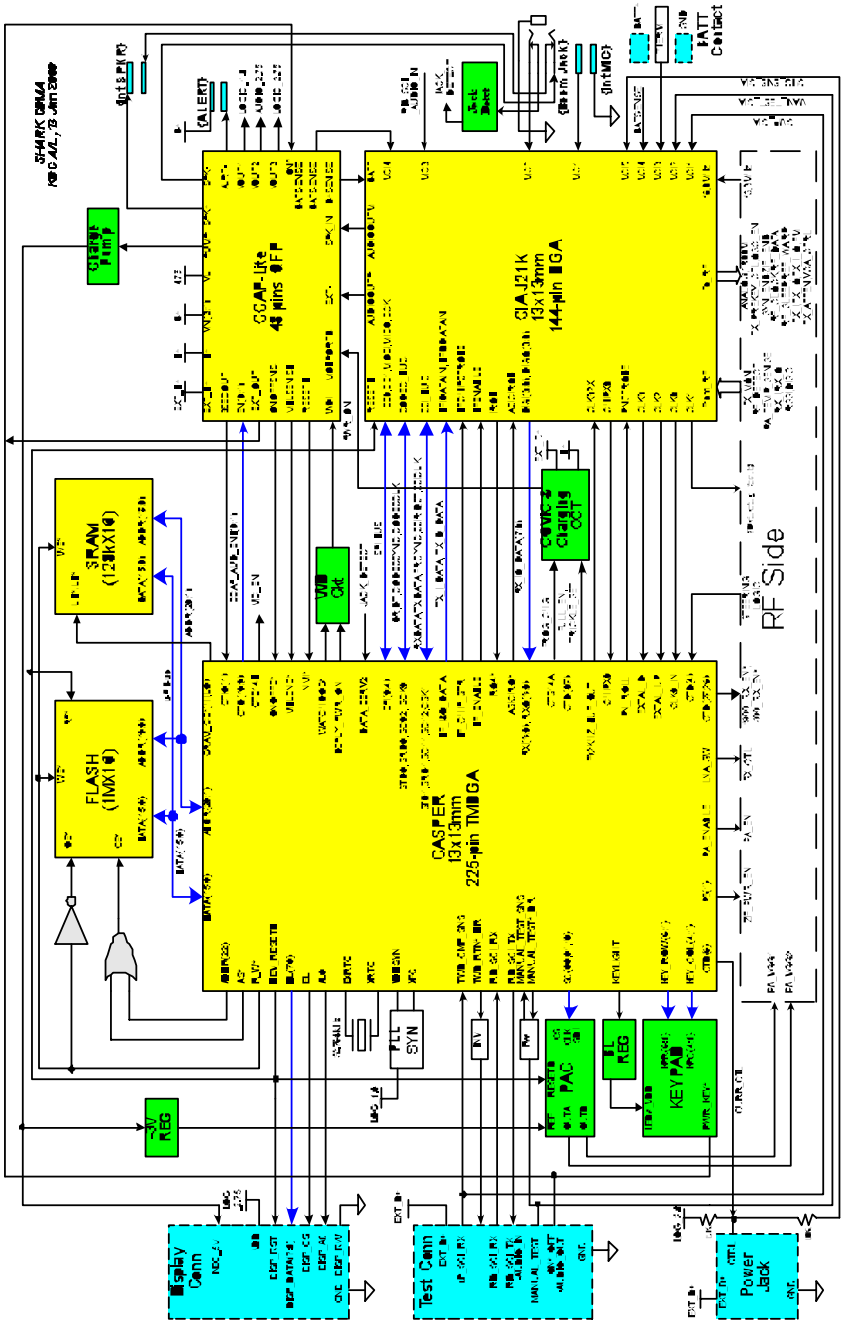
Audio from the internal microphone is ampli-fied

and converted to data by U1900. In AMPS mode, the digitized microphone audio is then sent to DSP U1100 which performs all compression, pre-emphasis, limiting, and band-pass filtering functions in the digital domain. All AMPS signalling (SAT, ST, DTMF) is also generated in the digital domain by DSP U1100. The digitized AMPS TX audio signal is converted back to analog by the U1900 and sent to the 154.65 MHz TX Offset VCO to modulate the transmitter.

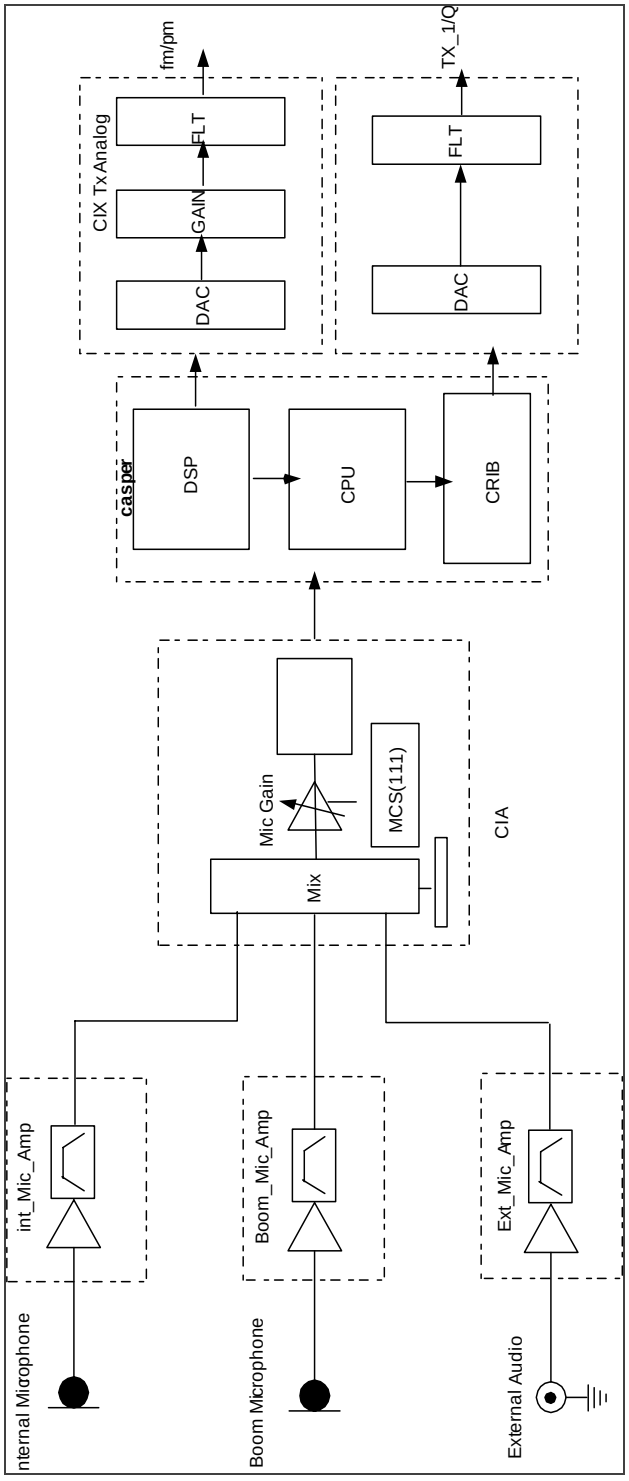
Transmit Audio - CDMA Mode

In CDMA mode, the digitized TX audio is processed by a CELP variable rate vocoder, U1100. The digital signal is then routed through microprocessor U1100 and processed by the CDMA Modem IC, U1100, which produces the 1.2288 Mb/sec. CDMA data
stream. This stream is then converted to analog OQPSK signals (TX I, TX Q) by D/A U1900. The TX I and TX Q signals are sent to the IF/Synthesizer IC U700 which modulates the 154.8 MHz TX offset VCO.

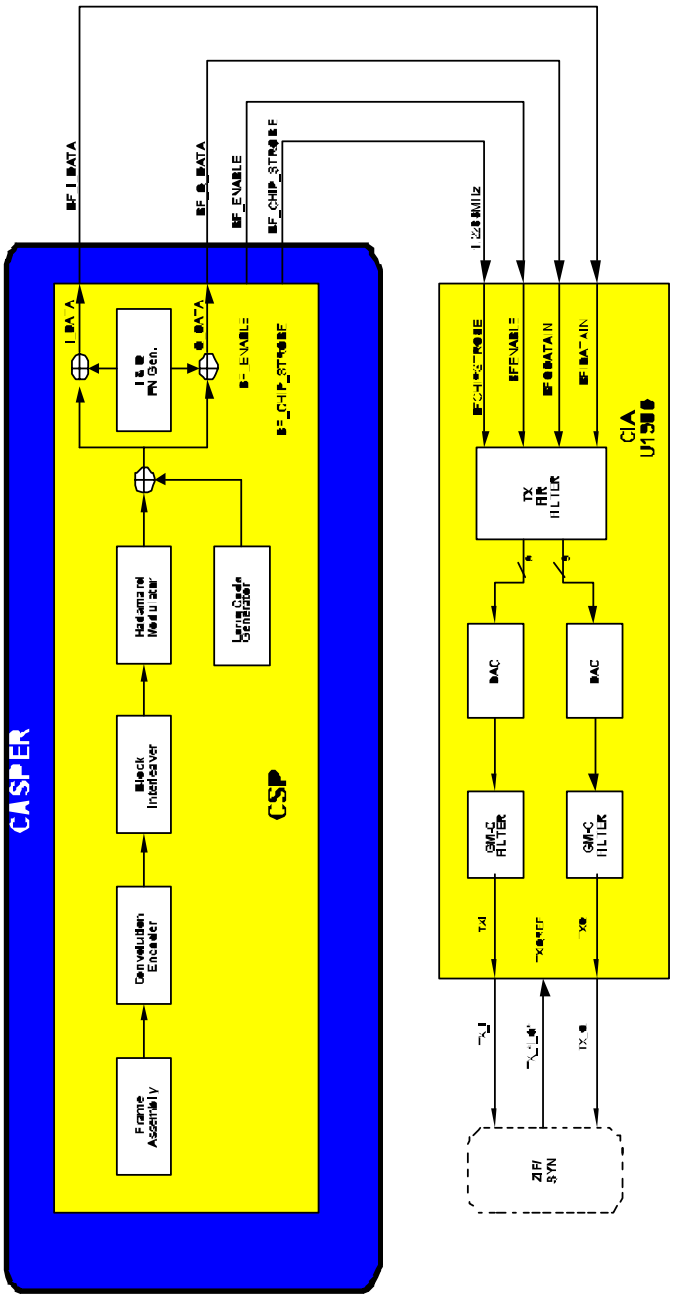
AUDIO LOGIC BLOCK DIAGRAM:



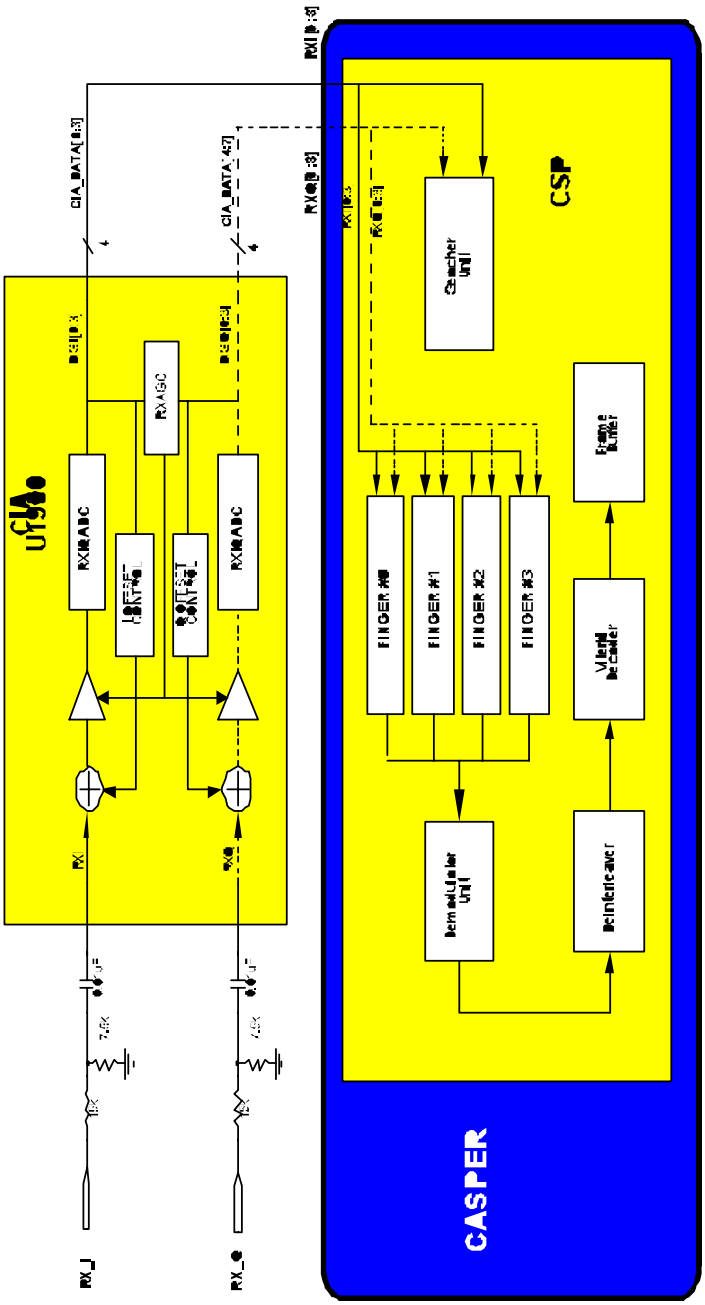
Forward Audio Functionality:



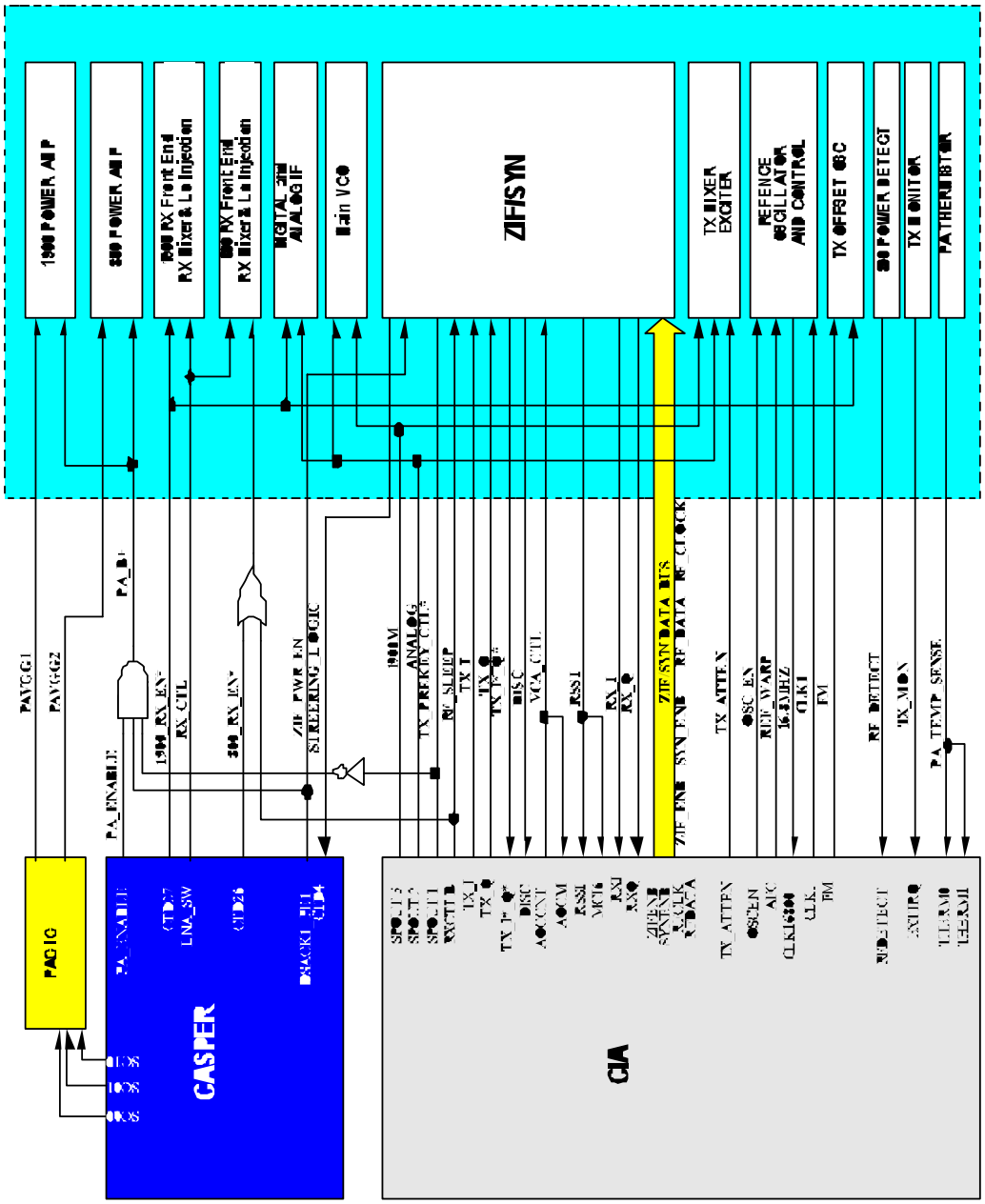
Logic Circuitary Description:CDMA baseband Tx Path



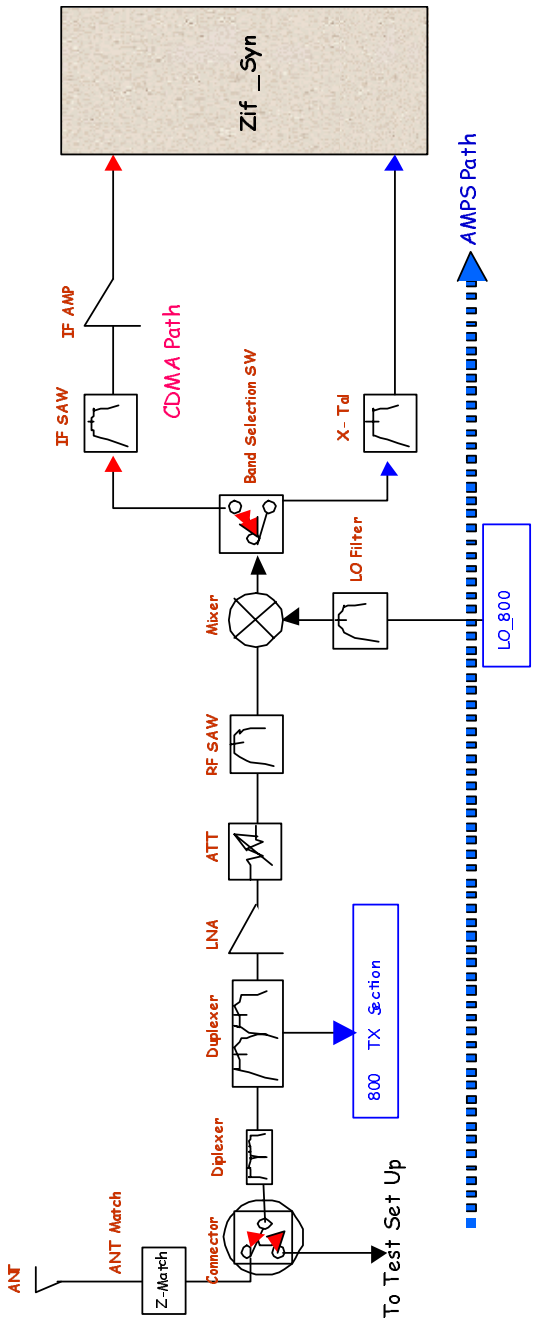
CDMA Baseband Rx Path



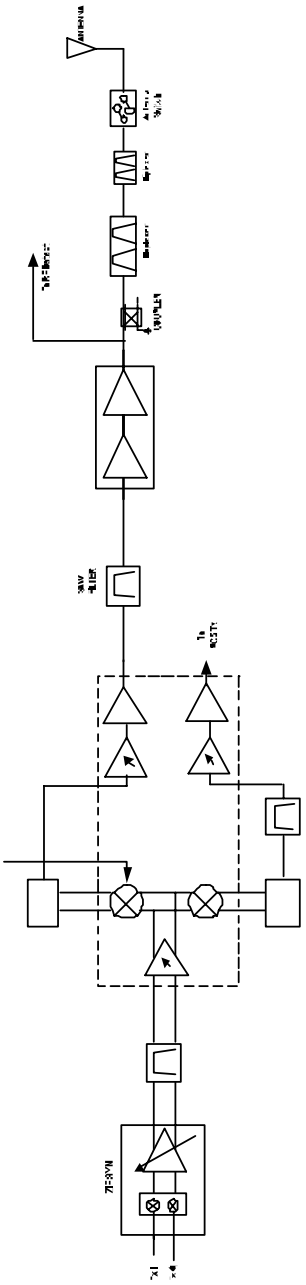
RF Interface Diagram



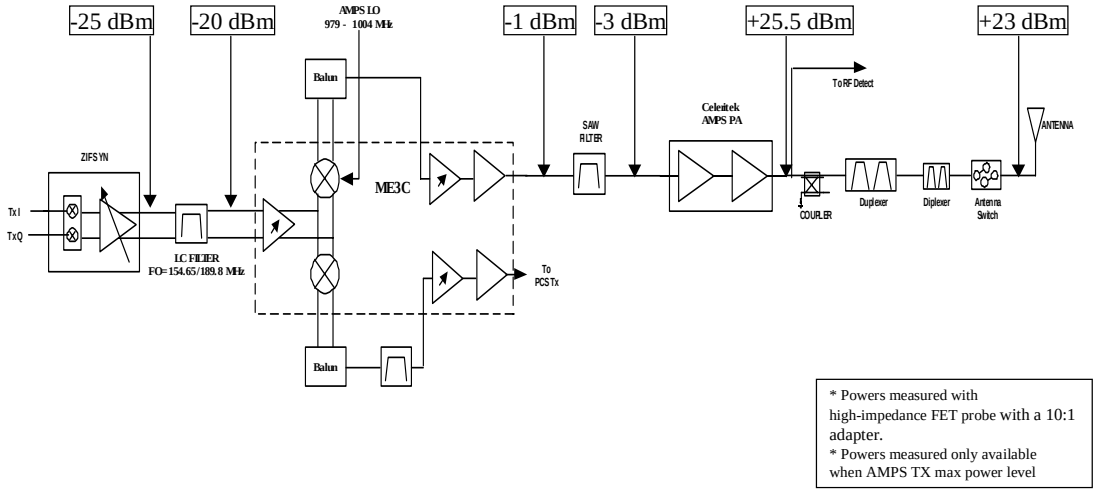
AMPS Reciever Block Diagram



Amps Transmitter Block Diagram



AMPS Transmitter Block Diagram



AMPS Tx Troubleshoting Summary

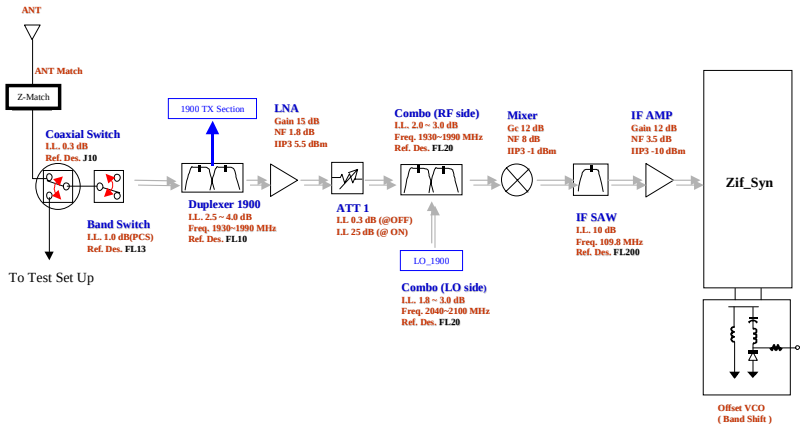
Symptom	Probable Cause	Verification and Remedy
Low Transmit power respect to ideal power	a)Low TX IF Level	1. Test command (suspend + 570# + 05#) 2.ZipSyn VCA voltage should be 0.3 ~ 0.7V(max power) 3.IF level at C636 should be over -25dBm 4.Check the IF filter(FL602) soldering
	b)Low TX Local level	1. The Local input level at ME3C pin24(L607) should be over -16dBm 2. Check the main VCO AMPS part and coupler soldering
	c) ME3C Supply Voltage problem	1. ME3C IC 5, 9, 26. 27, 28, 32 should be load 2.75V. Check the ME 2.75V 2. ME3C pin 20 agc TXA voltage should be 1.0 ~ 1.5V 3. Check the ME3C exciter max output power, then power output at C600 should be over -1dBm
	d)Power Amplifier Problem	1. After PA Final driver phasing, PA current should be in 169~181mA 2.PA pin 1,2 voltage should be in -0.4~-1.3 V 3.PA pin 5,6,7 voltage should be same with B+, or check Q430 and pin 1,2,4,5 and 6 voltage should be same with B+ and pin 4 voltage should be around 0V. 4. Check PA Gain and output. Remove CPL400 and check the max power out , the power out should be over 28dBm

Some Important Notes For PCS Reciever

The Dual-Band CDMA V/T-2267 contains two completely separate receiver paths: an 800 MHz path that converts analog signals and a 1900 MHz path for the digital CDMA signal. The block diagram shows both these paths. The two paths have different RF, LO and IF frequencies. The most important, easily measurable figure of merit for each receiver is sensitivity, which expressed as the signal level at which the analog receiver sees 12 dB SINAD and the digital

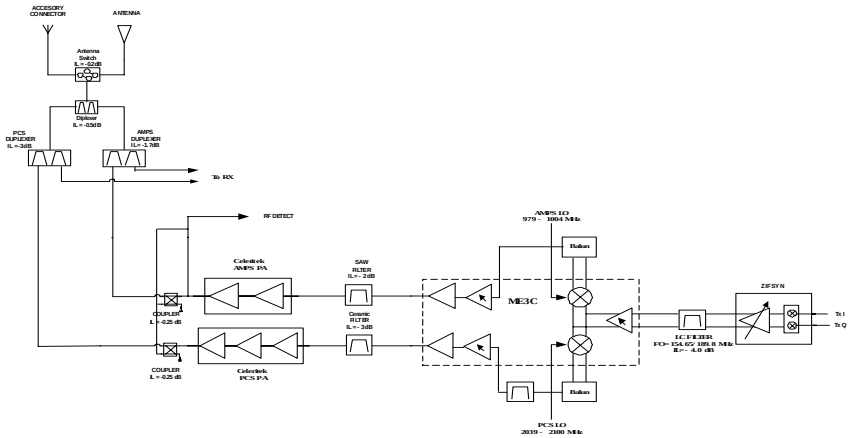
receiver experiences 0.5 % FER. (The specifications for these two levels are -116 dBm and -104 dBm, respectively) In this portion of the service notes, we will consider each stage in its schematic representation and will make some points about each block. DC levels and RF levels will be noted. In PCS Receiver line up presentation, RF levels noted in the Rx Sections are approximate based on -70 dBm input power in the Center of the Band (1960 MHz, CH600) at the mechanical switch and do not necessarily reflect the levels measured with high impedance probe. Frequency of operation and channelization 1900 MHz Receiver Band 1930 to 1990 MHz 1900 MHz Channelization 1-1200, Frequency = 0.05 * Channel# +1930

Block Diagram of PCS Reciever

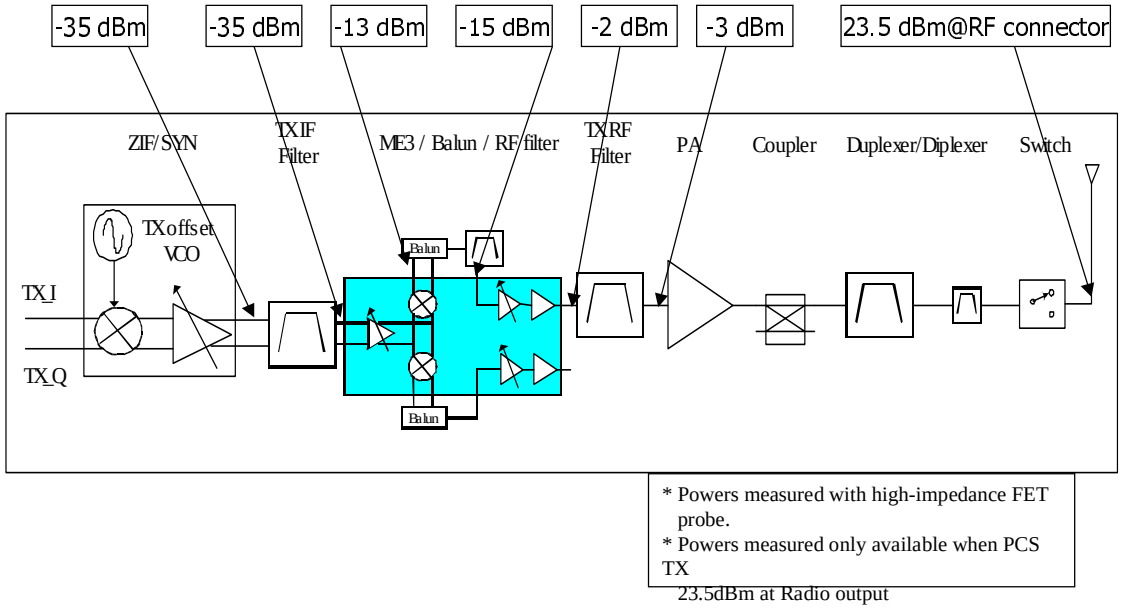


Tx Block Diagram

The V/T-2260/2267 Transmitter line-up is a little different with the ST7867W design, V/T-2260/2267 used ME3 IC and doesn't use isolator and electrical RF switch. Unlike ST, this is done with two separate line-ups. The line-up splits in the ME3C, and recombines into the diplexer. The maximum output power supplied to the antenna is: Analog:24.5 dBm PCS CDMA:23.5 dBm



PCS Transmitter Block Diagram



Test & Adjustments

Introduction

These phones allow keypad controlled cali-bration
(often referred to as “phasing”) of
various operating parameters, as follows:

- Transmit output power
- TX deviation (SAT, DATA, DTMF, microphone)
- RX discriminator output

These parameters are stored in memory on the Logic Board and affect the operation of the transceiver. All transceiver units and all replacement RF/AL boards are shipped from the factory with these adjustments already made. However, if components are replaced, checking and adjustment of the parameters may be necessary. Checking and adjusting parameters is also useful a troublshooting/
diagnostic tool to isolate defec-tive components.

The adjusting parameters accessible through keypad commands are a subset of the complete complement of adjustments, but are the key parameters necessary for basic opertion. Access to all adjustments requires a computer connected to the accessory connector (J3). In addition, the computer must be loaded with the proper diagnostic software.

Consult with Motorola regarding specific hardware and software requirements for the diagnostic computer.

Test Interface

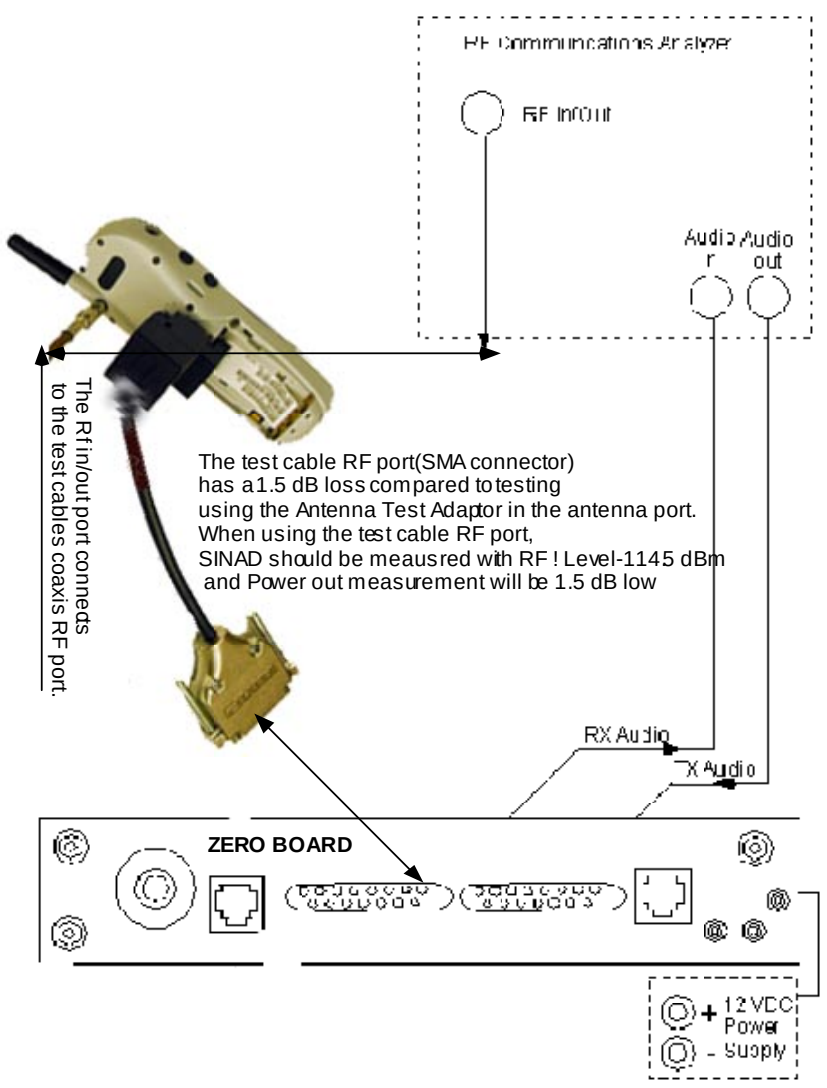
Figure 7: “Connections for Testing and Adjustments” on page 48 shows the audio and RF connections to a communications analyzer when using the MCEL 2000 or Zero Board test
interface, and test cable.
RF Cable adaptor :2887920K01
Ass’y cableV/T-2260/2267,CDMA
DB25: AE20103172
Zero Board Ass’y with Legacy code SYN0223B

Adjustments

To properly check and adjust the adjustment parameters using keypad commands, perform the following procedures in sequence.

Impotrtant

Only those memory locations referred to in the following procedure should be programmed. Data in other memory locations which are “Stepped through” during the procedure.



Connections for Testing and Adjustments

Keypad Button Functions

Below is a description of the non-numeric keys used during the keypad calibration

procedure:

Step 1. Connect the test cable RF to a

servicing analyzer, using a coaxial cable.
Enter Manual Test Mode.
Depress the # button. The display should show the ’ prompt.
Step 2. Enter 11434# via the keypad to program the synthesizer for channel 434.
Step 3. Enter 05# to key the transmitter.

TX Output Power Adjustment(Center of Band)

Step 4. Enter 73#. The portable display will show Step number “00” on the left and the corresponding hex value for the TX output power on the right.

Table 5:

Power Step	*Output Power (at antenna port, +/- 0.5 dBm)*
00	28dBm
01	28dBm
02	28dBm
03	24dBm
04	20dBm
05	16dBm
06	12dBm
07	8dBm
08	Do not adjust
09	Do not adjust
0A	Do not adjust
0B	Do not adjust

Step 5. Using the * button to advance through the power steps. Adjust each of the power steps listed in Table 6: “Output Power Levels” for the values shown as indicated on the servicing analyzer. Make adjustments as described in Step 6 and Step 7.

Step 6. Enter a 2-digit hexadecimal number via the keypad. This immediately updates the hex power level value, and the output power should change as indicated on the analyzer. If the new entry does not produce the desired analyzer reading (i.e. too high or too low),
a) depress the CLR button and enter another 2-digit number, or
b) use the VOL button to incrementally increase the hex value to obtain the desired reading on the analyzer. (The volume control may not be used to decrease the hex value.)

Table 6:

Note
In order to enter hex digits A thru F, depress the **SND** button followed by: 0 hex A 1 hex B 2 hex C 3 hex D 4 hex E 5 hex F

Step 7. With all necessary adjustments made and power Step “0B” showing in the display, depress * to enter all updated data and exit the 73# command.

Maximum Deviation Adjust

Table 7:

Note
Before SAT, DTMF, data, or microphone deviations can be adjusted, the maximum deviation must be checked (and adjusted, if necessary). Proceed as follows.

Step 8. Inject an unbalanced 1kHz 2.24V rms audio signal at J3 pin 8 (TX audio in). Connect the audio generator ground lead to J3 pin 6 (audio ground). The audio signal source must be low impedance (or the injection signal must be measured at pin 10 to ensure the proper level of 2.24 V rms).

Step 9. Enter the following commands:

58# to enable compandor
10# to unmute TX audio
356# to select external audio path
11434# to place the telephone on channel **434**

Step 10. Enter 72#. Step 04 will be displayed on the left side of the display. Use the * button to toggle down to Step 0B (left side of display).

Step 11. Read the peak deviation on the analyzer. If it is not in the range of 11 to 12 kHz (preferably closer to 12kHz). Use the volume control or enter numbers via the keypad (as explained in Step 6) to adjust the maximum deviation to fall within the 11 to 12 kHz range. (Make adjustments so that the deviation remains as close to 12 kHz as possible, without exceeding 12 kHz.).

Step 12. Depress the * key to exit the 72# command. The display should show the ’ prompt.

Microphone Deviation Adjust

Step 13. Adjust audio generator signal level at J3 pin 8 (TX audio in) to 90 mV rms (still at 1 kHz).

Step 14. Enter 11434# to place the portable on channel 434. Enter 356# to select the external handset audio path.

Step 15. Read the average deviation on the analyzer. If reading is 2.05 kHz + 7% (corresponds to 2.9 kHz peak), proceed to Step 28. If it is not, enter 72#, use the * button to toggle down to Step 05 (left side of display), and use the volume control or enter numbers via the keypad (as explained in Step 6) to adjust for a microphone deviation of 2.05 kHz + 7%. After adjustment, note the hex value for Step 05 and exit the 72# command by repeatedly depressing the * button until the display shows the ’ prompt.

Step 16. Enter 72#, use the * button to toggle down to Step 06 (left side of display), and enter the Step 05 hex value noted in Step 26. Exit the 72# command by repeatedly depressing the * button until the display shows the ’ prompt. Remove the injection audio signal.

DTMF Adjust

Step 17. Enter the following commands:
09# to mute TX audio
59# to turn off compandor
473# to set receive audio volume to level 3 (disables DTMF boost)
335# to turn on DTMF tone “5”

Step 18. Read the peak deviation on the communications analyzer. If

reading is 9.0 rad + 10%, proceed to Step 30. If it is not, enter 72#, use the * button to toggle down to Step 07 (left side of display), and use the volume control or enter numbers via the keypad (as explained in Step 6) to adjust for a deviation of9.0 rad + 10%. After adjustment, exit the 72# command by repeatedly depressing the * button until the display shows the ’ prompt.

Step 19. Enter 34# to turn off the DTMF tone.

SAT Deviation Adjust

Step 20. Enter 251# to enable a 6000 Hz SAT tone.

Step 21. Read the average deviation on the communications analyzer. If the reading is 1.4 kHz + 10% (corresponds to 2.0 kHz peak), proceed to Step 33. If it is not, enter 72#, use the * button to toggle down to Step 09 (left side of display), and use the volume control or enter numbers via the keypad (as explained in Step 6) to adjust for a deviation of 1.4 kHz + 10%. After adjustment, exit the 72# command by repeatedly depressing the * button until the display shows the ’ prompt.

Step 22. Enter 26# to turn off the 6000 Hz SAT tone.

Data Deviation Adjust

Step 23. Enter 14# to turn on the 10 kHz signaling tone.

Step 24. Read the average deviation on the communications analyzer. If the reading is 5.7 kHz + 10% (corresponds to 8.0 kHz peak), proceed to Step 36.
If it is not, enter 72#, use the * button to toggle down to Step 08 (left side of display), and use the volume control or enter numbers via the keypad (as explained in Step 6) to adjust for a deviation of 5.7kHz + 10%. After adjustment, exit the 72# command by repeatedly depressing the * button until the display shows the ’ prompt.

Step 25. Enter 15# to turn off the 10 kHz signaling tone.RX Discriminator Adjust
Step 26. Inject a -50 dBm, 883.020 MHz

RX Discriminator Adjust
Step 26. Inject a -50 dBm, 883.020 MHz (channel 434) signal FM modulated with a 1 kHz tone at + 2.9 kHz deviation into the antenna port, using an SLN8576A antenna test adaptor.

Step 27. Enter the following commands: 08# to unmute the RX audio 474# to set the receive audio volume to level 4356# to select the external handset audio path
Step 28. Enter 72#, use the * button to toggle down to step 0A (left side of display), and use the volume control or enter numbers via the keypad (as explained in Step 6) to obtain 100 mV rms +15% at pin 7 of J3 (RX audio out). After adjustment, exit the 72# command by repeatedly depressing the * button until the display shows the ’ prompt.

Step 29. Exit Manual Test Mode by depressing the PWR button. This completes the keypad adjustment procedure.

AMPS Call Processing

The transceiver is connected to an RF Communications Test System capable of AMPS and CDMA base station simulation and the test simulation and the test described below are performed. The external antenna

on a Portable is RF coupled to the Test System. The phone is powered by a battery. All of these tests are performed on a pass/fail basis except where otherwise specified.

The following AMPS Call Processing tests must be done in a single test sequence.

Step 1. Initialize: Set the RF Communication Test System to provide an AMPS control channel at -50 dBm on channel 334.

Step 2. AMPS Registration: Turn the mobile transceiver on and force an AMPS Registration.

Step 3. AMPS Page: Page the mobile transceiver.

When the transceiver alert rings, answer the call using the FLIP for a Portable, the SEND key for a Mortable. Verify that the mobile has transferred to the traffic channel and is transponding SAT.

Step 4. AMPS Handoff: Initiate a handoff to another AMPS traffic channel. Verify that the mobile has handed off to the new traffic channel and is transponding SAT. Terminate the call using the FLIP for a Portable, the END key for a Mortable. Verify that the mobile has terminated the all and de-keyed the transmitter.

CDMA Call Processing

The following CDMA Call Processing test must be done in a single test sequence.

Step 1. Initialize: Configure the test system to the following set parameters:
a. A CDMA pilot on channel 777 with sector A power at -70 dBm and sector B power at -80 dBm.

b. An AMP traffic channel with a 6 kHz tone modulated at 2 kHz of deviation.

c. A CDMA traffic channel handoff message set to the corresponding AMPS traffic channel frequency with SATcolor code 1 and power attenuation code 3.
d. A CDMA System Parameters Message with the following threshold data: Pilot detection threshold
(T_Add) = 28 Pilot drop threshold (T_Drop) = 32
Comparison threshold (T_Comp) = 5
Drop timer value (T_Tdrop) = 3

Step 2. CDMA Slotted Mode Page: Turn the mobile transceiver on and force a CDMA Registration. Page the mobile with a Service Option 1 call. Verify that the mobile establishes and maintains a CDMA call by measuring Rho.

Step 3. CDMA Softer Handoff: Set sector B power to -75 dBm.
The mobile must report sector B as included in the Candidate set. Increase sector B power to -65 dBm. The mobile must report sector B to be added to the Active set. Initiate a softer handoff and decrease sector B power to -80 dbm. The mobile must report sector B to be dropped from the Active set.

Step 4. CDMA Hard Handoff: Perform a CDM Hard handoff theo channel 691 while still in a Service Option 1 call.
Verify that the mobile hands off and maintains the call by measuring Rho.

Step 5. CDMA to AMPS Handoff: To perform a CDMA to AMPS handoff, send the CDMA traffic channel handoff message to the mobile transceiver and activate the AMPS traffic channel. Verify that the mobile

hands off to the AMPS traffic channel and is transponding SAT.

Step 6. Exit.

Test Mode / Test Menu

Introduction

Manual Test Mode software allows service personnel to monitor the telephone status on the display, and manually control tele-phone functions via the keypad.
Manual Test Mode operates at two levels: - Status Display Level, which allows the phone to operate normally while providing status indications in the display. Servicing Level, which disables normal call-processing and allows commands to be entered through the keypad to manually control operation of the phone.

Status Display Level

Status Display Level is the power-up state in Manual Test Mode. Manual Test Mode is entered by momentarily shorting the MAN-UAL test pin(j3006) of the TEST POINT-connector J3 to ground, while turning the phone on. See Figure 7: “Connections for Testing and Adjustments” on page 48 In this level of Manual Test Mode the phone will place and receive calls as normal, but the dis-play shows status information. The first line of data indicates channel number, RSSI value, and call-processing mode. The second line of data indicates SAT frequency, carrier state, signaling tone state, power level, voice/data channel mode, Rx audio state, and Tx audio state. The format and explanation of this status information is given in Table 1 under “02# Radio Status Request.” When dialing a phone number, the status display ceases when the first digit of the phone number is entered. The telephone number is displayed in the normal manner as entered. When the Snd button (or End or Clr) is pressed, the status information display resumes.

Servicing Level

The servicing level allows service personnel to manually control operation of a phone by entering test commands through the tele-phone keypad. Parameters such as oper-ating channel, output power level, mut-ing, and data transmission can all be selected by entering the corresponding commands. To enter the Servicing Level, press the # button while in Status Display level (power-up state of Manual Test Mode). In the Servicing Level, automatic call processing functions are disabled, and the phone is instead con-trolled manually by keypad commands. Table 2: “Test Commands For Manual Test Mode” on page 14 shows the test commands and the corresponding results.

NOTE

There is no Status Display when the phone is in CDMA mode.

CDMA Specific Features

Test Menu

A Test Menu allows a user to initiate Markov calls, place Service Option 2 calls and set Software Configuration Options. The Test

Menu is intended to provide a simple mechanism to perform various test and S/W debugging functions. Items will be added to and deleted from the menu period-ically. When Test Menu is enabled, it is entered by pressing the FCN key twice. Refer to Step “09” on page 27 for information on how to enable/ disable the Test Menu during NAM programming. Almost every Test Menu command accepts a parameter or data in the scratchpad. The procedure for transferring the scratchpad data and executing the Test Menu command is as follows:

Step 1. Decide which Test Menu command is going to be executed.

Step 2. Enter the necessary user input into the scratchpad.

Step 3. Press the FCN key twice to acti-vate the Test Menu.

Step 4. Press the volume keys until the desired Test Menu command is indicated on the display.

Step 5. Press the SND key to activate the command.

While the Test Menu is displayed, any keypress that is not volume or SND will also cause the menu to be exited without executing the current option. The Test Menu will also be exited whenever an incoming call is detected.

Markov Calls

During a Markov call, the “(G)ood” rate will be on the top line, and the “(T)otal” on the bottom line of the display. The display will cycle through all rates: (F)ull, (1/2) Half, (1/4) Quarter, and (1/8) Eight.

- Mobile originated Markov calls are performed by entering a telephone number and selecting a Test Menu option. Refer to the “Test Menu” section for further information.

- Mobile terminated Markov calls (Land to Mobile) are currently NOT supported. Pressing the SND key initiates a Markov call with the number in the scratchpad. If scratchpad is empty, “1234567” is used. This feature has no value in AMPS mode.

Service Option 2

For Service Option 2 calls, the In Use indi-cator will come on, but the display will remain blank.

- - Mobile originated Service Option 2 calls are performed by entering a telephone number and selecting a Test Menu option. Refer to the “Test Menu” section for further information.
- - Mobile terminated Service Option 2 calls will be automatically answered. Pressing the SND key initiates a Service Option 2 call with the number in the scratchpad. This feature has no value in AMPS mode.

SW (Software) DIP

Pressing the SND key initiates a one or more SW DIP functions based on the number in the scratchpad. Possible SW DIP functions are:

1: Disables closed loop power control.

4: Forces vocoder to provide full rate voice (may be enabled at any time during a call).

128: Sets the conversation audio path to “audio out” and “audio in” on the external connector.

For example, to disable closed loop power control, the user enters the following key sequence:

1 + FCN + FCN + ^ + SND

Undo all SW DIP settings (default at power on) by pressing:

0 + FCN + FCN + ^ + SND

These may be combined to do more than one at a time. For example, 4 and 1 may be combined by entering 5 before entering menu and selecting SW DIP.

Test Mode

Also included in the software is a Manual Test Mode, which allows viewing the ESN, software version number, and programming the phone number (NAM).

To enter Manual Test Mode:

- 0 0 * * 83786633

(83786633 spells “TESTMODE” on the keypad).

Handset Commands

Table 8:

Key	*Function*
*	Toggles the display to the next location (enters data displayed to buffer). When hit at last program step, the command is terminated (if required, information may also be programmed into the EEPROM). If the command relates to a test function with multiple data displays, the * key is used to pause scanning data or to step through sequential test func-tions. Entering the * key during a pause time resumes scanning.
CLR/END	Resets the location to presently programmed information (if the command allows user input).
#	Terminates command without changing any of the programmed informa-tion. Each command consists of at least two digits entered from the telephone keypad with the entry terminated using the # key. For commands that initiate an action that requires a response or that accu-mulates error counts, the # key terminates the test.
DIGIT	Enter digit value. If the value to be modified is filled or exceeded, the **CLR** must be pressed before more digit selections are allowed. This is valid only if the command allows user input.
SND	Send into HEX mode. Keys 0-5 enter immediately after the send key are translated into HEX A-F respectively. **For The Gain and power Phasing handset test commands only**
Volume up/ down	Increments/decrements the current data value. If the maximum value for this data location is exceeded then it is set to zero.
STO	Shortcut to save values and quit test command.

This will cause the phone to enter the Test

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
#	Suspend		Terminate normal mode and enter Test Command Mode. This command is valid only when in normal mode. The # key must be held for 2 seconds to suspend with handset. Performs initialization as in the INIT test command.
01#	Restart		Equivalent to turning power off, then on again.
02#	Radio Start Request	AAAZBBBC-DEFGHI	Display the current radio status: **Handset Display Format:** AAA = Current channel (1000-1023 represented as A00-A23) Z = Blank - AMPS **Analog Mode:** BBB = RSSI reading (averaged) for this channel. C = Digital Color Code (data channel) 0-3 DCC, 4 invalid = SAT Frequency (voice channel) 0=5970 Hz; 1=6000 Hz; 2=6030 Hz; 3=No SAT Lock D = Carrier (0=OFF, 1=ON) E = Word sync status (data channel) and Signalling tone (voice channel) (0=OFF, 1=sync acquired/ON) F = RF Power Level (Steps 0-7) G = Reception Mode (0=voice channel, 1=data channel) H = Receive Audio (0=enabled, 1=muted) I = Transmit Audio (0=enabled, 1=muted) **CDMA Mode: (Not currently supported)** **Bit fields undefined**
03#	(not used)		
04#	Initialize Trans-ceiver		Initialize the current radio as follows: 1. Carrier = OFF 2. RF power attenuation set to level 2 3. Signaling Tone = OFF 4. SAT transponding = OFF 5. Audio Path = TO INTERNAL SPEAKER 6. DTMF & Audio Tones = OFF 7. Receive Audio & Transmit Audio = MUTED 8. AMPS Mode If the radio is a CDMA only model (not dual mode), it will default to CDMA mode instead.
05#	Carrier on		Turn on the carrier. **05#** turns the carrier on with a nominal value for the DAC for an output power level.
06#	Carrier Off		Turn off the carrier.

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
07#	RXMUTE		Mute Recieve Audio
08#	RXUNMUTE		Unmute recieve audio
09#	TXMUTE		Mute Transmit audio.
10#	TXUNMUTE		Unmute transmit audio
11X#	Loadsynth		Load the specified channel into the radio synthesizer. X-Enter up to 4-digits for the channel number. Channel numbers must be in the range of 1 to 1024. Narrow mode channel numbers not currently supported.
12X#	Set-Attn		In AMPS mode: Set the AMPS RF power attenuation to the value specified (0-7).
Note: Use the PATH command (**35A#**) to select the audio path to test before using commands **07#** through **10#**. (Default path is to internal speaker and microphone).			
14#	STON		Enables continuous signalling tone.
15#	STOFF		Disables signalling tone.
16#-18#	(Not Used)		
19#	Version		Displays version corresponding to the two digit option x. The following table show the valid options for x: Decimal 00 Call processor 01 CDMA test command document number 02 Date 03 Time 22 DSP mask version 23 DSP patch version - The call processor (factory version) number in the format: 00 XXXX - The CDMA test command document number: 01 XXXX - The date the build was created in the format: 01JAN96 - The time the build was created in the format: xxyyzz where xx is the hour, yy is the minute, and zz is the second. - The version of the DSP mask xxxxyyyyyyzzzz where xxxx is the version, yyyyyy is the date, and zzzz is the device. - The version of the DSP patch xxxxyyyyyyzzzz where xxxx is the version, yyyyyyis the date, and zzzz is the device. All data fields can be viewed by hitting the * key repeatedly. To exit hit the # key.

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
19X	Multi-Version		Displays version corresponding to the two digit option x. The following table show the valid options for x: Decimal 00 Call processor 01 CDMA test command document number 02 Date 03 Time 22 DSP mask version 23 DSP patch version - The call processor (factory version) number in the format: 00 XXXX - The CDMA test command document number: 01 XXXX - The date the build was created in the format: 01JAN96 - The time the build was created in the format: xxyyzz where xx is the hour, yy is the minute, and zz is the second. - The version of the DSP mask xxxxyyyyyyzzzz where xxxx is the version, yyyyyy is the date, and zzzz is the device.
20#-24#	(not -used)		
25X#	Sat/Dsat On		Enable SAT/DSAT transponding. For AMPS mode, the bye following the opcode is the color code of the SAT frequency that the radio may expect to receive. The command only uses the narrow phase lock loop mode and locks only to the frequency selected (+/- 15 Hz). Valid color codes for X: 0 = 5970 Hz 1 = 6000 Hz 2 = 6030 Hz
26#	Sat/Dsat Off		Disable the transponding of Sat/Dsat.
27X#	Cdata		AMPS: Continuous Transmit Data on the reverse Analog Control Channel. CDMA: Random Transmit Data (RTD) on the reverse CDMA channel. Input Action 0 Start (AMPS) / Variable Rate (CDMA) 1 Full Rate (CDMA) 2 Half Rate (CDMA) 4 Quarter Rate (CDMA) 8 Eighth Rate (CDMA) 9 Stop RTD (AMPS, CDMA)
28#	HITNON		Tuen on high tone (frequency 1150 Hz +/- 55Hz)
29#	HITNOFF		Turn off high tone.
30#	LOTNON		Turn on low tone (frequency 770 Hz +/- 40 Hz)

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
31#	LOTONFF		Turn off low tone.
32#	INVM		Initialize non-volatile memory to all zeros. This command should be reserved for special situations where reprogram-ming will be required (such as memory chip or circuit board replacement or when a radiotelephone is to be reissued to a new subscriber). This command may take a minute or more to complete; during which time the number 32 will be displayed. DO NOT turn off the radiotelephone until the normal servicing level display resumes.
33X#	DTMFON		Generates a continuous DTMF tone as specified by input X. Input X may be 0-9 for keypad DTMF, 10-18 for single low or high tone, and 20-25 for tripled low or high tone.
34#	DTMFOFF		Turn off DTMF tones.

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*

35X#	Path		Change the audio path to A, where A =:
			0 = Hands free (selects input signal AUDIO IN @ J3-pin 8 and outputs audio signal AUDIO OUT/ON-OFF @ J3-pin 7; internal speaker and microphone are muted.)
			1 = Speaker (normal audio path; selects internal mic and outputs audio @ AUDIO OUT/ON-OFF @ J3-pin 7; internal speaker is muted.)
			2 = Alert (activates the alert transducer for as long as the # key is pressed. To prevent overstressing the alert transducer., DO NOT hold the # key down for extended periods.)
			3 = Handset (selects the internal mic and speaker.)
			4 = Mute (all audio paths and supplies are off, DSP put to sleep.) This command must be followed by a different AUDIO-PATH command (not MUTE) in order to guar-antee proper DSP functionality. Failure to do so may result in a radio failure.
			5 = Internal MIC Test (routes the internal mic audio directly to AUDIO OUT/ON-OFF @ J3-pin 7, and routes audio input at AUDIO IN @ J3-pin 8 directly to the earpiece speaker.)
			6 = External Handset (selects input audio at AUDIO IN @ J3-pin 8, and outputs audio at AUDIO OUT/ON-OFF @ J3-pin 7; internal speaker and mic are muted, and sidetone is turned on.)
			7 = Reserved (not supported)
			8 = Reserved (not supported)
			9 = Boom MIC (selects input audio at AUDIO IN and outputs audio at AUDIO OUT/ON-OFF to headset connector; internal speaker and mic are muted, and sidetone is turned on.)
			This command enables all internal and external hardware controls necessary to route audio to/from the correct outputs/inputs.

36#	(not used)		
37#	(not used)		
38#	SND-SN	AABB	Returns serial number contents. If all bytes = 00, no serial number is programmed. Display four byte serial number in hexadecimal one byte at a time, along with a byte count. The * key causes the next byte/count to be displayed.
39#-44#	(not used)		
45#	READRSSI		Returns the RSSI reading taken on the current channel. The number is displayed as a three digit decimel number.
46#	(not used)		

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
47X#	set-aud		Sets the audio level to the value specified by X. Audio level X is represented as 0 = lowest, 15 = loudest. Range of 8-15 has DTMF Feedback boost bit enabled.
48#	SIDETN		Enable sidetone. (Command **05#** must also be executed).
49#	SIDETF		Disable sidetone. (Command 06# must also be executed)
50# -54#	not used		
55#	Prog-nam	nam	Programs the NAM through the handset. This version uses supports only currently required NAM fields and it supports programming of data logger bytes. At the last step, the user enters a 1 to begin programming the data logger bytes. Handset key entry is defined in Table 1: “Handset Command Key Entry” on page 13. Refer to “NAM Programming” on page 25 of this manual for programming details.
56#	Auto-Cycle		Puts the radio in autocycle mode (CDMA only). Exit this command with the # key. This command causes the radio to infinitely loop between 2 cycles. One cycle is the display/transmit and the other is standby. The display/transmit cycle has a duration of 90 seconds and the radio has the following setup: - Display has all 8’s showing. - Turn on variable rate random transmit data. - Carrier is enabled. The standby cycle has a duration of 4.5 minutes and the radio has the following setup: - Display is blank. - Turn off variable rate random transmit data - Carrier is disabled. This test command forces the radio into CDMA mode.

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
57X#	CP_Mode		Select radio call processing mode. This command will set up the radio to operate in the mode selected and will also perform initialization as specified by the INIT command. The synthesizer will be reprogrammed to setup parameters for the mode selected. 0 AMPS signalling (stop call processing test commands and PCM Loopback) 1 Not supported - NAMPS signalling 2 Not supported - Reserved for NAMPS expansion 3 Not supported - Reserved for NAMPS expansion 4 Not supported - Reserved for NAMPS expansion 5 CDMA signalling (stop call processing test commands and PCM Loopback) 6xy SIMVC test command From the handset, x is the maximum rate and y is the minimum rate. Valid rates for x and y are: 4 - Full rate 3 - Half rate 2 - Quarter rate 1 - Eighth rate From the Computer, no parameters are accepted and Full rate is forced. (This is not supported yet) 7 Start PCM Loopback 8 CDMA T-Tester mode (channel must be set by LOAD-SYTH. Handset only). 9 Not supported - CDMA force random data transmis-sion 12 Stop CPU - There is no way out of this except cycling power.
58#	COMPD-ON		Turns on the computer.
59#	COMPD-OFF		Turns off the computer.
60#-67#	not used		
68#	Read Model		MODEL Read radio model type. Displays three radio model bytes: hardware (model), flex (type), and factory.
69#-71#	not used		

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
72X	gain phase		Program AMPS (only) gain phasing values through the handset. Gain phasing depends on the call processing mode. It is the responsibility of the user to select the proper call processing mode before using this test command. This command reprograms the EEPROM phasing values for MOD, MIC, AUX, etc. The value in X selects which step to start on. If no value for X is entered, it will start at step 0. The command keys are defined in Table 1: “Handset Command Key Entry” on page 13. NOTE: If you power down the radio after changes are made, the power up sequence re-programs the hardware with the correct phasing values. Refer to the “Tests and Adjustments” on page 47 for instructions on entering parameters from the keypad. AMPS GAIN PHASING RANGE STEP # PARAMETER (HEX) 00-04 MOD 0- MOD 4 0-7 05 Aux. audio path deviation 0-1 06 MIC audio deviation 0-F 07 DTMF deviation 0-3 08 Data deviation 0-3 09 SAT deviation 0-3 0A Discriminator audio gain 0-7 0B AFC WARP Analog 0-FF

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
73#	PWR-Phase		Programs power phasing values through the handset. Power phasing depends on the call processing mode. It is the responsibility of the user to select the proper call processing mode before using this test command. This command reprograms the EEPROM phasing values for Max. Power Level, Attenuator Slope Adjust, etc. The value in X selects which step to start on. If no value for X is entered, it will start at step 0. The command keys are defined in Table 1: “Handset Command Key Entry” on page 13. NOTE: If you power down the radio after changes are made, the power up sequence re-programs the hardware with the correct phasing values. Refer to “Tests and Adjustments” on page 47 for instruc-tions on entering parameters from the keypad. Analog Power Level Parameters: RANGE STEP # POWER LEVEL (HEX) 00 Power Step 0 00-FF 01 Power Step 1 00-FF 02 Power Step 2 00-FF 03 Power Step 3 00-FF 04 Power Step 4 00-FF 05 Power Step 5 00-FF 06 Power Step 6 00-FF 07 Power Step 7 00-FF 08-0B Do Not Adjust CDMA Power Level Parameters: RANGE STEP # POWER LEVEL (HEX) 00 Attenuator Slope Adjust 00-FF 01 Attenuator Offset Adjust 00-FF 02 Clamp Adjust 00-FF 03 VCA Slope Adjust 00-FF 04 VCA Offset Adjust 00-FF 05 PMax 1 (Chan. 991-1023, 1-100) 00-FF 06 PMax 2 (Chan. 101-322) 00-FF 07 PMax 3 (Chan. 323-544) 00-FF 08 PMax 4 (Chan. 545-766) 00-FF 09 PMax 5 (Chan. 767-990) 00-FF

Table 9:

Keypad Entry	*Command Description*	*Status Display*	*Result*
73#	PWR-Phase		STEP # POWER LEVEL (HEX) 0A Ch. Gain Adj. 1 (Chan. 991-1023, 1-100) 00-FF 0B Ch. Gain Adj. 2 (Chan. 101-322) 00-FF 0C Ch. Gain Adj. 3 (Chan. 323-544) 00-FF 0D Ch. Gain Adj. 4 (Chan. 545-766) 00-FF 0E Ch. Gain Adj. 5 (Chan. 767-990) 00-FF 0F TX Gain Adjust 1 00-FF 10 TX Gain Adjust 2 00-FF 11 TX Gain Adjust 3 00-FF 12 TX Gain Adjust 4 00-FF 13 TX Gain Adjust 5 00-FF 14 TX Gain Adjust 6 00-FF 15 TX Gain Adjust 7 00-FF 16 TX Gain Adjust 8 00-FF 17 VC Sense Slope Adjust 00-FF 18 VC Sense Offset Adjust 00-FF 19 VC Sense Zero Adjust 00-FF 1A Available 00-FF 1B Not Available 00-FF

NAM Programming

Introduction

The Number Assignment Module (NAM) is a section of memory that retains information about the phone's characteristics, such as the assigned telephone number, system identifi-cation
number, and options information.
Two methods are available to program the NAM using the keypad: Test Mode and User Mode.
Regardless of the method used, the NAM must be programmed before the phone can be placed into service. This chapter covers the NAM Programming steps for Test Mode NAM Programming.

Test Mode Programming

Table 3: "Minimum Required Test Mode NAM Programming Steps" on page 25 shows
the minimum required Test Mode NAM programming steps. Table 4: "Test Mode NAM Programming Sequence" on page 26 lists all NAM programming steps, complete with parameters and definitions.

IMPORTANT

Consult with the System Operator regarding NAM information. Incorrect NAM entries can cause the phone to operate improperly or not at all.
.
For Test Mode NAM programming, the portable must be in the Servicing Level of Manual Test Mode (See "Test Mode/Test Menu" on page 11.) To enter test mode, the Manual Test pin (recessed center pin of the J6 battery connector) must be momentarily grounded while powering up the phone. This can be accomplished in a variety of ways, such as by using a 6.8 VDC power

supply and an MCEL 2000 test cable or test plug. After powering up in test mode, press the # button to enter Servicing Level. Once in Test Mode Servicing Level, enter 55# to place the phone in NAM programming mode. The display will show factory default NAM data or show new data as it is entered, scrolling from left to right. Sequentially step through the procedures shown in Table 4: "Test Mode NAM Programming Sequence" on page 26 using the * key. Enter new data as required, or skip past factory default values for parameters that do not need to be changed.

If a second phone number is to be programmed, step 11 bit 6 must be set to 1. This bit enables dual-NAM operation and will cause NAM programming steps 1-6 and 12 to be repeated for the second phone number.

Minimum Required Test Mode

NAM Programming Steps

Table 10:

Service Type	Minimum Required Programming Steps
Single NAM Dual NAM (part A) Dual NAM (part B)	1, 3, 4, 6, 8, 9 1, 3, 4, 6, 8, 9, 11 1, 3, 4, 6

Test Mode NAM Programming Sequence

Advances to the next programming step; also programs the NAMafter the last programming step is entered. A valid value must be entered. Otherwise the phone will not advance to the next NAM step.

Clears the entered information and displays previously entered data for the current programming step.

Exits the programming mode without programming the NAM.

Test Mode NAM Programming Sequence

Table 11:

Step	*Factory Default*	*Description*
01	00000	CLR= **Home System ID (SID) Number.** Number assigned by system operator for system identification.
02	00000100	# **A OPTION BYTE.** The display for step 02 represents the status of eight options, A7 through A0. Bit A7 (msb) is programmed first, followed by A6-A0. Bits enter display on the right and scroll left.
	0	**Local Use (Bit A7).** If set to 1 phone will respond to local control orders in the home area or when the group ID is matched. Assigned by system operator.

Table 11:

Step	*Factory Default*	*Description*
	0	**Preferred System (Bit A6).** Applies to units capable of operating on two service systems (A or B). 0 = system B; 1 = system A.
	0	**End-to-End Signaling (Bit A5).** When enabled, the phone is equipped for DTMF signaling during a call. 1 = enabled, 0 = disabled.
	0	**Markov test override MSB (Bit A4).** Enter 0.
	0	**Markov test override (Bit A3).** Enter 0.
	1	**Bit not used (Bit A2).** Enter 1.
	0	**Markov test override LSB.** Enter 0
	0	**MIN Mark (Bit A0).** Supplied by system operator. When enabled the user's area code will be sent with each call initiated or answered. 1 = enabled, 0 = disabled.
03	1111110111	**User 10 digit radiotelephone phone number (MIN).** 10_digits including area code; changing this value sets default for AOC. Number is assigned by system operator.
04	010 042 074 106	**Station class mark (SCM).** A 2 digit number assigned by the system operator. Indicates maximum power step, VOX capability, and number of channels used. CDMA only & Non-Slotted mode configuration CDMA only & Slotted mode configuration Dual Mode & Non-Slotted mode configuration Dual Mode & Slotted mode configuration
05	Last digit of access over-load class	**Access overload class.** Specifies the level of priority assigned to the phone when accessing the system. Assigned by system operator.
06	000000	**Security code.** A 6-digit number supplied by the user. This number is used by the user to access or change "security" features such as the 3-digit unlock code or the service level.
07	123	**Unlock code.** A 3-digit number supplied by the user. If the lock feature is enabled by the user, the phone can be operated only by individuals who know the unlock code.
08	4	**Service level.** This 1-digit number supplied by the user allows various call placement restrictions if desired.

Table 11:

Step	*Factory Default*	*Description*
09	01100000 Test Menu enabled 00100000 Test Menu disabled 0	**B OPTION BYTE** The display for step 10 represents the status of eight options, B7 through B0. B7 (msb) is programmed first followed by B6-B0. Bits enter display on the right and scroll left. **Display Pilot Set Status/AMPS Status Mode (Bit B7).** CDMA: These statistics are useful for testing handoff parameters. When enabled, this feature displays the strongest pilot offset in the "Active Set" (only member during Idle) on the top line of the display, and the strongest pilot in the "Neighbor Set" on the bottom line. Each line has the same format. The left most 3-digit number is the pilot offset, and the right number is a relative signal strength. IDLE HANDOFF (handoffs on a paging channel) occurs when a Neighbor pilot is judged to be better. That neighbor pilot will be promoted to the active set, and thus move to the top line of the display. SOFT HANDOFF (handoff on a traffic channel) occurs when a Neighbor pilot fulfills requirements set by the network, and the network directs the mobile to add the new pilot to the Active Set. Pilot Set status is enabled by setting Step #9, bit #7 to 1. Channel Statistics is disabled by setting Step #9, bit #7 to 0. **WARNING: Turning on this option makes it difficult to see the Markov error rate statistics in a call.** AMPS: In AMPS mode, setting this bit to 1 causes status information similar to current Motorola AMPS products to be displayed. The contents of the display depends on the channel being monitored.
	0	**Test Menu (Bit B6).** This bit allows the user to enable or disable the FCN key Test Menu. Refer to "Test Menu" on page 12 for further information on Test Menu. 1 = enabled, 0 = disabled.
	1	**Paging Channel Message Filtering (Bit B5).** This bit limits the amount of paging channel messaging seen by the data logger debugging tool. A user not using this tool should see no noticeable difference in performance. 1 = enabled, 0 = disabled.
	0	**Portable Data Logging (Bit B4).** Enter 0.

Table 11:

Step	*Factory Default*	*Description*
	0	**Single Serving System Scan (Bit B3)**. This bit allows the user to enable or disable the serving system scanning on serving systems other than the phone's home serving system. If the phone has an odd Home System Identifier (Step 1), it's home serving system is A, otherwise it is B. If Single Serving System Scanning is enabled, only the home serving system will be scanned, otherwise both serving systems will be scanned. 1 = enabled, 0 = disabled.
	1	**Auto Recall (Bit B2).** When set to one, the user may access repertory by a one or two digit send sequence (speed dialing).
	0	**Disable Service Levels (Bit B1).** If set to 1, the service level (call restric-tions) cannot be changed by the user.
	0	0 **Lock Disable (Bit B0).** When set to 1, the user cannot lock and unlock the phone unit via the 3 digit lock code.
10	00000000	**C OPTION BYTE** The display for step 11 represents the status of eight options, C7 through C0. C7 (msb) is programmed first followed by C6-C0. Bits enter display on the right and scroll left.
	0	**User Mode NAM Programming Disable (Bit C7).** When set to 1, User Mode NAM programming cannot be accessed.
	0	**Dual NAM System Registration Enable (Bit C6).** Enter 1 if dual NAM operation is desired (for models capable of dual system operation). Enter 0 for single NAM operation
	0	**Test Mobile Enable/Auto Answer (Bit C5).** Enter 0.
	0	**Auto Redial Disable (Bit C4).** When set to 1, the user cannot access the 6-minute auto redial feature.
	0	**Three Wire Bus Speaker Disable (Bit C3).** This bit is used to disable internal handset speaker when adding V.S.P. option. 1 = handset speaker disabled, 0 = handset speaker enabled.
	0	**Bit not used (Bit C2).** Enter 0.
	0	**Selectable System Scan Disable (Bit C1).** When set to 1, the user cannot select the primary system.
	0	**Diversity Antenna (Bit C0).** (Extended systems only) 0 = Non-diversity, 1 = Diversity.
11	0334	**AMPS Initial paging channel.** There are 4 significant bits for the initial paging channel. For system A enter 0333 and system B enter 0334.
12	0333	**AMPS Initial A system channel.** To initialize system A enter 0333.

Table 11:

Step	*Factory Default*	*Description*
13	0334	**AMPS Initial B system channel.** To initialize system B enter 0334.
14	021	**AMPS Dedicated Paging Channels.** Number of dedicated paging chan-nels is 21. Enter 021.
15	00001000	**D OPTION BYTE**. The display for step 16 represents the status of eight options, D7 through D0. D7 (msb) is programmed first, followed by D6-D0. Bits enter display on the right and scroll to left.
	0	**Enhanced Scan (Bit D7)**. Enter 1.
	0	**Cellular Connection 1 (Bit E6)**. Normally set to 0.
	0	**Long Tone DTMF Enable (Bit E5)**. Normally set to 1.
	0	**Transportable Transducer Disable (Bit E4)**. Enter 0.
	1	**Bit not used (Bit E3)**. Normally set to 0.
	0	**Handset Test Mode Disable (Bit E2)**. Enter 0.
	0	**Failed Page Indication Disable (Bit E1)**.
	0	**Word Sync Scan Disable (Bit E0)**. Set to 1.
16	00100111	**E OPTION BYTE**. The display for step 16 represents the status of eight options, E7 through E0. E7 (msb) is programmed first, followed by E6-E0. Bits enter display on the right and scroll to left.
	0	**Bit not used (Bit E7)**. Enter 0.
	0	* **Preferred mode (Bit E6)**. Normally set to 0. Bit 6 - 1 and Bit 5 - 1 = Analog preferred Bit 6 - 1 and Bit 5 - 0 = Analog only
	1	**Preferred mode (Bit E5)**. Normally set to 1. Bit 5 - 1 and Bit 6 - 1 = CDMA preferred Bit 5 - 1 and Bit 6 - 0 = CDMA only
	0	**Extended Address Method (Bit E4)**. Enter 0.
	0	**Preferred Analog Serving System (Bit E3)**. Normally set to 0.
	1	**Config. for mob term using home SID, NID pair (Bit E2)**. Enter 1. 1 = Allow mobile terminated call while using a home (SID, NID) pair. 0 = Disallow mobile terminated call while using a home (SID, NID) pair.
	1	**Config. for mob term while SID roamer (Bit E1)** Enter 1. 1 = Allow mobile terminated call while a SID roamer. 0 = Disallow mobile terminated call while a SID roamer.

Table 11:

Step	*Factory Default*	*Description*
	1	† **Config. for mob term while NID roamer (Bit E0)**. Enter 1. 1 = Allow mobile terminated call while a NID roamer. 0 = Disallow mobile terminated call while a NID roamer.
17	0	**CDMA: Slot Cycle Index.** TBD
18	Entry Required	**CDMA: SID (SID_NIDp).** Up to 5-digits.
19	00000	**CDMA: Network ID Number (NID of SID_NIDp).** Up to 5-digits.
20	111111	**Mobile Country Code (first 3-digits), IMSI 11 (1-digit), IMSI 12 (1-digit).**
21	Entry Required	**CDMA: Primary Channel.** System A up to 4 decimal digits.
22	Entry Required	**CDMA: Primary Channel.** System B up to 4 decimal digits.
23	Entry Required	**CDMA: Secondary Channel.** System A up to 4 decimal digits.
24	Entry Required	**Secondary Channel.** System B up to 4 decimal digits.
25	0	**Data Logger Switch.** Enter 0. 1 = enabled, 0 = disabled.

* These bits will determine which modes of operation the radio will attempt when seeking communication with a Base Station. Care should be taken when either the CDMA only or the Analog only modes of operation are selected, because this configuration will cause a dual mode phone to operate as a single mode phone. Another issue to be aware of is that whenever Bit 5 is set to 0, no handoffs between Analog and CDMA mode can take place. No examination of the RF environment is performed when setting these fields.

† Setting these bits also effects the registrations that are transmitted by the Mobile Station. If bits are set such that the Mobile cannot receive any incoming calls (in CDMA mode), it is not necessary to send out any Registration mes-sages. It should be noted that if all Mobile Terminated Call Preference bits are set to zero, that there would (in a spec compliant system) be no way for the

Mobile Station to receive incoming calls.

DISASSEMBLY

Introduction

Care must be taken during the disassembly and reassembly of the unit in order to avoid damaging or stressing the housing and internal components. Ensure that a properly grounded high impedance conductive wrist strap is used while
performing these procedures on electronic units.

Recommended Tools

The following tools are recommended for use during the disassembly and reassembly of the phone.
- Anti-Static Mat Kit (0180386A82); includes:
- Anti-Static Mat 6680387A95
- Ground Cord 6680334B36
- Wrist Band 4280385A59
- Plastic Prying Tool SLN7223A
- Rear Housing Removal Tool
- Dental Pick
- Tweezers
- T6 Torque Screw Driver

CAUTION

Many of the integrated circuit devices used in this equipment are vulnerable to damage from static charges. An anti-static wrist band, connected to an anti-static (conductive) work surface, must be
worn during all phases of disassembly, repair, and reassembly.

Disassembly Procedure

Refer to the disassembly instructions and photo sequence on the following pages.

Assembly Procedure

Once the unit is disassembled and the repair is carried out it then becomes obvious that to assemble the unit, the procedure is the reverse of that previously completed for disassembly.

Antenna Removal

1-1 Turn off the power.
1-2Remove a Rubbor Boot.
1-3 Remove antenna by turning counter-clockwise.

.

2.Disassembly of Battery

2-1 Push the Latch and then remove the Battery Housing out of the front housing.

2-2 After removing Battery Housing lift up the Battery

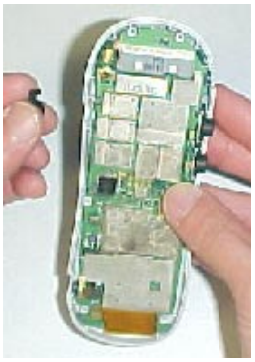
.3.Disassembly of Rear Housing

At first ,remove screws on top of Rear Housing, and then Bottom Last, remove screws on the middle of Rear Housing.

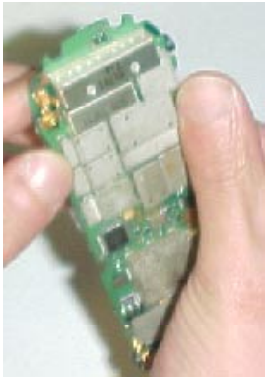
4.Disassembly of PC Boards.

4-1 After removing Rear Housing , remove

Side Buttons one by one.



4-2.Disas-semble PC Boards into Front housing and PC Boards by carefully pulling one against another.



5.Disassembly of LCD

5-1 Disassemble LCD by pulling Snap Fit to a both side

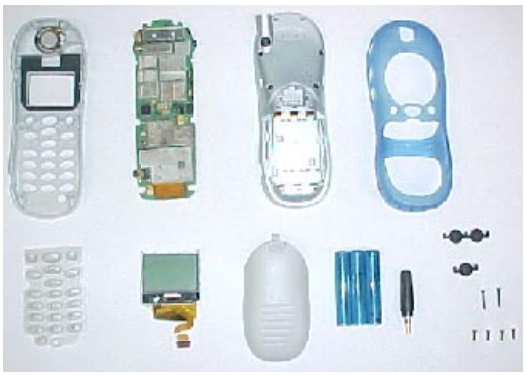
5-2 Remove the LCD by inserting a in the top of Zif Connector and lifting it away from the attached surface.

6.Disas-sembly of Key Pad

6-1 Remove a Key Pad.

8. Complete Disassembly Layout.

7. Remove the Groumet, RF Test,



using antenna screw

* Before unscrewing antenna, make sure to align the straight indent that exists on the surface of Rear Housing .

Troubleshooting

Introduction

Known good replacement parts and assemblies should be available to be used for troubleshooting by substitution, and for replacement of defective parts/assemblies. Defective circuit boards should be forwarded to the appropriate Motorola service facility for repair. Refer to the "Replacement Parts" section of this manual for a list of replacement part descriptions and part numbers.

CAUTION

Many of the integrated circuit devices used in this equipment are vulnerable to damage from static charges. An ESD-safe workstation should be used when-ever a transceiver is opened.

Troubleshooting and Repair

The troubleshooting chart in Table 7, "Assembly Replacement Level Troubleshooting and Repair Chart," on page 56 shows some typical malfunction symptoms and the corresponding verification and repair procedures. Refer to the disassembly instructions located in the "Disassembly" section of this manual for instructions on removing parts/assemblies.

Testing after Repair

After any repair work has been carried out, the unit should be thoroughly tested to ensure that it operates correctly. This is especially important if the Logic / RF assembly is replaced.

For general repairs which do not include replacing the Logic/RF assembly, simply placing a call and checking signal strength, and transmit and recieve audio quality is normally sufficient.

When the Logic/RF assembly is replaced, the unit must have a comprehensive test on a compatible communications analyzers. See "Testing" for further details. Placing a call on air is usually carried out at this stage to complete the testing procedure.

LOGIC TROUBLESHOOTING

Phone is not powered on(1)

Battery Discharged

Measure battery voltage and if the battery voltage is <3.6 V DC, recharge the battery using the AC charger.

Battery contact opened or misaligned

Supply the B+ power through test port J3002(B+), J3001(GND) by using the test interface cable. If the phone is powered on, check the battery fail or battery contact defect

B+ Supply defective

Apply the power BATT+ through the battery contact. Check the B+ voltage by measuring 3.6-4.2V at the pin 48 of U2000 CCAP lite. If the B+ doesn't come out, check the Q3300

Power Supply defective

Supply the B+ power through test port J3002(B+), J3001(GND) by using the test interface cable.

Depress the PWR button and measure the supplied voltage of each part within 300ms of start of ON_OFF signal.

Check the Logic_4.75 voltage by measuring 4.75V at the pin 41 of U2000 CCAP lite

Check the Logic_2.75 voltage by measuring 2.75V at the pin 28 of U2000 CCAP lite

Check the Audio_2.75 voltage by measuring 2.75V at the pin 22 of U2000 CCAP lite

Check the Logic_1.8 voltage by measuring 2.75V at the pin 3 of U2000 CCAP lite

If the above supply voltages don't create by CCAP lite, Replace the U2000 part or check the logic 2.75 / Audio 2.75 power path shortage

Phone is not powered on (2)

Reset Signal

Check the RESETB Signal from CCAP lite U2000 by measuring the voltage of C2044 or pin 30 of U2000

Depress PWR button, then the RESETB signal shall maintain 'Low' for approximately 255msec after power on and go to 'High'

If reset signal don't come out, check the CCAP U2000 part.

Clock Fail

Check the 16.8MHz reference clock by measuring the signal via C1994 (Nominal 1.0 Vp-p sine-wave)

If 16.8MHz clock is not probed, check the reference oscillator part of RF side.

Depress PWR button, then Check the clock from the CIA as below

CLK0 : 5.6Mhz CRIB input clock (measured via TP1915)
CLK1: 32.749khz RF dither circuit clock (measured via R332)
CLK2: 32.749khz MCU input clock (measured via TP1913)
CLK3: 1.12Mhz DSP input clock (measured via TP1912)
CHIPx8: 9.8304Mhz Chipx8 clock (measured via TP1911)
Check the 32.768khz crystal clock (measured via R1142)
32khz_Buff_out: 32.768khz sleep mode clock out (measured via TP1130)

Casper 68338 PLL locking

Verify the 68338 CPU PLL locking by measuring the XFC signal through C1154

After Logic 2.75V &1.8V supplied to Casper U1100, XFC level shall be 650-700mV

After RESETB signal released, XFC level shall be 850-900mV within 10ms of CPU start.

If PLL locking is failed, Replace the U1100 Casper or Check the PLL circuit (C1152, C1153, C1154, R1151)

Phone is not powered on (3)

Check Watchdog

Check watchdog level from CASPER to CCAP lite by measuring the WDI level via R1181.

Depress PWR button, then the WDI signal maintain ‘Low’ for approximately 270~280 msec after power on and goes to ‘High’

Take off the R1181 0Ohm resister and put the 1kOhm resister to the R1180 DNP

Check if the phone operate normally.

If the phone is not powered on and logic_2.75 doesn’t go down, it show the program does not perform normally (Casper, Memory, CIA etc.or Software failure)

Check the phone mode

Check the manual test line via R1178

If the manual test line is ‘Low’, the phone will go to flash mode and if ‘High’, the phone will go to the normal turn on sequence.

In flash mode, if the flash programmer recognize the phone UART, the possible defect is on the

Software.

Flash the phone with right version, or replace to the programmed Flash part

Verify by EST Box

Connect the J3901-J3910 port to EST box BDM cable.

Take off the R1181 0Ohm resister and put the 1kOhm resister to the R1180 DNP

Execute the Vision Click tool and set up the MCU register of EST

Read the Flash code from $000000 and verify the the right hex code can be read.

Test the SRAM area $600000 - $63FFFF via memory test diagnostics tool

If the Flash or SRAM defect is found, Replace the parts.

No Display

Connection Failure

Check the 16pin J3200 Display Connector's connection to Flex cable of Display.

If the connection defective is found, repair the connection or replace the 16pin J3200 connector

Electrical Interface Failure

Check the J3200 soldering status and re-solder the connector

Check the interface signal LCD logic_2.75 (measured via R3200), LCD reset signal (measured via R3201) and D0-7, EL, AL0 signal from the board to LCD.

If more than one signal defect is found, repair the cause.

Display module Defect

Assemble the Display module to a known good V/T-2260/2267 main board, and check the function.

If the display fail is not solved, replace the Display module with new good one.

Display is erratic or partial no display

Connection Failure

Check the 16pin J3200 Display Connector's connection to Flex cable of Display

If the connection defective is found, repair the connection or replace the 15pin J3200 connector

Display module Defect

Assemble the Display module to a known good V/T-2260/2267 main board, and check the function.

If the display fail is not solved, replace the Display module with new good one.

No LED Backlight

LED BL Regulator defect

Set the phone mode as a 'Backlight Always On' of 'Backlight Select' of 'Display Options' menu.

Verify the 2.8V BL Regulator Vout via U2400 pin 4 and BL control signal 'High' via U2400 pin 1

If the 2.8 Voltage BL Regulator Vout is failed with BL control signal 'High', replace the U2400 regulator IC.

Dim LED

If any dim LEDs are found out of 4 LCD LEDs and 8 keypad LEDs, measure Vf voltage of the dim LEDs on the point of LED Anode (The typical Vf is 2.03 volt)

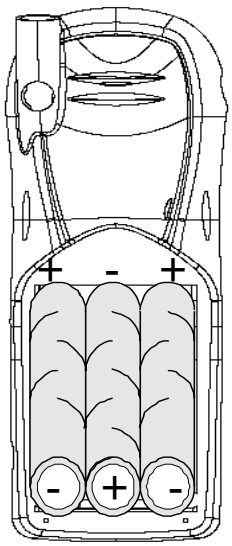
If the Vf is too high, replace the LED with good one.

No turn-On LED

If any dim LEDs are found out of 4 LCD LEDs and 8 keypad LEDs, replace the LEDs with good ones.

Trouble Shooting(Power-up)

a) Battery either discharged or defective.



1. Measure battery voltage across a 50 ohm (>1 Watt)load.

2. If the battery voltage is <3.4 V DC, recharge the battery using the appropriate battery charger.

3. If the battery will not recharge, replace the battery.

b) Battery mis-aligned.

1. Visually inspect the battery polarity

2. Check if two battery contact terminals of rear

housing are able to match battery contacts on board.

c) Shield defective

1. Check if carton tape is on power shield

2. Check if power shield can are short to battery contacts

d) Components defective

1. Change L2000 if BOOST is same to B+.

2. Check 16.8MHz if Logic_2.75 and Aud_2.75 is high.

3. Check u-P(U1100) and memory(U1200, U1300) if WDI is low

e) When charger is attached at low battery

1. Check if drain of Q2 is high for 1.5sec after charger is attached

2. Check if base voltage of Q2207 is 0.7V during Q2 is on

Trouble Shooting(Power Down On 'SND')

a) Battery either discharged or defective.

1. Measure battery voltage across a 50 ohm (>1 Watt) load.

2. If the battery voltage is <3.4 V DC,

   recharge the battery using the appropriate battery charger.

3. If the battery will not recharge, replace the battery.

b) PA defective

1. Setup the power supply : 4.5V, 500mA

2. Setup the HP8924 : Sectr A Pwr(-83dBm), Data rate(random)

3. Check current drain of phone at call state. Does power supply display 'CC' ?

4. Check if the bias point(PA_VGG1) of PA is -1.3V~-3V and do Phasing.

Trouble Shooting(Accessory Not Working)

1. Check if the voltage range of CHG_SNS_CIA is 1.7V~< 2.4V on VPA

2. Check if the voltage of CHG_SNS_CIA is 0.8V~1.7V on EIHF

3. Check if the voltage of CHG_SNS_CIA is below 0.8V on AC charger

4. Check if the voltage of EXT_B+ is more .45V than battery voltage during charging

Trouble Shooting(Battery defective)

a) battery cannot be charged.

1.Push the button 'FCN'+'0'+'0'+'*'+'*'+'8'+'3'+'7'+'8'+'6'+'6'+'3'+'3' +'STO' and set into test mode.

2. Store 11000000 at 5509# and press 01# sequentially to restart phone.

3. Push the button 'FCN' twice and select the 'Battery Status Mode On'

4. You can see following message on LCD

5. If the temperature of the battery is -40'C, check the thermistor node on bad soldering.

AAA = Average battery temperature

'C = Unit of temperature

D = 0 : charger is off

1 : charger is on

E = V : VPA(CLA, fast charger)

E : EIHF(DHFA, fast charger)

A : AC charger(slow charger)

F.FFV = Average battery voltage

GGG = Ideal (non phased) charger current in mA

HHH = N / A

I = Charger algorithm state

0 : Destroyed

1 : Battery detects

2 : No charge

*3 : Rapid charge

*4 : Top off charge

*5 : Maintenance charge

*6 : Paused

7 : COVIC charging

J = N : Nickel Battery

b) battery cannot be charged insufficiently

1. check whether the voltage of battery displays more 50mVthan actual battery voltage

2. If that, do voltage phasing again.

3. Check if the voltage of EXT_B+ is more .45V than battery voltageduring charging

Symptom	*Probable Cause*	*Verification and Remedy*
1. Phone will not turn on or stay on.	a) Battery either discharged or defective.	1. Measure battery voltage across a 50 ohm (>1 Watt) load. 2. If the battery voltage is <3.4 V DC, recharge the battery using the appropriate battery charger. 3. If the battery will not recharge, replace the battery.
	b) Battery connector open or misaligned.	1. Visually inspect the battery connectors on both the battery pack and the transceiver, including the solder connections from the battery connector to the main PC board. 2. Realign the contacts or, if necessary, replace either the battery or battery connector.
	c) Keypad membrane defective.	1. Replace the keypad membrane with a known good part. 2. Temporarily connect +6 V DC to the battery contacts. 3. Depress the **PWR** button; if unit turns on and stays on, disconnect the power source and reassemble the phone with the new keypad membrane.
	d) Keypad board defective.	1. Replace keypad board assembly with a known good assembly. 2. Temporarily connect +6 V DC to the battery contacts. Depress the **PWR** button. 3. If the units turns on and stays on, discon-nect the power source and reassemble the phone with the new keypad board assembly.
	e) RF/Audio-Logic Board defective.	1. Remove the RF/Audio-Logic Board. Substitute a known good board. 2. Temporarily connect +6 V DC to the battery contacts. 3. Depress the **PWR** button; if unit turns on and stays on, disconnect the power source and reassemble the phone with the new RF/Audio-Logic board and re-test phone.
2. Phone exhibits poor reception and/or erratic operation (such as calls frequently dropping, weak and/or distorted audio, etc.)	a) Defective antenna or damaged antenna connector. b) Defective RF/ Audio-Logic Board.	1. Make sure the antenna shaft ferrule is screwed into the antenna socket. 2. Make sure pin on antenna coil is seated in antenna connector socket. 3. Replace the antenna with a known good antenna. Replace the transceiver board (refer to symptom 1c Verification and Re edy.)

Symptom	*Probable Cause*	*Verification and Remedy*
3. Display is erratic, or provides partial or nodisplay.	a) Defectivedisplay module.	1. Gain access to RF/Audio-Logic board or keypad board as described in the “Disassembly” section of this manual. 2. Check connection. If connection not at fault, proceed to b.
	b) RF/Audio-Logic board defective.	Replace the RF/Audio-Logic Board (refer to symptom 1f Verification and Remedy).
4. Alert ringer volume is distorted or too low.	a) Alert ringer defective.	Replace the defective speaker or alert ringer with a known good speaker or alert ringer.
	b) RF/Audio-Logic board defective.	Replace the RF/Audio-Logic Board (refer to symptom 1f Verification and Remedy).
5. Transmit audio is weak, distorted, or dead.	a) Microphonedefective.	Replace defective microphone.
	b) RF/Audio-Logic board defective.	Replace the RF/Audio-Logic Board (refer to symptom 1f Verification and Remedy).
6. Receive audio is weak and/or distorted.	a) Speaker defective.	Replace defective speaker.
	b) RF/Audio-Logic board defective.	Replace the RF/Audio-Logic Board (refer to symptom 1f Verification and Remedy).

MOTOROLA

REPLACEMENT PARTS

CDMA 800/AMPS-V2260, T2260
CDMA Dual Mode 800-1900-V2267, T2267

Part #	Description
0187851L01	ASSY XCVR V/T-2260/2267
1209185A48	TSPEC S/B V/T-2260 CDMA 800MHZ
1209187A29	TSPEC TRANSCEIVER LABELING INS
SHN7609A	H&H V/T-2260/2267 GSM COMMON
0585977K01	GROMMET RF MOD3
4085941K01	SW ARRAY MYLAR DOMES MOD3
5009005J13	ALERT 12 MM V/T-2260/2267 CONTACTED
5009076E25	SPEAKER, 20 MM DYN V/T-2260/2267
5009135L07	MIC ELECT 6MM PINS
SHN7815A	H&H V/T-2260/2267 UNQ CDMA BLACK SB
0309315B07	SCREW TORX PLUS W/AUTOSER 1.8
1585830K01	HSNG FRNT ASSY LKZ1 BLK
1585832K03	REAR HSNG ASSY W/O SIM & STRA
3285837K02	GRIP L FT LKZ BLK M3
3285838K04	GRIP RT SMART LKZ1
3885839K05	KYPD M3 LKZ CDMA ENGLISH
6185840K04	LENS MODULUS 3
7288454K02	ASSY DISPLAY MOD V/T-2260/2267
8589464K03	ANT ASSY V/T-2260/2267 CDMA 800
SYN7828C	XCVRBRD SB MOD 3 CDMA

SYN7828C

Ref Des	Part #	Description
A1	3989033K01	CONT ANT V/T-2260/2267
ANTGND_2	4209935N03	CLIP Z
C100	2113743N40	CAP CHIP 39.0 PF 5% COG
C101	2113743N18	CAP CHIP 4.7 PF +-.25PF COG
C104	2113743E20	CAP CHIP .10 UF 10%
C106	2113743E20	CAP CHIP .10 UF 10%
C107	2113743N12	CAP CHIP 2.7 PF +-.25PF COG
C108	2113743N40	CAP CHIP 39.0 PF 5% COG
C11	2113743N40	CAP CHIP 39.0 PF 5% COG
C1100	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1101	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1102	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1103	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1104	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1105	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1107	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1108	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1109	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1131	2113743E20	CAP CHIP .10 UF 10%
C1132	2113743L41	CAP CHIP 10000 PF 10% X7R
C1141	2113743N30	CAP CHIP 15.0 PF 5% COG
C1142	2113743N30	CAP CHIP 15.0 PF 5% COG
C1152	2113743L41	CAP CHIP 10000 PF 10% X7R

C1153	2113743E20	CAP CHIP .10 UF 10%
C1154	2113741F49	CAP CHIP CL2 X7R REEL 10000
C1170	2113928N01	CAP CER CHIP 0.1UF 10% 6.3
C1171	2113743N40	CAP CHIP 39.0 PF 5% COG
C12	2113740F39	CAP CHIP REEL CL1 +/-30 33
C1200	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1201	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1300	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C14	2113743N40	CAP CHIP 39.0 PF 5% COG
C152	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C154	2113743L17	CAP CHIP 1000 PF 10% X7R
C155	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C156	2113743N12	CAP CHIP 2.7 PF +-.25PF COG
C158	2113743N40	CAP CHIP 39.0 PF 5% COG
C159	2113743N40	CAP CHIP 39.0 PF 5% COG
C160	2113743N40	CAP CHIP 39.0 PF 5% COG
C180	2113743N40	CAP CHIP 39.0 PF 5% COG
C1800	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1801	2113743N30	CAP CHIP 15.0 PF 5% COG
C1802	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C181	2113743L17	CAP CHIP 1000 PF 10% X7R
C182	2113743N34	CAP CHIP 22.0 PF 5% COG
C184	2113743N54	CAP CHIP 150 PF 5% COG
C1900	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1901	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1910	2113743E20	CAP CHIP .10 UF 10%
C1911	2113741F13	CAP CHIP CL2 X7R REEL 330

C1912	2113743N40	CAP CHIP 39.0 PF 5% COG
C1920	2113741F25	CAP CHIP CL2 X7R REEL 1000
C1921	2113743E20	CAP CHIP .10 UF 10%
C1930	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C1940	2113743E20	CAP CHIP .10 UF 10%
C1941	2113741F23	CAP CHIP CL2 X7R REEL 820
C1950	2113743K15	CER CHIP CAP .100UF
C1951	2113743E20	CAP CHIP .10 UF 10%
C1952	2113743E20	CAP CHIP .10 UF 10%
C1953	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1954	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1960	2113741F33	CAP CHIP CL2 X7R REEL 2200
C1961	2113743E10	CAP CHIP .033 UF 10% X7R
C1962	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1990	2113743M08	CAP CHIP 22000 PF +80-20% Y5V
C1991	2113743L41	CAP CHIP 10000 PF 10% X7R
C1992	2113743L41	CAP CHIP 10000 PF 10% X7R
C1993	2113743L41	CAP CHIP 10000 PF 10% X7R
C1994	2113743L41	CAP CHIP 10000 PF 10% X7R
C2000	2109489T02	CAP CER X5R 10UF 10% 16 1210
C2001	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C2002	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2004	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2005	2113743N40	CAP CHIP 39.0 PF 5% COG
C2006	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2008	2113743N40	CAP CHIP 39.0 PF 5% COG
C2009	2113928A01	CAP CER CHIP 1.0 UF 10V

C201	2113743N17	CAP CHIP 4.3 PF +-.25PF COG
C2010	2113928K09	CAP CER CHIP 10.0 UF 6.3V 10%
C2011	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2012	2113743L17	CAP CHIP 1000 PF 10% X7R
C2018	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C2019	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C202	2113743N19	CAP CHIP 5.1 PF + -.5PF COG
C2020	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2021	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C203	2113743N11	CAP CHIP 2.4 PF +-.25PF COG
C204	2113743N22	CAP CHIP 6.8 PF + -.5PF COG
C2044	2113743N40	CAP CHIP 39.0 PF 5% COG
C2050	2113743E03	CER CHIP CAP .015UF
C206	2113743N11	CAP CHIP 2.4 PF +-.25PF COG
C2060	2113743E20	CAP CHIP .10 UF 10%
C2061	2113743E03	CER CHIP CAP .015UF
C2062	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C2063	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C2081	2113743E10	CAP CHIP .033 UF 10% X7R
C2082	2113741F41	CAP CHIP CL2 X7R REEL 4700
C2083	2113743E20	CAP CHIP .10 UF 10%
C2084	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C209	2113743L41	CAP CHIP 10000 PF 10% X7R
C210	2113743N03	CAP CHIP 1.0 PF +-.25PF COG
C213	2113743N12	CAP CHIP 2.7 PF +-.25PF COG
C214	2113743N01	CAP CHIP 0.5 PF +-.25PF COG
C215	2113743N12	CAP CHIP 2.7 PF +-.25PF COG

C216	2113743N19	CAP CHIP 5.1 PF + -.5PF COG
C2200	2109489T02	CAP CER X5R 10UF 10% 16 1210
C2201	2113743G26	CAP CHIP 4.7 UF 16V +80-20%
C2202	2113743N40	CAP CHIP 39.0 PF 5% COG
C2202	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2401	2113928A01	CAP CER CHIP 1.0 UF 10V
C2402	2113743L33	CAP CHIP 4700 PF 10% X7R
C2403	2113743N40	CAP CHIP 39.0 PF 5% COG
C2404	2113743N40	CAP CHIP 39.0 PF 5% COG
C2405	2113743N40	CAP CHIP 39.0 PF 5% COG
C2406	2113743N40	CAP CHIP 39.0 PF 5% COG
C2407	2113743N40	CAP CHIP 39.0 PF 5% COG
C2408	2113743N40	CAP CHIP 39.0 PF 5% COG
C2409	2113743N40	CAP CHIP 39.0 PF 5% COG
C2410	2113743N40	CAP CHIP 39.0 PF 5% COG
C2600	2113743E20	CAP CHIP .10 UF 10%
C300	2113743E20	CAP CHIP .10 UF 10%
C3000	2113743N40	CAP CHIP 39.0 PF 5% COG
C3001	2113743N40	CAP CHIP 39.0 PF 5% COG
C3002	2113743N40	CAP CHIP 39.0 PF 5% COG
C3003	2113743N40	CAP CHIP 39.0 PF 5% COG
C3004	2113743N40	CAP CHIP 39.0 PF 5% COG
C3005	2113743N40	CAP CHIP 39.0 PF 5% COG
C301	2113743L41	CAP CHIP 10000 PF 10% X7R
C302	2113743N36	CAP CHIP 27.0 PF 5% COG
C303	2113743N30	CAP CHIP 15.0 PF 5% COG
C304	2113743N24	CAP CHIP 8.2 PF + -.5PF COG

C305	2113743N26	CAP CHIP 10.0 PF 5% COG
C306	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C307	2311049A76	CAP TANT CHIP 2.2UF 10% 6V
C308	2113743L41	CAP CHIP 10000 PF 10% X7R
C309	0662057M01	RES. CHIP 0 5% 20X40
C3100	2113743N40	CAP CHIP 39.0 PF 5% COG
C3101	2113743N40	CAP CHIP 39.0 PF 5% COG
C3102	2113743N40	CAP CHIP 39.0 PF 5% COG
C3103	2113743N40	CAP CHIP 39.0 PF 5% COG
C3104	2113743N40	CAP CHIP 39.0 PF 5% COG
C3105	2113743N40	CAP CHIP 39.0 PF 5% COG
C3106	2113743N40	CAP CHIP 39.0 PF 5% COG
C3107	2113743N40	CAP CHIP 39.0 PF 5% COG
C3108	2113743N40	CAP CHIP 39.0 PF 5% COG
C3109	2113743N40	CAP CHIP 39.0 PF 5% COG
C3110	2113743N40	CAP CHIP 39.0 PF 5% COG
C3200	2113743N40	CAP CHIP 39.0 PF 5% COG
C3201	2113743N40	CAP CHIP 39.0 PF 5% COG
C3202	2113743N40	CAP CHIP 39.0 PF 5% COG
C330	2113743L25	CAP CHIP 2200 PF 10% X7R
C3300	2109489T02	CAP CER X5R 10UF 10% 16 1210
C3301	2113743E20	CAP CHIP .10 UF 10%
C331	2113928G01	CAP CER CHIP .22 UF 6.3V 10%
C332	2113743L17	CAP CHIP 1000 PF 10% X7R
C3401	2113743N50	CAP CHIP 100 PF 5% COG
C3500	2113743N40	CAP CHIP 39.0 PF 5% COG
C3501	2113743N40	CAP CHIP 39.0 PF 5% COG

C351	2113743N40	CAP CHIP 39.0 PF 5% COG
C352	2113743L41	CAP CHIP 10000 PF 10% X7R
C3700	2113743N40	CAP CHIP 39.0 PF 5% COG
C3701	2113743N40	CAP CHIP 39.0 PF 5% COG
C3800	2113743N40	CAP CHIP 39.0 PF 5% COG
C3801	2113743N40	CAP CHIP 39.0 PF 5% COG
C3802	2113743N40	CAP CHIP 39.0 PF 5% COG
C3803	2113743N40	CAP CHIP 39.0 PF 5% COG
C400	2113743N40	CAP CHIP 39.0 PF 5% COG
C402	2113743L17	CAP CHIP 1000 PF 10% X7R
C403	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C405	2113743N38	CAP CHIP 33.0 PF 5% COG
C430	2113743N50	CAP CHIP 100 PF 5% COG
C431	2113743N14	CAP CHIP 3.3 PF +-.25PF COG
C432	2113743N11	CAP CHIP 2.4 PF +-.25PF COG
C435	2113743N50	CAP CHIP 100 PF 5% COG
C436	2113743E20	CAP CHIP .10 UF 10%
C438	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C439	2113743L41	CAP CHIP 10000 PF 10% X7R
C440	2113928P04	CAP CER CHIP 1.0UF 20% 6.3V
C441	2113743N10	CAP CHIP 2.2 PF +-.25PF COG
C442	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C443	2113743N50	CAP CHIP 100 PF 5% COG
C444	2113743N50	CAP CHIP 100 PF 5% COG
C445	2113740L18	CAP CER CHIP 10.0 PF +/-.25PF
C500	2113928C03	CAP CER CHIP 1.0 UF 6.3V 10%
C501	2113743N16	CAP CHIP 3.9 PF +-.25PF COG

C502	2113743N26	CAP CHIP 10.0 PF 5% COG
C503	2113743N30	CAP CHIP 15.0 PF 5% COG
C505	2113743N05	CAP CHIP 1.2 PF +-.25PF COG
C506	2113743N24	CAP CHIP 8.2 PF + -.5PF COG
C507	2113743E12	CAP CHIP .047 UF 10% X7R
C508	2311049B08	CAP TANT CHIP 1.0 UF 10V 10%
C509	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C60	2113928N01	CAP CER CHIP 0.1UF 10% 6.3
C600	2113743N40	CAP CHIP 39.0 PF 5% COG
C601	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C602	2113743N40	CAP CHIP 39.0 PF 5% COG
C603	2113743N40	CAP CHIP 39.0 PF 5% COG
C604	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C61	2113743N40	CAP CHIP 39.0 PF 5% COG
C616	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C62	2113743N40	CAP CHIP 39.0 PF 5% COG
C621	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C624	2409154M15	IND CER MLTILYR 15.0NH 1005
C625	2113743N14	CAP CHIP 3.3 PF +-.25PF COG
C626	2113743N10	CAP CHIP 2.2 PF +-.25PF COG
C627	2113743N10	CAP CHIP 2.2 PF +-.25PF COG
C628	2113743N14	CAP CHIP 3.3 PF +-.25PF COG
C629	2113743N40	CAP CHIP 39.0 PF 5% COG
C634	2113743N28	CAP CHIP 12.0 PF 5% COG
C635	2113743N40	CAP CHIP 39.0 PF 5% COG
C636	2113743N38	CAP CHIP 33.0 PF 5% COG
C637	2113743N38	CAP CHIP 33.0 PF 5% COG

C638	2113743N42	CAP CHIP 47.0 PF 5% COG
C639	2113743N20	CAP CHIP 5.6 PF + -.5PF COG
C640	2113743N33	CAP CHIP 20.0 PF 5% COG
C65	2113743N40	CAP CHIP 39.0 PF 5% COG
C670	2113928C03	CAP CER CHIP 1.0 UF 6.3V 10%
C671	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C672	2113743L41	CAP CHIP 10000 PF 10% X7R
C676	2113743L17	CAP CHIP 1000 PF 10% X7R
C677	2113743N12	CAP CHIP 2.7 PF +-.25PF COG
C678	2113743N16	CAP CHIP 3.9 PF +-.25PF COG
C679	2113743L17	CAP CHIP 1000 PF 10% X7R
C682	2113743L41	CAP CHIP 10000 PF 10% X7R
C684	2113743N40	CAP CHIP 39.0 PF 5% COG
C685	2311049A89	CAP TANT CHIP 22 UF 4V 10%
C690	2113743N58	CAP CHIP 4.0PF 16V .25PF COG
C692	2113743N40	CAP CHIP 39.0 PF 5% COG
C693	2113743N40	CAP CHIP 39.0 PF 5% COG
C694	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C695	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C696	2113743N40	CAP CHIP 39.0 PF 5% COG
C700	2113743E20	CAP CHIP .10 UF 10%
C701	2113743N40	CAP CHIP 39.0 PF 5% COG
C703	2113743N40	CAP CHIP 39.0 PF 5% COG
C704	2113743E20	CAP CHIP .10 UF 10%
C705	2113743N40	CAP CHIP 39.0 PF 5% COG
C706	2113743E20	CAP CHIP .10 UF 10%
C707	2113743N40	CAP CHIP 39.0 PF 5% COG

C708	2311049B08	CAP TANT CHIP 1.0 UF 10V 10%
C709	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C721	2113743L41	CAP CHIP 10000 PF 10% X7R
C723	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C724	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C730	2113743L01	CAP CHIP 220 PF 10% X7R
C731	2113743L01	CAP CHIP 220 PF 10% X7R
C732	2113743L41	CAP CHIP 10000 PF 10% X7R
C734	2113743L17	CAP CHIP 1000 PF 10% X7R
C740	2113743N28	CAP CHIP 12.0 PF 5% COG
C741	2113743N28	CAP CHIP 12.0 PF 5% COG
C750	2113743L41	CAP CHIP 10000 PF 10% X7R
C751	2113743L41	CAP CHIP 10000 PF 10% X7R
C752	2113743L41	CAP CHIP 10000 PF 10% X7R
C753	2113743L41	CAP CHIP 10000 PF 10% X7R
C754	2113743L21	CAP CHIP 1500 PF 10% X7R
C755	2113743L41	CAP CHIP 10000 PF 10% X7R
C756	2113743L41	CAP CHIP 10000 PF 10% X7R
C775	2113743L17	CAP CHIP 1000 PF 10% X7R
C776	2113928N01	CAP CER CHIP 0.1UF 10% 6.3
C777	2113743L41	CAP CHIP 10000 PF 10% X7R
C778	2113743L41	CAP CHIP 10000 PF 10% X7R
C779	2113743L41	CAP CHIP 10000 PF 10% X7R
C780	2113743E20	CAP CHIP .10 UF 10%
C781	2113743E20	CAP CHIP .10 UF 10%
C782	2113743E20	CAP CHIP .10 UF 10%
C783	2113743E20	CAP CHIP .10 UF 10%

C784	2113743E20	CAP CHIP .10 UF 10%
C785	2113743L41	CAP CHIP 10000 PF 10% X7R
C786	2113743L41	CAP CHIP 10000 PF 10% X7R
C787	2113743N40	CAP CHIP 39.0 PF 5% COG
C789	2113743F16	CAP CHIP 1.0 UF 16V +80-20%
C790	2113743N36	CAP CHIP 27.0 PF 5% COG
C901	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C903	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C905	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C930	2113743L17	CAP CHIP 1000 PF 10% X7R
C931	2311049A76	CAP TANT CHIP 2.2UF 10% 6V
C98	2113743N40	CAP CHIP 39.0 PF 5% COG
C99	2113743N07	CAP CHIP 1.5 PF +-.25PF COG
CPL400	5885811G09	CPLR CER MLTLYR 836MHZ 1608
CPL681	5885811G10	CPLR CER MLTLYR 991MHZ 1608
CR2002	4809653F02	RECT SCHOTTKY 1.0A UPS5817
CR2020	4809924D09	DIODE SCHTTKY DUAL MA742 SS
CR2200	4809653F02	RECT SCHOTTKY 1.0A UPS5817
CR2201	4809606E02	DIODE DUAL ARRAY DAN222
CR300	4809877C17	DIODE VARACTOR MA4ST340 SOD323
CR3100	4813830A70	DIODE DL 5.6V COM ANODE
CR3101	4813830A70	DIODE DL 5.6V COM ANODE
CR3500	4809948D15	DI0DE DUAL TVS 12V SM12 SOT23
CR3700	4813830A70	DIODE DL 5.6V COM ANODE
CR400	4809606E05	DIODE DUAL SCHOTTKEY SOT-143
CR500	4862824C01	DIODE VARACTOR
CR502	4809877C17	DIODE VARACTOR MA4ST340 SOD323

CR700	4809606E03	DIODE DUAL ARRAY DAP222
CR800	4809606E08	DIODE DUAL SCHOTTKEY RB715F
DS2401	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2402	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2403	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2404	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2405	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2406	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2407	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2408	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2409	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2410	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2411	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2412	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
FL12	9185783G06	FLTR CER DP 800MHZ SMD MD158
FL180	9109303U02	FLTE CER LC 991MHZ 3225 SMD
FL200	9185646H08	FLTR SAW IF 110MHZ 7X9MM SMD
FL202	9109142L03	FLTR XTAL 109.65MHZ 5X7MM SMD
FL40	9103913K04	FLTR SAW TX 881MHZ SMD
FL600	9103913K03	FLTR SAW TX 836MHZ SMD
J10	0987378K01	CONN RF MOD3
J3200	0909059E01	RECPT ZIF 16 POS SMD
J3400	0985882K01	RECPT CHRG 3POSTN SMD
J3500	0987647K01	CONN 2.5MM 2SW SMD
J3700	3909301S02	CNTCT BATT PCB ZAPPA
J3701	3909301S02	CNTCT BATT PCB ZAPPA
J3800	0985622G01	SKT TOP ENTRY 2 POS

L102	2409646M05	IND CER MULTILYR 8.2NH 1608
L11	2409646M78	IN CER MULTILYR 5.6NH 1608
L13	2409646M22	IND CER MULTILYR 82 NH 1608
L150	2409646M02	IND CER MULTILYR 4.7NH 1608
L151	2409646M70	IND CER MULTILYR 56NH 1608
L152	2409646M06	IND CER MULTILYR 10NH 1608
L180	2409154M15	IND CER MLTILYR 15.0NH 1005
L181	2404574Z11	IND CHIP WW 150NH 2% 2012 SMD
L200	2404574Z08	IND CHIP WW 82NH 2% 2012 SMD
L2000	2409092R09	IND CHIP PWR 1008 15 UH SMD
L201	2485793G14	IND CHIP WW 68 NH 2% 1608 SMD
L203	2404574Z13	IND CHIP WW 220NH 2% 2012 SMD
L204	2404574Z13	IND CHIP WW 220NH 2% 2012 SMD
L205	2413926D22	IND 82.0 NH 10%
L300	2485793G10	IND CHIP WW 33 NH 2% 1608 SMD
L330	2462587Q66	IND CHIP 100,000 NH 10%
L430	2409414M33	IND CHIP WW 5.6NH 10% 2012 SMD
L433	2409154M01	IND CER MLTILYR 1.0NH 1005
L434	2409154M31	IND CER MLTILYR 3.9NH 1005
L435	2409154M28	IND CER MLTILYR 2.2NH 1005
L501	2485793G08	IND CHIP WW 22 NH 2% 1608 SMD
L601	2409154M80	IND CER MLTILYR 2.2 NH 1005
L604	2409154M96	IND CER MLTILYR 47.0NH 1005
L605	2409154M96	IND CER MLTILYR 47.0NH 1005
L606	2409154M17	IND CER MLTILYR 22.0NH 1005
L607	2113743N46	CAP CHIP 68.0 PF 5% COG
L608	2409154M14	IND CER MLTILYR 12.0NH 1005

L609	2409154M14	IND CER MLTILYR 12.0NH 1005
L610	2409154M96	IND CER MLTILYR 47.0NH 1005
L612	2409154M15	IND CER MLTILYR 15.0NH 1005
L622	2409154M10	IND CER MLTILYR 5.6NH 1005
L630	2409646M98	IND CER MULTILYR 100NH 1608
L676	2409646M11	IND CER MULTILYR 27NH 1608
L677	2409646M85	IN CER MULTILYR 22 NH 1608
L680	2409646M09	IND CER MULTILYR 18NH 1608
L728	2409646M73	IND CER MULTILYR 100NH 1608
L729	2409646M73	IND CER MULTILYR 100NH 1608
L777	2462587Q44	IND CHIP 560 NH 10%
PCB	8488720K01	PCB V/T-2260/2267 CDMA SINGLE BAND
Q100	4809527E24	TSTR NPN RF MRF949LT1 SC-90
Q1170	4809579E40	TSTR FET DUAL N/P FDG6320C SC7
Q1176	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q150	4809527E33	TSTR NPN RF MRF1047 SC70
Q1930	4809608E03	TSTR DIG PNP DTA114YE
Q200	4809940E01	TSTR NPN MRF947 A/P
Q201	4809608E03	TSTR DIG PNP DTA114YE
Q2204	4813824B11	TSTR PNP 30V HI BETA
Q2206	4809579E12	TSTR MOSFET P-CHAN ML6302
Q2207	4809939C23	TSTR DUAL NPN/NPN UM6
Q2600	4809608E03	TSTR DIG PNP DTA114YE
Q301	4809939C04	TSTR DUAL PNP/NPN UMC3
Q3300	4809807C37	TSTR FET 3W P-CHN SI6969DQ TSO
Q350	4809608E03	TSTR DIG PNP DTA114YE
Q430	4809579E29	TSTR FET P-CHAN SI3443DV 6TSOP

Q431	4809940E03	TSTR DIG NPN DTC114TE
Q432	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q60	4809939C23	TSTR DUAL NPN/NPN UM6
Q601	4809608E03	TSTR DIG PNP DTA114YE
Q61	4809939C23	TSTR DUAL NPN/NPN UM6
Q680	4809940E01	
Q750	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q751	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q901	4809579E12	TSTR MOSFET P-CHAN ML6302
Q903	4809579E12	TSTR MOSFET P-CHAN ML6302
Q905	4809579E12	TSTR MOSFET P-CHAN ML6302
Q909	2113743N40	CAP CHIP 39.0 PF 5% COG
R100	0662057M52	RES. CHIP 120 5% 20X40
R101	0662057M66	RES. CHIP 470 5% 20X40
R103	0662057M14	RES. CHIP 3.3 5% 20X40
R110	0662057M01	RES. CHIP 0 5% 20X40
R1110	0609591M37	RES CHIP DUAL 10K 5% 0.63W
R1111	0662057M98	RES. CHIP 10K 5% 20X40
R1112	0662057M98	RES. CHIP 10K 5% 20X40
R1113	0662057M98	RES. CHIP 10K 5% 20X40
R1114	0609591M37	RES CHIP DUAL 10K 5% 0.63W
R1115	0609591M37	RES CHIP DUAL 10K 5% 0.63W
R1119	0662057M85	RES. CHIP 3000 5% 20X40
R1130	0662057M26	RES. CHIP 10 5% 20X40
R1141	0662057N31	RES. CHIP 220K 5% 20X40
R1142	0662057B46	CHIP RES 10.0 MEG OHMS 5%
R1151	0662057U93	RES CHIP 4.7K 1% 1/16W

R1160	0662057M90	RES. CHIP 4700 5% 20X40
R1171	0662057M98	RES. CHIP 10K 5% 20X40
R1172	0662057N34	RES. CHIP 300K 5% 20X40
R1174	0662057M98	RES. CHIP 10K 5% 20X40
R1175	0662057N10	RES. CHIP 30K 5% 20X40
R1176	0662057M98	RES. CHIP 10K 5% 20X40
R1177	0662057M98	RES. CHIP 10K 5% 20X40
R1178	0662057M98	RES. CHIP 10K 5% 20X40
R1179	0662057M54	RES. CHIP 150 5% 20X40
R1182	0662057N01	RES CHIP 12K 5% 20X40
R150	0662057M58	RES. CHIP 220 5% 20X40
R151	0662057M34	RES. CHIP 22 5% 20X40
R152	0662057M58	RES. CHIP 220 5% 20X40
R153	0662057M61	RES. CHIP 300 5% 20X40
R154	0662057M61	RES. CHIP 300 5% 20X40
R155	0662057M32	RES. CHIP 18 5% 20X40
R180	0662057M40	RES. CHIP 39 5% 20X40
R181	0662057M01	RES. CHIP 0 5% 20X40
R1910	0662057M92	RES. CHIP 5600 5% 20X40
R1911	0662057N25	RES. CHIP 120K 5% 20X40
R1920	0662057N15	RES. CHIP 47K 5% 20X40
R1921	0662057N20	RES. CHIP 75K 5% 20X40
R1930	0662057M74	RES. CHIP 1000 5% 20X40
R1931	0662057M88	RES. CHIP 3900 5% 20X40
R1932	0662057M90	RES. CHIP 4700 5% 20X40
R1940	0662057M90	RES. CHIP 4700 5% 20X40
R1941	0662057N19	RES. CHIP 68K 5% 20X40

R1961	0662057N03	RES. CHIP 15K 5% 20X40
R1990	0662057N13	RES. CHIP 39K 5% 20X40
R1991	0662057M74	RES. CHIP 1000 5% 20X40
R1992	0662057M90	RES. CHIP 4700 5% 20X40
R1993	0662057M74	RES. CHIP 1000 5% 20X40
R1994	0662057M95	RES. CHIP 7500 5% 20X40
R1995	0662057V07	RES CHIP 15K 1% 1/16W
R1996	0662057V07	RES CHIP 15K 1% 1/16W
R1997	0662057M95	RES. CHIP 7500 5% 20X40
R2009	0662057M26	RES. CHIP 10 5% 20X40
R201	0662057M70	RES. CHIP 680 5% 20X40
R2011	0662057M02	RES. CHIP 1.0 5% 20X40
R202	0662057M67	RES. CHIP 510 5% 20X40
R2021	0662057M26	RES. CHIP 10 5% 20X40
R2050	0662057N37	RES. CHIP 390K 5% 20X40
R2051	0662057N19	RES. CHIP 68K 5% 20X40
R2052	0662057N15	RES. CHIP 47K 5% 20X40
R206	0662057M70	RES. CHIP 680 5% 20X40
R2062	0662057M66	RES. CHIP 470 5% 20X40
R2063	0662057M58	RES. CHIP 220 5% 20X40
R207	0662057M98	RES. CHIP 10K 5% 20X40
R208	0662057M67	RES. CHIP 510 5% 20X40
R2081	0662057N11	RES. CHIP 33K 5% 20X40
R2082	0662057N09	RES. CHIP 27K 5% 20X40
R2083	0662057N09	RES. CHIP 27K 5% 20X40
R2085	0662057M32	RES. CHIP 18 5% 20X40
R209	0662057N23	RES. CHIP 100K 5% 20X40

R210	0662057M01	RES. CHIP 0 5% 20X40
R2200	0680195M64	RES 0.24 OHM 1/2W
R2205	0662057M60	RES. CHIP 270 5% 20X40
R2207	0662057N37	RES. CHIP 390K 5% 20X40
R2208	0662057N01	RES CHIP 12K 5% 20X40
R2209	0662057N01	RES CHIP 12K 5% 20X40
R2210	0662057N39	RES. CHIP 470K 5% 20X40
R2212	0662057N19	RES. CHIP 68K 5% 20X40
R2401	0662057M50	RES. CHIP 100 5% 20X40
R2402	0662057M50	RES. CHIP 100 5% 20X40
R2403	0662057M50	RES. CHIP 100 5% 20X40
R2404	0662057M50	RES. CHIP 100 5% 20X40
R2405	0662057M50	RES. CHIP 100 5% 20X40
R2406	0662057M50	RES. CHIP 100 5% 20X40
R2407	0662057M50	RES. CHIP 100 5% 20X40
R2408	0662057M50	RES. CHIP 100 5% 20X40
R2409	0662057M50	RES. CHIP 100 5% 20X40
R2410	0662057M50	RES. CHIP 100 5% 20X40
R2411	0662057M50	RES. CHIP 100 5% 20X40
R2412	0662057M50	RES. CHIP 100 5% 20X40
R2601	0662057M50	RES. CHIP 100 5% 20X40
R2602	0662057N27	RES. CHIP 150K 5% 20X40
R2603	0662057N03	RES. CHIP 15K 5% 20X40
R300	0662057M86	RES. CHIP 3300 5% 20X40
R301	0662057M98	RES. CHIP 10K 5% 20X40
R302	0662057M74	RES. CHIP 1000 5% 20X40
R303	0662057M80	RES. CHIP 1800 5% 20X40

R3200	0662057M50	RES. CHIP 100 5% 20X40
R3201	0662057M50	RES. CHIP 100 5% 20X40
R3202	0609591M17	RES CHIP DUAL 220 5% .63W
R3203	0609591M17	RES CHIP DUAL 220 5% .63W
R3204	0609591M17	RES CHIP DUAL 220 5% .63W
R3205	0609591M17	RES CHIP DUAL 220 5% .63W
R3206	0609591M17	RES CHIP DUAL 220 5% .63W
R3301	0662057V19	RES CHIP 47K 1% 1/16W
R3302	0662057V02	RES CHIP 10K 1% 1/16W
R331	0662057M98	RES. CHIP 10K 5% 20X40
R332	0662057M84	RES. CHIP 2700 5% 20X40
R333	0662057N03	RES. CHIP 15K 5% 20X40
R3400	0662057M92	RES. CHIP 5600 5% 20X40
R3401	0662057N01	RES CHIP 12K 5% 20X40
R3402	0662057M98	RES. CHIP 10K 5% 20X40
R3403	0662057N01	RES CHIP 12K 5% 20X40
R351	0662057M98	RES. CHIP 10K 5% 20X40
R401	0662057M43	RES. CHIP 51 5% 20X40
R402	0662057M98	RES. CHIP 10K 5% 20X40
R403	0662057N25	RES. CHIP 120K 5% 20X40
R404	0662057M90	RES. CHIP 4700 5% 20X40
R405	0662057M95	RES. CHIP 7500 5% 20X40
R406	0662057N09	RES. CHIP 27K 5% 20X40
R430	0662057N03	RES. CHIP 15K 5% 20X40
R431	0662057M76	RES. CHIP 1200 5% 20X40
R432	0662057M92	RES. CHIP 5600 5% 20X40
R434	0662057N23	RES. CHIP 100K 5% 20X40

R435	0662057M46	RES. CHIP 68 5% 20X40
R436	0662057M98	RES. CHIP 10K 5% 20X40
R500	0662057N05	RES. CHIP 18K 5% 20X40
R501	0662057M92	RES. CHIP 5600 5% 20X40
R502	0662057M78	RES. CHIP 1500 5% 20X40
R503	0662057M98	RES. CHIP 10K 5% 20X40
R504	0662057M82	RES. CHIP 2200 5% 20X40
R60	0662057N01	RES CHIP 12K 5% 20X40
R605	0662057N23	RES. CHIP 100K 5% 20X40
R607	0662057N13	RES. CHIP 39K 5% 20X40
R61	0662057N33	RES. CHIP 270K 5% 20X40
R615	0662057N06	RES. CHIP 20K 5% 20X40
R617	0662057M01	RES. CHIP 0 5% 20X40
R62	0662057N25	RES. CHIP 120K 5% 20X40
R63	0662057N19	RES. CHIP 68K 5% 20X40
R64	0662057N07	RES. CHIP 22K 5% 20X40
R65	0662057N13	RES. CHIP 39K 5% 20X40
R670	0662057M60	RES. CHIP 270 5% 20X40
R671	0662057M46	RES. CHIP 68 5% 20X40
R672	0662057M74	RES. CHIP 1000 5% 20X40
R683	0662057M43	RES. CHIP 51 5% 20X40
R684	0662057M19	RES. CHIP 5.1 5% 20X40
R685	0662057M52	RES. CHIP 120 5% 20X40
R686	0662057M43	RES. CHIP 51 5% 20X40
R687	0662057M52	RES. CHIP 120 5% 20X40
R688	0662057M86	RES. CHIP 3300 5% 20X40
R689	0662057M84	RES. CHIP 2700 5% 20X40

R690	0662057M50	RES. CHIP 100 5% 20X40
R700	0662057M26	RES. CHIP 10 5% 20X40
R701	2113743N46	CAP CHIP 68.0 PF 5% COG
R703	0662057M26	RES. CHIP 10 5% 20X40
R707	0662057N01	RES CHIP 12K 5% 20X40
R709	0662057M26	RES. CHIP 10 5% 20X40
R728	0662057M50	RES. CHIP 100 5% 20X40
R729	0662057M26	RES. CHIP 10 5% 20X40
R730	0662057M76	RES. CHIP 1200 5% 20X40
R731	0662057M76	RES. CHIP 1200 5% 20X40
R732	0662057M26	RES. CHIP 10 5% 20X40
R734	0662057M01	RES. CHIP 0 5% 20X40
R752	0662057M50	RES. CHIP 100 5% 20X40
R800	0662057M76	RES. CHIP 1200 5% 20X40
R801	0662057N01	RES CHIP 12K 5% 20X40
R902	0662057M01	RES. CHIP 0 5% 20X40
R903	0662057N23	RES. CHIP 100K 5% 20X40
R904	0662057M50	RES. CHIP 100 5% 20X40
R906	0662057M50	RES. CHIP 100 5% 20X40
R907	0662057M01	RES. CHIP 0 5% 20X40
R930	0662057N33	RES. CHIP 270K 5% 20X40
S3120	4009368L01	SW TACTILE RT ANGL SMD
S3121	4009368L01	SW TACTILE RT ANGL SMD
S3122	4009368L01	SW TACTILE RT ANGL SMD
SH1	2688276K01	CDMA ZIFSIN SHIELD
SH2	2689795K01	SHIELD TXCO V/T-2260/2267 CDMA SB
SH3	2689118K01	SHIELD RCVR V/T-2260/2267

SH4	2689120K02	SHIELD V/T-2260/2267 CDMA SB TX
SH5	2689119K01	SHIELD CCAP V/T-2260/2267
SH6	2688277K02	SHIELD V/T-2260/2267 CDMA LOGIC IC
SH7	2689117K01	SHIELD VCO V/T-2260/2267
TM3300	0687802K01	THERM NTC 50K 1% 3950K 2012
U100	5109572E26	IC GAAS RF SW SPDT AS139
U101	5109781E91	IC LV BIAS STAB/ENN MDC5001T1
U1200	5199422A01	IC FLASH 16MB GT28F160C3BA90
U1201	5109522E24	IC SNGL OR GATE TC7SH32FU
U1203	5109522E23	IC SNGL INV GATE TC7SH04FU
U1300	5189334K01	2MEG SRAM
U150	5109781E91	IC LV BIAS STAB/ENN MDC5001T1
U151	5109572E26	IC GAAS RF SW SPDT AS139
U180	5109940K28	IC MMIC GAAS MXR W/IF TQ5M31
U1800	5109632D99	IC CUST PAC MAX511EEE 16QSOP
U1900	5109923D36	IC CUST CIA SC29100GRC2 J21K
U200	5109572E37	IC GAAS SPDT SW SOT-363
U2000	5109879E65	IC BICMOS CCAP LITE 1.8V 48QFP
U2020	5109781E78	IC NEG LDO REG ILC7362 23SOT
U2200	5109923D46	TSTR CUST COVIC MSOP-8
U2400	5109512F17	IC VOLT REG MC33263NW-28R2 SOT
U430	5109730C32	MMIC RF PA CMM 0530 LC 00BT
U600	5109940K29	IC MIX/EXC CDMA/AMPS ME3 32BCC
U680	4809283D18	OSC MOD VCO 991MHZ SMD CDMA
U700	5109879E19	IC BICMOS ZIF/SYNTH SC79836GC
U831	5109768D06	IC TEMP SNSR LM60CIM3X SOT23
U901	5109522E24	IC SNGL OR GATE TC7SH32FU

U930	5109512F17	IC VOLT REG MC33263NW-28R2 SOT
VR3400	4813833B10	DIODE SCHOTTKY .5A 30V
VR3600	4809788E06	DIODE ZENER 6.8V UDZ6.8B
VR3601	4809788E08	DIODE ZENER 8.2V UDZTE178.2B
VR800	4813830A73	DIODE 2.7V 5% 225MW
Y1140	4809995L09	XTAL QUARTZ 32.768KHZ MC-146
	2409646M93	IN CER MULTILYR 3.3NH 1608
	3989579K02	CONT LOWER ANT
	5199477A01	IC BICMOS CASPER 224 PBGA
	2311049A62	CAP TAN CHIP A/P 4.7 10 10
	4809863M17	OSC MOD REF 16.8MHZ 5032 SMD

MECHANICAL PARTS LIST

SUG1739AA

XCVR V/T-2260/2267 CDMA DB V. BLK

PART #	DESCRIPTION
5488547K01	LBL MFG MA V/T-2260/2267
SHN7278A	H&H GENERIC MOD3
0585977K01	GROMMET RF MOD3
4085941K01	SW ARRAY MYLAR DOMES MOD3
5009005J07	ALERT MAG 12MM LF SPRNG CNTCT
5009076E25	SPEAKER, 20 MM DYN V/T-2260/2267
5009135L07	MIC ELECT 6MM PINS
SHN7545A	H&H CUSTOM LK R CDMA
0309315B07	SCREW TORX PLUS W/AUTOSER 1.8
0309315B11	SCR METRIC PT THREAD FORMING
1587934K05	HSNG FRNT ASSY V. GNMTL BLK
1587958K01	HSNG REAR ASSY T-2260/2267 T/CDMA DB
3288019K01	SIDE BUTTON LH VOLUME
3288020K01	SIDE BUTTON RH W/SMART
3888018K23	KYPD V2260/2267 V. CDMA GENERIC
6188017K01	LENS LKR M3
7288454K02	ASSY DISPLAY MOD V/T-2260/2267
8588448K01	ANT 3/8L 33MM
SYN8212B	XCVR MOD3 DB XCVR BD C841 PA

A1	3989033K01	CONT ANT V/T-2260/2267
C100	2113743N30	CAP CHIP 15.0 PF 5% COG
C102	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C103	2113743N54	CAP CHIP 150 PF 5% COG
C104	2113743N28	CAP CHIP 12.0 PF 5% COG
C105	2113743L41	CAP CHIP 10000 PF 10% X7R
C106	2113743N58	CAP CHIP 4.0PF 16V .25PF COG
C1060	2113743G26	CAP CHIP 4.7 UF 16V +80-20%
C1061	2113743L41	CAP CHIP 10000 PF 10% X7R
C107	2113743L17	CAP CHIP 1000 PF 10% X7R
C108	2113743N36	CAP CHIP 27.0 PF 5% COG
C109	2113743N28	CAP CHIP 12.0 PF 5% COG
C110	2113928N01	CAP CER CHIP 0.1UF 10% 6.3
C1100	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1101	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1102	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1103	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1104	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1105	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1107	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1108	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1109	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1131	2113743E20	CAP CHIP .10 UF 10%
C1132	2113743L41	CAP CHIP 10000 PF 10% X7R
C1141	2113743N30	CAP CHIP 15.0 PF 5% COG
C1142	2113743N30	CAP CHIP 15.0 PF 5% COG
C1152	2113743L41	CAP CHIP 10000 PF 10% X7R

C1153	2113743E20	CAP CHIP .10 UF 10%
C1154	2113741F49	CAP CHIP CL2 X7R REEL 10000
C1170	2113928N01	CAP CER CHIP 0.1UF 10% 6.3
C1171	2113743N40	CAP CHIP 39.0 PF 5% COG
C12	2113743N38	CAP CHIP 33.0 PF 5% COG
C120	2113743L41	CAP CHIP 10000 PF 10% X7R
C1200	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1201	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C121	2113743L41	CAP CHIP 10000 PF 10% X7R
C122	2113743N34	CAP CHIP 22.0 PF 5% COG
C124	2113743N54	CAP CHIP 150 PF 5% COG
C13	2113743N01	CAP CHIP 0.5 PF +-.25PF COG
C1300	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C13311	2113743N40	CAP CHIP 39.0 PF 5% COG
C1800	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1801	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1802	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1900	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1901	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1910	2113743E20	CAP CHIP .10 UF 10%
C1911	2113741F13	CAP CHIP CL2 X7R REEL 330
C1912	2113743N26	CAP CHIP 10.0 PF 5% COG
C1920	2113741F25	CAP CHIP CL2 X7R REEL 1000
C1921	2113743E20	CAP CHIP .10 UF 10%
C1930	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C1940	2113743E20	CAP CHIP .10 UF 10%
C1941	2113741F23	CAP CHIP CL2 X7R REEL 820

C1950	2113743K15	CER CHIP CAP .100UF
C1951	2113743E20	CAP CHIP .10 UF 10%
C1952	2113743E20	CAP CHIP .10 UF 10%
C1953	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1954	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1960	2113741F33	CAP CHIP CL2 X7R REEL 2200
C1961	2113743E10	CAP CHIP .033 UF 10% X7R
C1962	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1990	2113743M08	CAP CHIP 22000 PF +80-20% Y5V
C1991	2113743L41	CAP CHIP 10000 PF 10% X7R
C1992	2113743L41	CAP CHIP 10000 PF 10% X7R
C1993	2113743L41	CAP CHIP 10000 PF 10% X7R
C1994	2113743L41	CAP CHIP 10000 PF 10% X7R
C20	2113743N64	CAP CHIP 7.0PF 16V .5PF COG
C2000	2311049A57	CAP TANT CHIP A/P 10UF 10% 16V
C2001	2113743E20	CAP CHIP .10 UF 10%
C2002	2311049A89	CAP TANT CHIP 22 UF 4V 10%
C2004	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2006	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2009	2113928A01	CAP CER CHIP 1.0 UF 10V
C201	2113743N40	CAP CHIP 39.0 PF 5% COG
C2010	2309121D19	CAP CHIP TANT 10 UF 10% 10 V
C2011	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2012	2113743L17	CAP CHIP 1000 PF 10% X7R
C2018	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C2019	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C202	2113743N13	CAP CHIP 3.0 PF +-.25PF COG

C2020	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2021	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2022	2113928C03	CAP CER CHIP 1.0 UF 6.3V 10%
C204	2113743N67	CAP CHIP 9.0PF 16V .5PF COG
C2044	2113743N40	CAP CHIP 39.0 PF 5% COG
C2050	2113743E03	CER CHIP CAP .015UF
C1802	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1900	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1901	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1910	2113743E20	CAP CHIP .10 UF 10%
C1911	2113741F13	CAP CHIP CL2 X7R REEL 330
C1912	2113743N26	CAP CHIP 10.0 PF 5% COG
C1920	2113741F25	CAP CHIP CL2 X7R REEL 1000
C1921	2113743E20	CAP CHIP .10 UF 10%
C1930	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C1940	2113743E20	CAP CHIP .10 UF 10%
C1941	2113741F23	CAP CHIP CL2 X7R REEL 820
C1950	2113743K15	CER CHIP CAP .100UF
C1951	2113743E20	CAP CHIP .10 UF 10%
C1952	2113743E20	CAP CHIP .10 UF 10%
C1953	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1954	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1960	2113741F33	CAP CHIP CL2 X7R REEL 2200
C1961	2113743E10	CAP CHIP .033 UF 10% X7R
C1962	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C1990	2113743M08	CAP CHIP 22000 PF +80-20% Y5V
C1991	2113743L41	CAP CHIP 10000 PF 10% X7R

C1992	2113743L41	CAP CHIP 10000 PF 10% X7R
C1993	2113743L41	CAP CHIP 10000 PF 10% X7R
C1994	2113743L41	CAP CHIP 10000 PF 10% X7R
C20	2113743N64	CAP CHIP 7.0PF 16V .5PF COG
C2000	2311049A57	CAP TANT CHIP A/P 10UF 10% 16V
C2001	2113743E20	CAP CHIP .10 UF 10%
C2002	2311049A89	CAP TANT CHIP 22 UF 4V 10%
C2004	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2006	2185736G01	CAP CER Y5V 22UF 10V 3225 SMD
C2009	2113928A01	CAP CER CHIP 1.0 UF 10V
C201	2113743N40	CAP CHIP 39.0 PF 5% COG
C2010	2309121D19	CAP CHIP TANT 10 UF 10% 10 V
C2011	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2012	2113743L17	CAP CHIP 1000 PF 10% X7R
C2018	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C2019	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C202	2113743N13	CAP CHIP 3.0 PF +-.25PF COG
C2020	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2021	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C2022	2113928C03	CAP CER CHIP 1.0 UF 6.3V 10%
C204	2113743N67	CAP CHIP 9.0PF 16V .5PF COG
C2044	2113743N40	CAP CHIP 39.0 PF 5% COG
C2050	2113743E03	CER CHIP CAP .015UF
C332	2113743L17	CAP CHIP 1000 PF 10% X7R
C3401	2113743N50	CAP CHIP 100 PF 5% COG
C3500	2113743N28	CAP CHIP 12.0 PF 5% COG
C3501	2113743N28	CAP CHIP 12.0 PF 5% COG

C351	2113743N26	CAP CHIP 10.0 PF 5% COG
C352	2113743N26	CAP CHIP 10.0 PF 5% COG
C3700	2113743N28	CAP CHIP 12.0 PF 5% COG
C3701	2113743N28	CAP CHIP 12.0 PF 5% COG
C40	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C402	2113743L17	CAP CHIP 1000 PF 10% X7R
C403	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C405	2113743N38	CAP CHIP 33.0 PF 5% COG
C41	2113743N50	CAP CHIP 100 PF 5% COG
C42	2113743N40	CAP CHIP 39.0 PF 5% COG
C43	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C430	2113743N50	CAP CHIP 100 PF 5% COG
C432	2113743N42	CAP CHIP 47.0 PF 5% COG
C433	2113743N50	CAP CHIP 100 PF 5% COG
C434	2113743N46	CAP CHIP 68.0 PF 5% COG
C437	2113743L41	CAP CHIP 10000 PF 10% X7R
C438	2113928C04	CAP CER CHIP 4.7UF 6.3V10%0805
C44	2113743N28	CAP CHIP 12.0 PF 5% COG
C440	2113928P04	CAP CER CHIP 1.0UF 20% 6.3V
C442	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C443	2113743N50	CAP CHIP 100 PF 5% COG
C444	2113743N50	CAP CHIP 100 PF 5% COG
C445	2113740F25	CAP CHIP REEL CL1 +/-30 8.2
C446	2113743N58	CAP CHIP 4.0PF 16V .25PF COG
C45	2113743N65	CAP CHIP 8.0PF 16V .5PF COG
C500	2113928C03	CAP CER CHIP 1.0 UF 6.3V 10%
C501	2113743N16	CAP CHIP 3.9 PF +-.25PF COG

C502	2113743N24	CAP CHIP 8.2 PF + -.5PF COG
C503	2113743N28	CAP CHIP 12.0 PF 5% COG
C504	2113743N38	CAP CHIP 33.0 PF 5% COG
C505	2113743N07	CAP CHIP 1.5 PF +-.25PF COG
C506	2113743N26	CAP CHIP 10.0 PF 5% COG
C507	2113743E12	CAP CHIP .047 UF 10% X7R
C508	2311049B08	CAP TANT CHIP 1.0 UF 10V 10%
C509	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C510	2113743N09	CAP CHIP 2.0 PF +-.25PF COG
C511	2113743L41	CAP CHIP 10000 PF 10% X7R
C512	2113743N50	CAP CHIP 100 PF 5% COG
C514	2113743N38	CAP CHIP 33.0 PF 5% COG
C600	2113743N40	CAP CHIP 39.0 PF 5% COG
C601	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C602	2113743N40	CAP CHIP 39.0 PF 5% COG
C604	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C605	2113743N10	CAP CHIP 2.2 PF +-.25PF COG
C608	2113743N26	CAP CHIP 10.0 PF 5% COG
C616	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C617	2113743N40	CAP CHIP 39.0 PF 5% COG
C618	2113743N40	CAP CHIP 39.0 PF 5% COG
C621	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C622	2113743N58	CAP CHIP 4.0PF 16V .25PF COG
C623	2113743N08	CAP CHIP 1.6 PF +-.25PF COG
C624	2409154M15	IND CER MLTILYR 15.0NH 1005
C625	2113743N14	CAP CHIP 3.3 PF +-.25PF COG
C626	2113743N10	CAP CHIP 2.2 PF +-.25PF COG

C627	2113743N10	CAP CHIP 2.2 PF +-.25PF COG
C628	2113743N14	CAP CHIP 3.3 PF +-.25PF COG
C629	2113743N40	CAP CHIP 39.0 PF 5% COG
C632	2113743N28	CAP CHIP 12.0 PF 5% COG
C635	2113743N36	CAP CHIP 27.0 PF 5% COG
C636	2113743N50	CAP CHIP 100 PF 5% COG
C637	2113743N50	CAP CHIP 100 PF 5% COG
C670	2113743A23	CAP CHIP .220 UF 10% X7R
C671	2113743L41	CAP CHIP 10000 PF 10% X7R
C672	2113743L25	CAP CHIP 2200 PF 10% X7R
C676	2113743L17	CAP CHIP 1000 PF 10% X7R
C677	2113743N18	CAP CHIP 4.7 PF +-.25PF COG
C678	2113743N16	CAP CHIP 3.9 PF +-.25PF COG
C679	2113743L17	CAP CHIP 1000 PF 10% X7R
C680	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C681	2113743N28	CAP CHIP 12.0 PF 5% COG
C682	2113743L41	CAP CHIP 10000 PF 10% X7R
C684	2113743N28	CAP CHIP 12.0 PF 5% COG
C685	2311049A76	CAP TANT CHIP 2.2UF 10% 6V
C688	2113743N40	CAP CHIP 39.0 PF 5% COG
C689	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C690	2113743N12	CAP CHIP 2.7 PF +-.25PF COG
C700	2113743E20	CAP CHIP .10 UF 10%
C701	2113743N40	CAP CHIP 39.0 PF 5% COG
C703	2113743N40	CAP CHIP 39.0 PF 5% COG
C704	2113743E20	CAP CHIP .10 UF 10%
C705	2113743N40	CAP CHIP 39.0 PF 5% COG

C706	2113743E20	CAP CHIP .10 UF 10%
C707	2113743N40	CAP CHIP 39.0 PF 5% COG
C708	2311049B08	CAP TANT CHIP 1.0 UF 10V 10%
C709	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C721	2113743L41	CAP CHIP 10000 PF 10% X7R
C723	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C724	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C730	2113743L01	CAP CHIP 220 PF 10% X7R
C731	2113743L01	CAP CHIP 220 PF 10% X7R
C732	2113743L41	CAP CHIP 10000 PF 10% X7R
C733	2113743L17	CAP CHIP 1000 PF 10% X7R
C740	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C741	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C750	2113743L41	CAP CHIP 10000 PF 10% X7R
C751	2113743L41	CAP CHIP 10000 PF 10% X7R
C752	2113743L41	CAP CHIP 10000 PF 10% X7R
C753	2113743L41	CAP CHIP 10000 PF 10% X7R
C754	2113743L21	CAP CHIP 1500 PF 10% X7R
C755	2113743L41	CAP CHIP 10000 PF 10% X7R
C756	2113743L41	CAP CHIP 10000 PF 10% X7R
C775	2113743L17	CAP CHIP 1000 PF 10% X7R
C776	2113928N01	CAP CER CHIP 0.1UF 10% 6.3
C777	2113743L41	CAP CHIP 10000 PF 10% X7R
C778	2113743L41	CAP CHIP 10000 PF 10% X7R
C779	2113743L41	CAP CHIP 10000 PF 10% X7R
C780	2113743E20	CAP CHIP .10 UF 10%
C781	2113743E20	CAP CHIP .10 UF 10%

C782	2113743E20	CAP CHIP .10 UF 10%
C783	2113743E20	CAP CHIP .10 UF 10%
C784	2113743E20	CAP CHIP .10 UF 10%
C785	2113743L41	CAP CHIP 10000 PF 10% X7R
C786	2113743L41	CAP CHIP 10000 PF 10% X7R
C787	2113743N40	CAP CHIP 39.0 PF 5% COG
C789	2113743F16	CAP CHIP 1.0 UF 16V +80-20%
C790	2113743N36	CAP CHIP 27.0 PF 5% COG
C834	2113743L33	CAP CHIP 4700 PF 10% X7R
C835	2113740F15	CAP CHIP REEL CL1 +/-30 3.3
C836	2113740F03	CAP CHIP REEL CL1 +/-30 1.0
C837	2113743N54	CAP CHIP 150 PF 5% COG
C838	2113743L41	CAP CHIP 10000 PF 10% X7R
C839	2113743N46	CAP CHIP 68.0 PF 5% COG
C840	2113743L35	CAP CHIP 5600 PF 10% X7R
C841	2113740F21	CAP CHIP REEL CL1 +/-30 5.6
C842	2113928P04	CAP CER CHIP 1.0UF 20% 6.3V
C843	2113743N50	CAP CHIP 100 PF 5% COG
C844	2113743N50	CAP CHIP 100 PF 5% COG
C845	2113743N50	CAP CHIP 100 PF 5% COG
C846	2113743N28	CAP CHIP 12.0 PF 5% COG
C848	2409154M01	IND CER MLTILYR 1.0NH 1005
C900	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C901	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C903	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C905	2113743M24	CAP CHIP 100000 PF +80-20% Y5V
C930	2113743L17	CAP CHIP 1000 PF 10% X7R

C931	2311049A76	CAP TANT CHIP 2.2UF 10% 6V
CPL400	5885811G09	CPLR CER MLTLYR 836MHZ 1608
CPL510	5885811G07	CPLR CER MLTLYR 1880MHZ 1608
CPL680	5885811G08	CPLR CER MLTLYR 2070MHZ 1608
CPL681	5885811G10	CPLR CER MLTLYR 991MHZ 1608
CR1060	4809606E02	DIODE DUAL ARRAY DAN222
CR20	4809948D22	DIODE PIN BAR65-02W SCD-80
CR2002	4809653F02	RECT SCHOTTKY 1.0A UPS5817
CR2020	4809924D09	DIODE SCHTTKY DUAL MA742 SS
CR2200	4809653F02	RECT SCHOTTKY 1.0A UPS5817
CR2201	4809606E02	DIODE DUAL ARRAY DAN222
CR300	4809877C17	DIODE VARACTOR MA4ST340 SOD323
CR3100	4813830A70	DIODE DL 5.6V COM ANODE
CR3101	4813830A70	DIODE DL 5.6V COM ANODE
CR3500	4809948D15	DI0DE DUAL TVS 12V SM12 SOT23
CR3700	4813830A70	DIODE DL 5.6V COM ANODE
CR40	4809948D22	DIODE PIN BAR65-02W SCD-80
CR400	4809606E05	DIODE DUAL SCHOTTKEY SOT-143
CR500	4862824C01	DIODE VARACTOR
CR501	4809948D10	DIODE PIN BAR63-03
CR502	4809877C21	DIODE HYPERABRUPT VARACTOR
CR700	4809606E03	DIODE DUAL ARRAY DAP222
CR800	4809606E08	DIODE DUAL SCHOTTKEY RB715F
DS2401	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2402	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2403	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2404	4809496B11	LED CHIP YEL-GRN 1608 CL191YG

DS2405	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2406	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2407	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2408	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2409	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2410	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2411	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
DS2412	4809496B11	LED CHIP YEL-GRN 1608 CL191YG
FL10	9185783G05	FLTR CER DP 1900MHZ SMD MD152
FL12	9185783G06	FLTR CER DP 800MHZ SMD MD158
FL120	9109303U02	FLTE CER LC 991MHZ 3225 SMD
FL13	9185906G09	FLTR CER DIPLX 859/1230 2012
FL20	9185807G03	FLTR CER RX-LO COMBO 1.9GHZ
FL200	9185646H07	FLTR SAW IF 110MHZ 7X9MM SMD
FL201	9185838J01	FLTR XTAL 109.65MHZ 3.8MM SMD
FL40	9103913K02	FLTR SAW TX 881MHZ SMD
FL600	9103913K03	FLTR SAW TX 836MHZ SMD
FL601	9185782G03	FLTR CER TX 1800/1900MHZ SMD
FL602	9103914K04	FLTR CER LC BP 172.3MHZ 4532
FL603	9109069E06	FLTR SAW BP 1880MHZ 3X3MM SMD
FL604	5885758J01	BALUN CHIP 1.8-2.0GHZ 2012 SMD
J10	0987378K01	CONN RF MOD3
J3200	0909059E01	RECPT ZIF 16 POS SMD
J3400	0985882K01	RECPT CHRG 3POSTN SMD
J3500	0987647K01	CONN 2.5MM 2SW SMD
J3700	3909301S02	CNTCT BATT PCB ZAPPA
J3701	3909301S02	CNTCT BATT PCB ZAPPA

J3800	0985622G01	SKT TOP ENTRY 2 POS
L10	2409154M85	IND CER MLTILYR 5.6 NH 1005
L10	2409154M10	IND CER MLTILYR 5.6NH 1005
L100	2409154M37	IND CER MLTILYR 12.0NH 1005
L101	2409646M22	IND CER MULTILYR 82 NH 1608
L11	2409154M58	IND CER MTLILYR 3.9 NH 1005
L120	2409154M15	IND CER MLTILYR 15.0NH 1005
L121	2413926D26	IND CER CHIP 180.0 NH 10%
L20	2409154M05	IND CER MLTILYR 2.2NH 1005
L200	2485793G15	IND CHIP WW 82 NH 2% 1608 SMD
L2000	2409092R09	IND CHIP PWR 1008 15 UH SMD
L201	2485793G13	IND CHIP WW 56 NH 2% 1608 SMD
L2017	2462587V36	CHIP IND 150 NH 5% 0805
L203	2413926D29	IND CER CHIP 330.0 NH 10%
L204	2413926D29	IND CER CHIP 330.0 NH 10%
L205	2413926D22	IND 82.0 NH 10%
L21	2409154M19	IND CER MLTILYR 33.0NH 1005
L22	2409154M10	IND CER MLTILYR 5.6NH 1005
L24	2409154M07	IND CER MLTILYR 3.3NH 1005
L300	2485793G10	IND CHIP WW 33 NH 2% 1608 SMD
L330	2462587Q66	IND CHIP 100,000 NH 10%
L40	2409154M14	IND CER MLTILYR 12.0NH 1005
L41	2409154M05	IND CER MLTILYR 2.2NH 1005
L43	2409154M64	IND CER MTLILYR 12.0NH 1005
L430	2462587V24	CHIP IND 15 NH 5% 0805
L433	2409154M01	IND CER MLTILYR 1.0NH 1005
L434	2409154M07	IND CER MLTILYR 3.3NH 1005

L439	2409154M11	IND CER MLTILYR 6.8NH 1005
L500	2485793G12	IND CHIP WW 47 NH 2% 1608 SMD
L501	2485793G07	IND CHIP WW 18 NH 2% 1608 SMD
L502	2413926D29	IND CER CHIP 330.0 NH 10%
L511	2409154M09	IND CER MLTILYR 4.7NH 1005
L604	2409154M96	IND CER MLTILYR 47.0NH 1005
L605	2409154M96	IND CER MLTILYR 47.0NH 1005
L607	2113743N46	CAP CHIP 68.0 PF 5% COG
L608	2409154M14	IND CER MLTILYR 12.0NH 1005
L609	2409154M14	IND CER MLTILYR 12.0NH 1005
L610	2409154M96	IND CER MLTILYR 47.0NH 1005
L611	2409154M09	IND CER MLTILYR 4.7NH 1005
L612	2409154M15	IND CER MLTILYR 15.0NH 1005
L613	2409154M01	IND CER MLTILYR 1.0NH 1005
L614	2409154M19	IND CER MLTILYR 33.0NH 1005
l620	2409154M19	IND CER MLTILYR 33.0NH 1005
L621	2409154M01	IND CER MLTILYR 1.0NH 1005
L622	2409154M10	IND CER MLTILYR 5.6NH 1005
L623	2409154M10	IND CER MLTILYR 5.6NH 1005
L676	2409646M11	IND CER MULTILYR 27NH 1608
L728	2409646M73	IND CER MULTILYR 100NH 1608
L729	2409646M73	IND CER MULTILYR 100NH 1608
L777	2462587Q44	IND CHIP 560 NH 10%
L831	2113743N30	CAP CHIP 15.0 PF 5% COG
L832	2409646M97	IN CER MULTILYR
L833	2409646M97	IN CER MULTILYR
Q100	4809527E20	TSTR NPN RF 2SC4784 SC70

Q1060	4809579E40	TSTR FET DUAL N/P FDG6320C SC7
Q1170	4809579E40	TSTR FET DUAL N/P FDG6320C SC7
Q1176	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q1930	4809608E03	TSTR DIG PNP DTA114YE
Q20	4809527E18	TSTR NPN RF BFP420
Q200	4809940E01	TSTR NPN MRF947 A/P
Q201	4809608E03	TSTR DIG PNP DTA114YE
Q2204	4813824B11	TSTR PNP 30V HI BETA
Q2206	4809579E12	TSTR MOSFET P-CHAN ML6302
Q2207	4809939C23	TSTR DUAL NPN/NPN UM6
Q2600	4809608E03	TSTR DIG PNP DTA114YE
Q301	4809939C04	TSTR DUAL PNP/NPN UMC3
Q3300	4809807C37	TSTR FET 3W P-CHN SI6969DQ TSO
Q350	4809608E03	TSTR DIG PNP DTA114YE
Q352	4809608E03	TSTR DIG PNP DTA114YE
Q40	4809527E24	TSTR NPN RF MRF949LT1 SC-90
Q430	4809579E29	TSTR FET P-CHAN SI3443DV 6TSOP
Q431	4809940E03	TSTR DIG NPN DTC114TE
Q432	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q500	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q601	4809608E03	TSTR DIG PNP DTA114YE
Q690	4809579E42	FET DUAL P-CHAN FDG6304P SC70
Q750	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q751	4809579E02	TSTR MOSFET N-CHAN 25K1830
Q900	4809579E12	TSTR MOSFET P-CHAN ML6302
Q901	4809579E12	TSTR MOSFET P-CHAN ML6302
Q903	4809579E12	TSTR MOSFET P-CHAN ML6302

Q905	4809579E12	TSTR MOSFET P-CHAN ML6302
R100	0662057M92	RES. CHIP 5600 5% 20X40
R101	0662057M91	RES. CHIP 5100 5% 20X40
R102	0662057M44	RES. CHIP 56 5% 20X40
R1060	0660076N25	RES CHIP 100 OHM 1/16 W
R1061	0662057N47	RES. CHIP 1.0 MEG 5% 20X40
R1062	0662057M33	RES. CHIP 20 5% 20X40
R1100	0662057M01	RES. CHIP 0 5% 20X40
R1101	0662057M01	RES. CHIP 0 5% 20X40
R1110	0609591M37	RES CHIP DUAL 10K 5% 0.63W
R1111	0662057M98	RES. CHIP 10K 5% 20X40
R1112	0662057M98	RES. CHIP 10K 5% 20X40
R1113	0662057M98	RES. CHIP 10K 5% 20X40
R1114	0609591M37	RES CHIP DUAL 10K 5% 0.63W
R1115	0609591M37	RES CHIP DUAL 10K 5% 0.63W
R1119	0662057M85	RES. CHIP 3000 5% 20X40
R1130	0662057M26	RES. CHIP 10 5% 20X40
R1141	0662057N31	RES. CHIP 220K 5% 20X40
R1142	0662057B46	CHIP RES 10.0 MEG OHMS 5%
R1151	0662057U93	RES CHIP 4.7K 1% 1/16W
R1160	0662057M90	RES. CHIP 4700 5% 20X40
R1171	0662057M98	RES. CHIP 10K 5% 20X40
R1172	0662057N34	RES. CHIP 300K 5% 20X40
R1174	0662057M98	RES. CHIP 10K 5% 20X40
R1175	0662057N10	RES. CHIP 30K 5% 20X40
R1176	0662057M98	RES. CHIP 10K 5% 20X40
R1177	0662057M98	RES. CHIP 10K 5% 20X40

R1178	0662057M98	RES. CHIP 10K 5% 20X40
R1179	0662057M54	RES. CHIP 150 5% 20X40
R1181	0662057M01	RES. CHIP 0 5% 20X40
R1182	0662057N01	RES CHIP 12K 5% 20X40
R120	0662057M46	RES. CHIP 68 5% 20X40
R1900	0662057M01	RES. CHIP 0 5% 20X40
R1901	0662057M01	RES. CHIP 0 5% 20X40
R1910	0662057M92	RES. CHIP 5600 5% 20X40
R1911	0662057N25	RES. CHIP 120K 5% 20X40
R1920	0662057N15	RES. CHIP 47K 5% 20X40
R1921	0662057N20	RES. CHIP 75K 5% 20X40
R1930	0662057M74	RES. CHIP 1000 5% 20X40
R1931	0662057M88	RES. CHIP 3900 5% 20X40
R1932	0662057M90	RES. CHIP 4700 5% 20X40
R1940	0662057M90	RES. CHIP 4700 5% 20X40
R1941	0662057N19	RES. CHIP 68K 5% 20X40
R1961	0662057N03	RES. CHIP 15K 5% 20X40
R1990	0662057N13	RES. CHIP 39K 5% 20X40
R1991	0662057M74	RES. CHIP 1000 5% 20X40
R1992	0662057M90	RES. CHIP 4700 5% 20X40
R1993	0662057M74	RES. CHIP 1000 5% 20X40
R1994	0662057M95	RES. CHIP 7500 5% 20X40
R1995	0662057V07	RES CHIP 15K 1% 1/16W
R1996	0662057V07	RES CHIP 15K 1% 1/16W
R1997	0662057M95	RES. CHIP 7500 5% 20X40
R20	0662057N01	RES CHIP 12K 5% 20X40
R2001	0662057M01	RES. CHIP 0 5% 20X40

R2002	0662057M01	RES. CHIP 0 5% 20X40
R2003	0662057M01	RES. CHIP 0 5% 20X40
R2009	0662057M26	RES. CHIP 10 5% 20X40
R201	0662057M70	RES. CHIP 680 5% 20X40
R2011	0662057M02	RES. CHIP 1.0 5% 20X40
R202	0662057M67	RES. CHIP 510 5% 20X40
R2021	0662057M26	RES. CHIP 10 5% 20X40
R203	0662057M67	RES. CHIP 510 5% 20X40
R2050	0662057N37	RES. CHIP 390K 5% 20X40
R2051	0662057N19	RES. CHIP 68K 5% 20X40
R2052	0662057N15	RES. CHIP 47K 5% 20X40
R206	0662057M70	RES. CHIP 680 5% 20X40
R2062	0662057M66	RES. CHIP 470 5% 20X40
R2063	0662057M58	RES. CHIP 220 5% 20X40
R207	0662057M98	RES. CHIP 10K 5% 20X40
R2081	662057N11	RES. CHIP 33K 5% 20X40
R2082	0662057N09	RES. CHIP 27K 5% 20X40
R2083	0662057N09	RES. CHIP 27K 5% 20X40
R2085	0662057M32	RES. CHIP 18 5% 20X40
R209	0662057N23	RES. CHIP 100K 5% 20X40
R22	0662057M92	RES. CHIP 5600 5% 20X40
R2200	0680195M64	RES 0.24 OHM 1/2W
R2205	0662057M74	RES. CHIP 1000 5% 20X40
R2207	0662057N37	RES. CHIP 390K 5% 20X40
R2208	0662057V02	RES CHIP 10K 1% 1/16W
R2209	0662057V02	RES CHIP 10K 1% 1/16W
R2210	0662057N39	RES. CHIP 470K 5% 20X40

R2212	0662057N19	RES. CHIP 68K 5% 20X40
R23	0662057M28	RES. CHIP 12 5% 20X40
R2400	0662057M01	RES. CHIP 0 5% 20X40
R2401	0662057M50	RES. CHIP 100 5% 20X40
R2402	0662057M50	RES. CHIP 100 5% 20X40
R2403	0662057M50	RES. CHIP 100 5% 20X40
R2404	0662057M50	RES. CHIP 100 5% 20X40
R2405	0662057M50	RES. CHIP 100 5% 20X40
R2406	0662057M50	RES. CHIP 100 5% 20X40
R2407	0662057M50	RES. CHIP 100 5% 20X40
R2408	0662057M50	RES. CHIP 100 5% 20X40
R2409	0662057M50	RES. CHIP 100 5% 20X40
R2410	0662057M50	RES. CHIP 100 5% 20X40
R2411	0662057M50	RES. CHIP 100 5% 20X40
R2412	0662057M50	RES. CHIP 100 5% 20X40
R2601	0662057M50	RES. CHIP 100 5% 20X40
R2602	0662057N27	RES. CHIP 150K 5% 20X40
R2603	0662057N03	RES. CHIP 15K 5% 20X40
R300	0662057M86	RES. CHIP 3300 5% 20X40
R301	0662057M98	RES. CHIP 10K 5% 20X40
R302	0662057M74	RES. CHIP 1000 5% 20X40
R303	0662057M80	RES. CHIP 1800 5% 20X40
R3201	0662057M50	RES. CHIP 100 5% 20X40
R3301	0662057V19	RES CHIP 47K 1% 1/16W
R3302	0662057V02	RES CHIP 10K 1% 1/16W
R331	0662057M98	RES. CHIP 10K 5% 20X40
R332	0662057M84	RES. CHIP 2700 5% 20X40

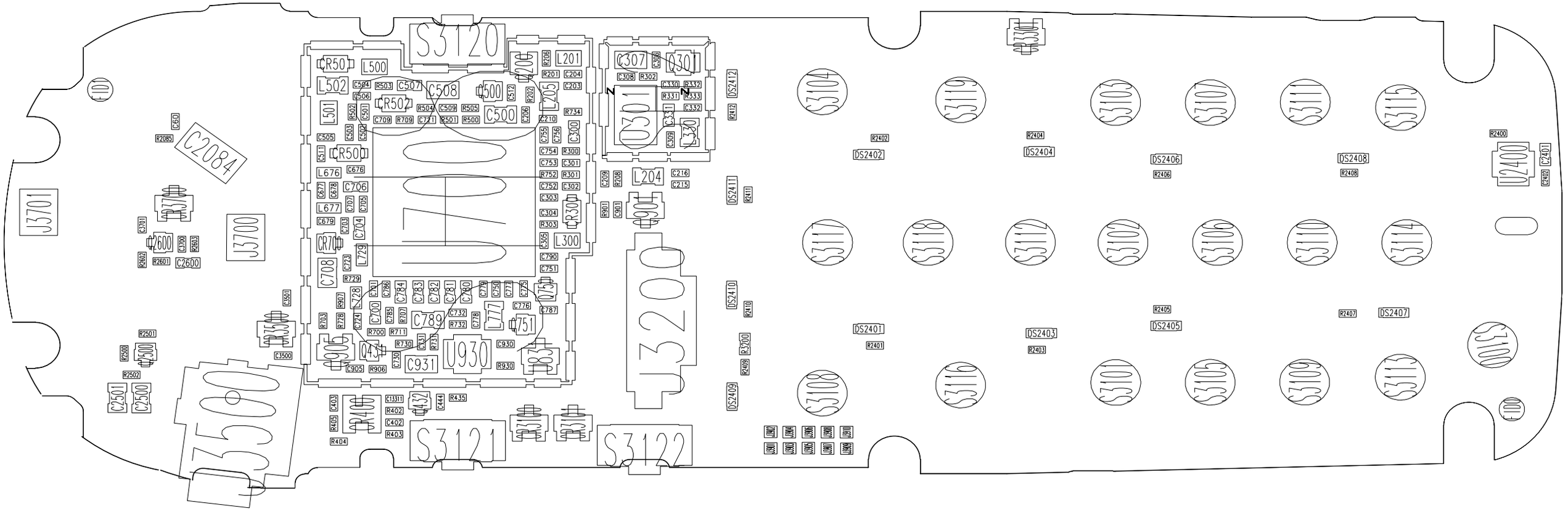
R333	0662057N03	RES. CHIP 15K 5% 20X40
R3400	0662057M92	RES. CHIP 5600 5% 20X40
R3401	0662057N01	RES CHIP 12K 5% 20X40
R3402	0662057M98	RES. CHIP 10K 5% 20X40
R3403	0662057N01	RES CHIP 12K 5% 20X40
R40	0662057N07	RES. CHIP 22K 5% 20X40
R401	0662057M43	RES. CHIP 51 5% 20X40
R402	0662057M98	RES. CHIP 10K 5% 20X40
R403	0662057N17	RES. CHIP 56K 5% 20X40
R404	0662057M90	RES. CHIP 4700 5% 20X40
R405	0662057M95	RES. CHIP 7500 5% 20X40
R430	0662057N03	RES. CHIP 15K 5% 20X40
R431	0662057M76	RES. CHIP 1200 5% 20X40
R432	0662057M92	RES. CHIP 5600 5% 20X40
R434	0662057M50	RES. CHIP 100 5% 20X40
R435	0662057M98	RES. CHIP 10K 5% 20X40
R44	0662057M92	RES. CHIP 5600 5% 20X40
R45	0662057M28	RES. CHIP 12 5% 20X40
R500	0662057N05	RES. CHIP 18K 5% 20X40
R501	0662057M92	RES. CHIP 5600 5% 20X40
R502	0662057M78	RES. CHIP 1500 5% 20X40
R503	0662057M98	RES. CHIP 10K 5% 20X40
R504	0662057M82	RES. CHIP 2200 5% 20X40
R505	0662057M84	RES. CHIP 2700 5% 20X40
R511	0662057M43	RES. CHIP 51 5% 20X40
R603	0662057N23	RES. CHIP 100K 5% 20X40
R605	0662057N23	RES. CHIP 100K 5% 20X40

R607	0662057N13	RES. CHIP 39K 5% 20X40
R612	0662057M01	RES. CHIP 0 5% 20X40
R615	0662057N06	RES. CHIP 20K 5% 20X40
R670	0662057M94	RES. CHIP 6800 5% 20X40
R671	0662057M52	RES. CHIP 120 5% 20X40
R672	0662057M82	RES. CHIP 2200 5% 20X40
R682	0662057M43	RES. CHIP 51 5% 20X40
R683	0662057M43	RES. CHIP 51 5% 20X40
R700	0662057M26	RES. CHIP 10 5% 20X40
R703	0662057M26	RES. CHIP 10 5% 20X40
R707	0662057M01	RES. CHIP 0 5% 20X40
R709	0662057M26	RES. CHIP 10 5% 20X40
R728	0662057M50	RES. CHIP 100 5% 20X40
R729	0662057M26	RES. CHIP 10 5% 20X40
R730	0662057M76	RES. CHIP 1200 5% 20X40
R731	0662057M76	RES. CHIP 1200 5% 20X40
R732	0662057M26	RES. CHIP 10 5% 20X40
R752	0662057M50	RES. CHIP 100 5% 20X40
R800	0662057M76	RES. CHIP 1200 5% 20X40
R801	0662057N01	RES CHIP 12K 5% 20X40
R833	0662057M66	RES. CHIP 470 5% 20X40
R835	0662057M76	RES. CHIP 1200 5% 20X40
R836	0662057N03	RES. CHIP 15K 5% 20X40
R837	0662057N03	RES. CHIP 15K 5% 20X40
R847	0662057M01	RES. CHIP 0 5% 20X40
R900	0662057M01	RES. CHIP 0 5% 20X40
R901	0662057M01	RES. CHIP 0 5% 20X40

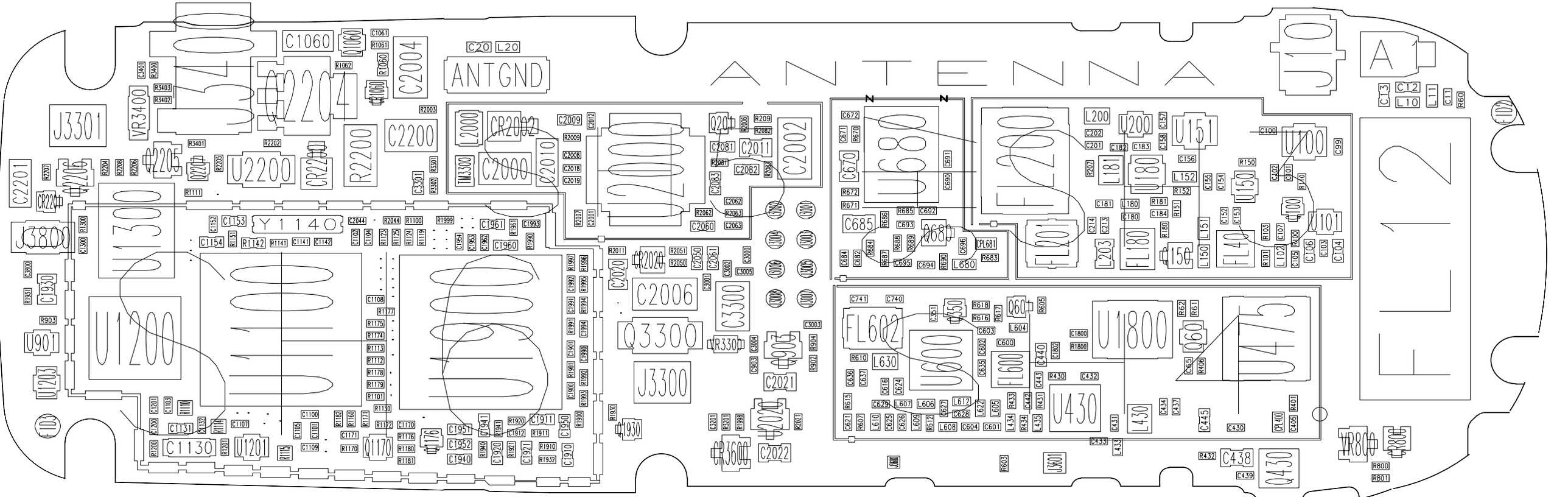
R902		0662057M01	RES. CHIP 0 5% 20X40
R903		0662057N23	RES. CHIP 100K 5% 20X40
R904		0662057M50	RES. CHIP 100 5% 20X40
R906		0662057M50	RES. CHIP 100 5% 20X40
R907		0662057M01	RES. CHIP 0 5% 20X40
R930		0662057N33	RES. CHIP 270K 5% 20X40
S3120		4009368L01	SW TACTILE RT ANGL SMD
S3121		4009368L01	SW TACTILE RT ANGL SMD
S3122		4009368L01	SW TACTILE RT ANGL SMD
SH1		2688276K01	CDMA ZIFSIN SHIELD
SH2		2688748K01	SHIELD M3 CDMA TCXO
SH3	268	8275K01	CDMA TX SHIELD
SH4		2688274K01	CDMA RX SHIELD
SH5		2688278K01	CDMA POWER SHIELD
SH6		2688277K01	CDMA LOGIC SHIELD
TM3300		0687802K01	THERM NTC 50K 1% 3950K 2012
U120		5109940K28	IC MMIC GAAS MXR W/IF TQ5M31
U1200		5199422A01	IC FLASH 16MB GT28F160C3BA90
U1201		5109522E24	IC SNGL OR GATE TC7SH32FU
U1203		5109522E23	IC SNGL INV GATE TC7SH04FU
U1300		5109509A31	IC SRAM 128KX16 HY62VF16201
U1800		5109632D99	IC CUST PAC MAX511EEE 16QSOP
U1900		5109923D36	IC CUST CIA SC29100GRC2 J21K
U200		5109572E37	IC GAAS SPDT SW SOT-363
U2000		5109879E51	IC CCAP LITE 1.8V K12E 48 QFP
U2020		5109781E78	IC NEG LDO REG ILC7362 23SOT
U2200		5109923D46	TSTR CUST COVIC MSOP-8

U2400	5109512F17	IC VOLT REG MC33263NW-28R2 SOT
U301	4809863M16	OSC MOD REF TCXO 16.8MHZ KT17
U430	5109730C32	MMIC RF PA CMM 0530 LC 00BT
U600	5109940K29	IC MIX/EXC CDMA/AMPS ME3 32BCC
U680	4809283D66	OSC MOD VCO 900/2000MHZ SMD
U700	5109879E19	IC BICMOS ZIF/SYNTH SC79836GC
U831	5109768D06	IC TEMP SNSR LM60CIM3X SOT23
U832	5109730C33	MMIC RF PHEMT PA CMM1530LC00BT
U901	5109522E24	IC SNGL OR GATE TC7SH32FU
U930	5109512F17	IC VOLT REG MC33263NW-28R2 SOT
VR3400	4813833B10	DIODE SCHOTTKY .5A 30V
VR3600	4809788E06	DIODE ZENER 6.8V UDZ6.8B
VR3601	4809788E08	DIODE ZENER 8.2V UDZTE178.2B
VR800	4813830A73	DIODE 2.7V 5% 225MW
Y1140	4809995L09	XTAL QUARTZ 32.768KHZ MC-146
8487333K01		PCB CDMA MOD3 PORTABLE
5199477A01		IC BICMOS CASPER 224 PBGA
2311049A62		CAP TAN CHIP A/P 4.7 10 10

CDMA V/T-2260 : TOP SIDE BOARD OVERLAY



CDMA V/T-2260 : BOTTOM SIDE BOARD OVERLAY



CDMA V/T-2260 : RF SCHEMATICS

800_Rx FRONT END

Rx FRONT END - HIGH GAIN PATH

Rx FRONT END - LOW GAIN PATH

DIGITAL AND ANALOG IF

Rx 2nd LO

REFERENCE OSCILLATOR AND CONTROL

800_Rx MIXER AND LO INJECTION

ACCESORY ANTENNA SWITCH AND DUPLEX FILTER

800_POWER DETECT CIRCUIT

Circulator intentionally left unconnected.
Isolator may not be needed.
Global ports added to avoid getting warnings.

U700
98ASH70694A

MAIN VCO LOOP

1900_POWER AMPLIFIER MODULE

TX OFFSET OSC

Kernit offset VCO band switch

Tx MIXER EXCITER

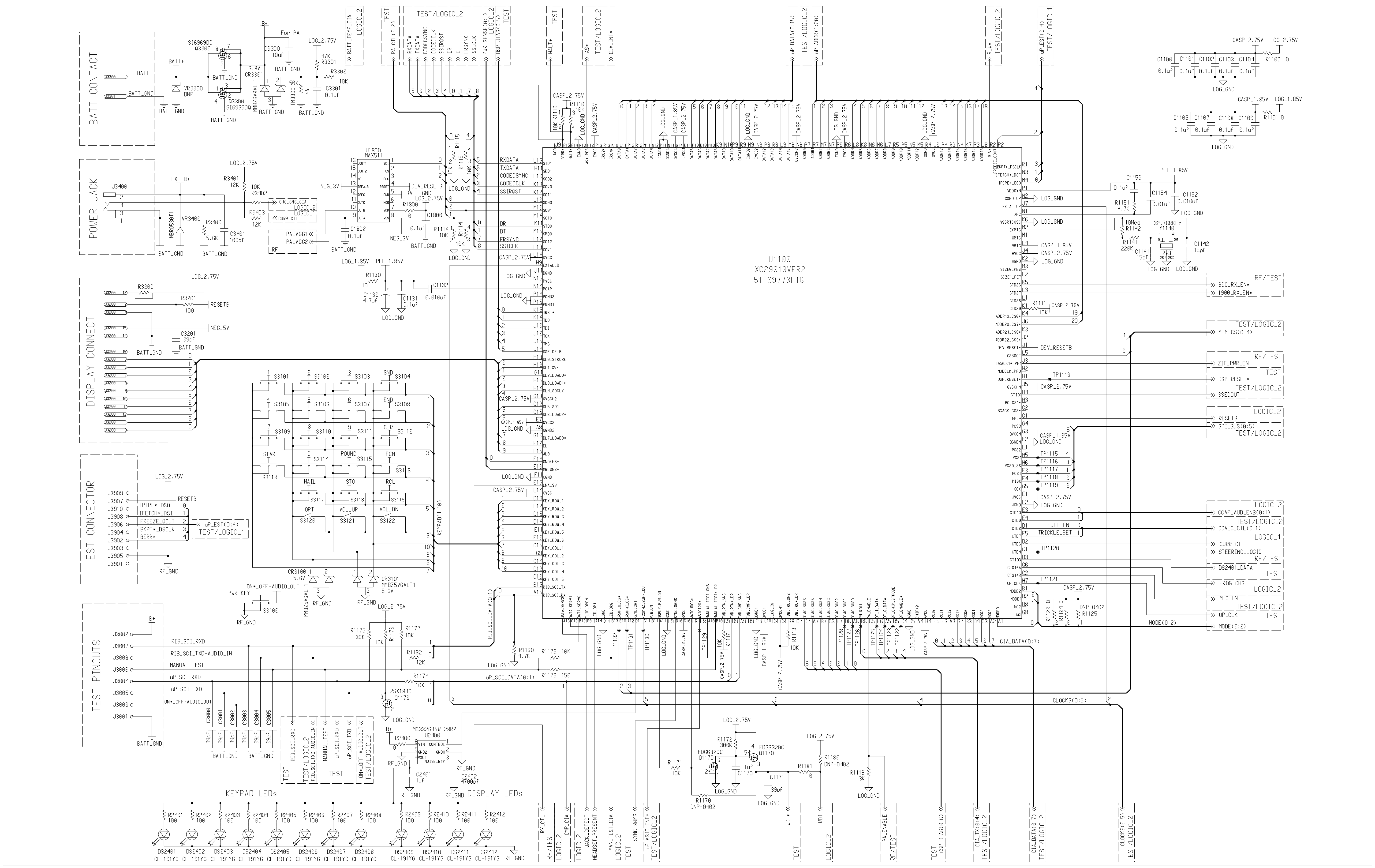
TX MONITOR LOGIC

RF Supply Switching

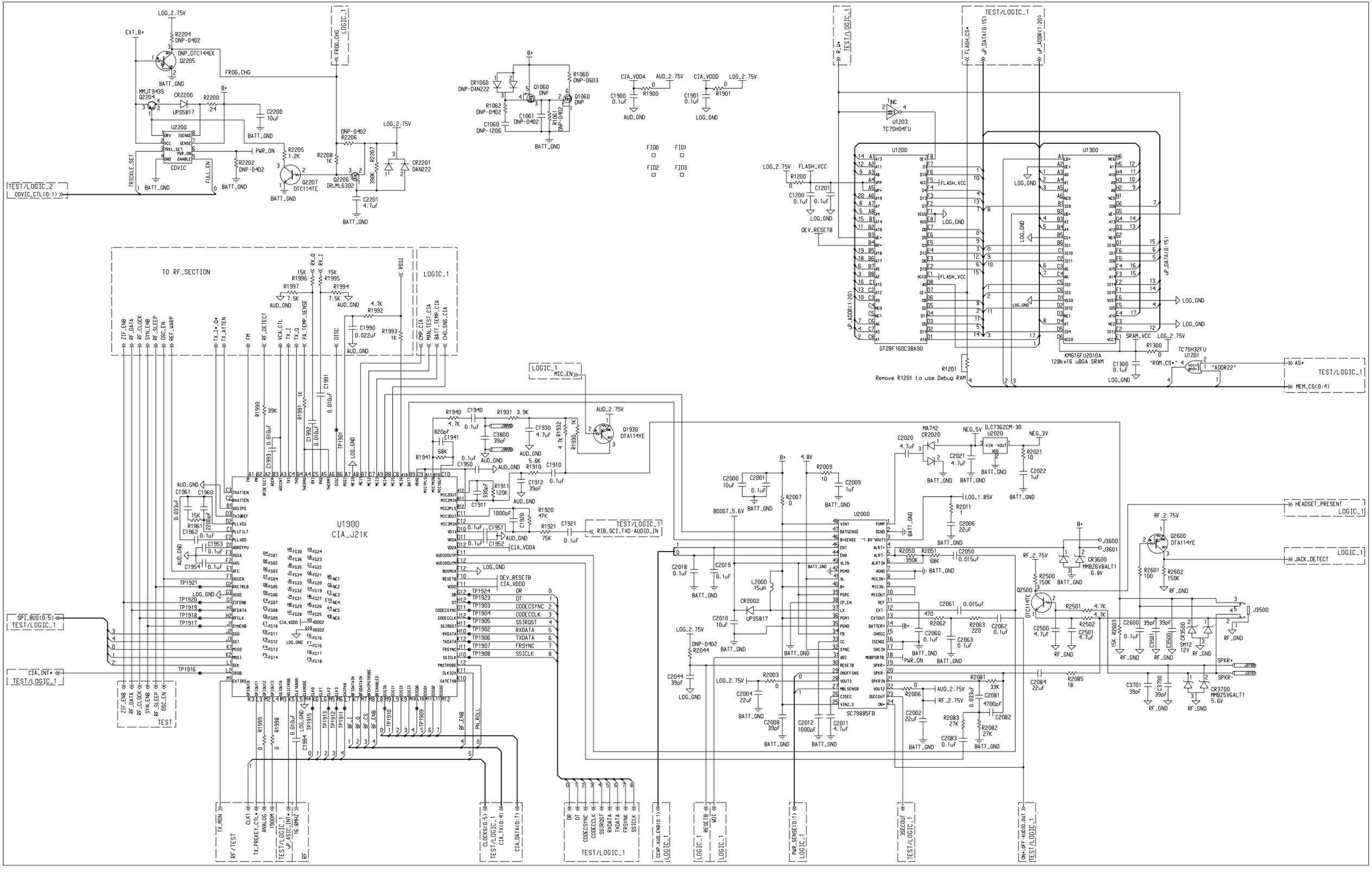
Truth Table for VCO Band Switch

Mode	Pin 7	Pin 3	Pin 4	Pin 8	Pin 10	Pin 12	Pin 1
1900_Rx_EN*	on	on	on	off	on	off	on
800_Rx_EN*	off	off	on	on	on	on	off

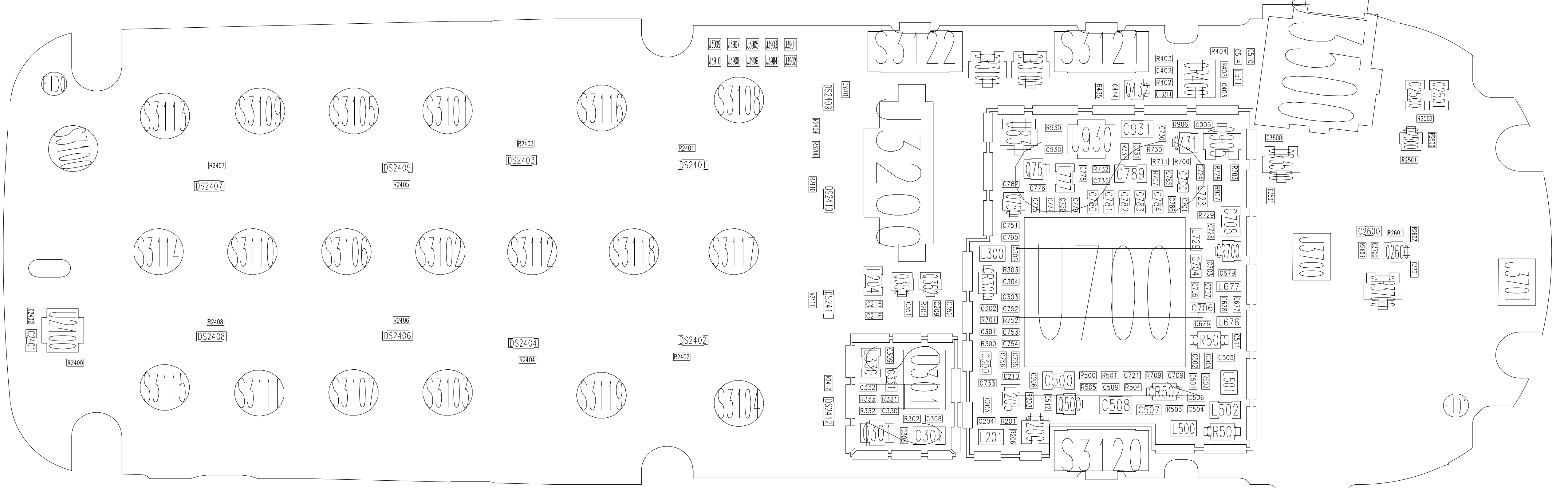
CDMA V/T-2260 : AL SCHEMATICS SIDE 1 OF 2



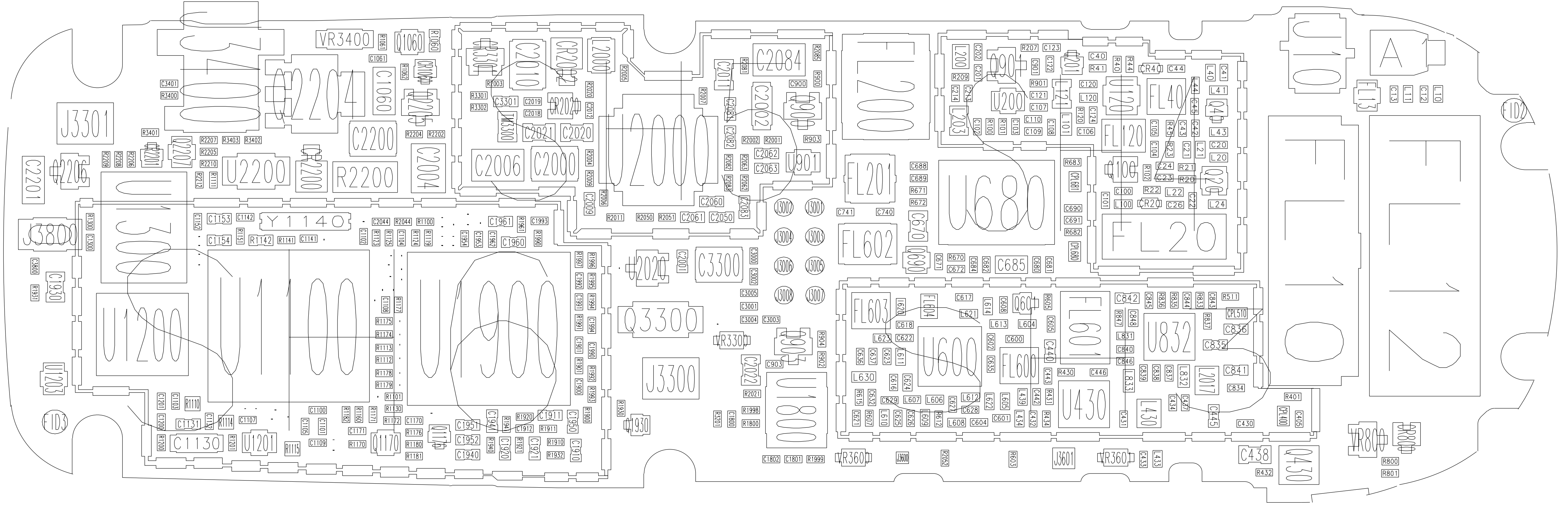
CDMA V/T-2260 : AL SCHEMATICS SIDE 2 OF 2



CDMA V/T-2267 : TOP SIDE BOARD OVERLAY



CDMA V/T-2267 : BOTTOM SIDE BOARD OVERLAY



CDMA V/T-2267 : RF SCHEMATICS

ACCESORY ANTENNA SWITCH AND DUPLEX FILTER

1900_Rx FRONT END - HIGH GAIN PATH

1900_Rx MIXER AND LO INJECTION

DIGITAL AND ANALOG IF

800_Rx FRONT END - HIGH GAIN PATH

800_Rx MIXER AND LO INJECTION

Rx 2nd LO

REFERENCE OSCILLATOR AND CONTROL

U700
98ASH706694

1900_POWER DETECT CIRCUIT

800_POWER DETECT CIRCUIT

800_POWER AMPLIFER MODULE

1900_POWER AMPLIFIER MODULE

TX MONITOR LOGIC

RF Supply Switching

Tx MIXER EXCITER

TX OFFSET OSC

Kermit offset VCO band switch

MAIN VCO LOOP

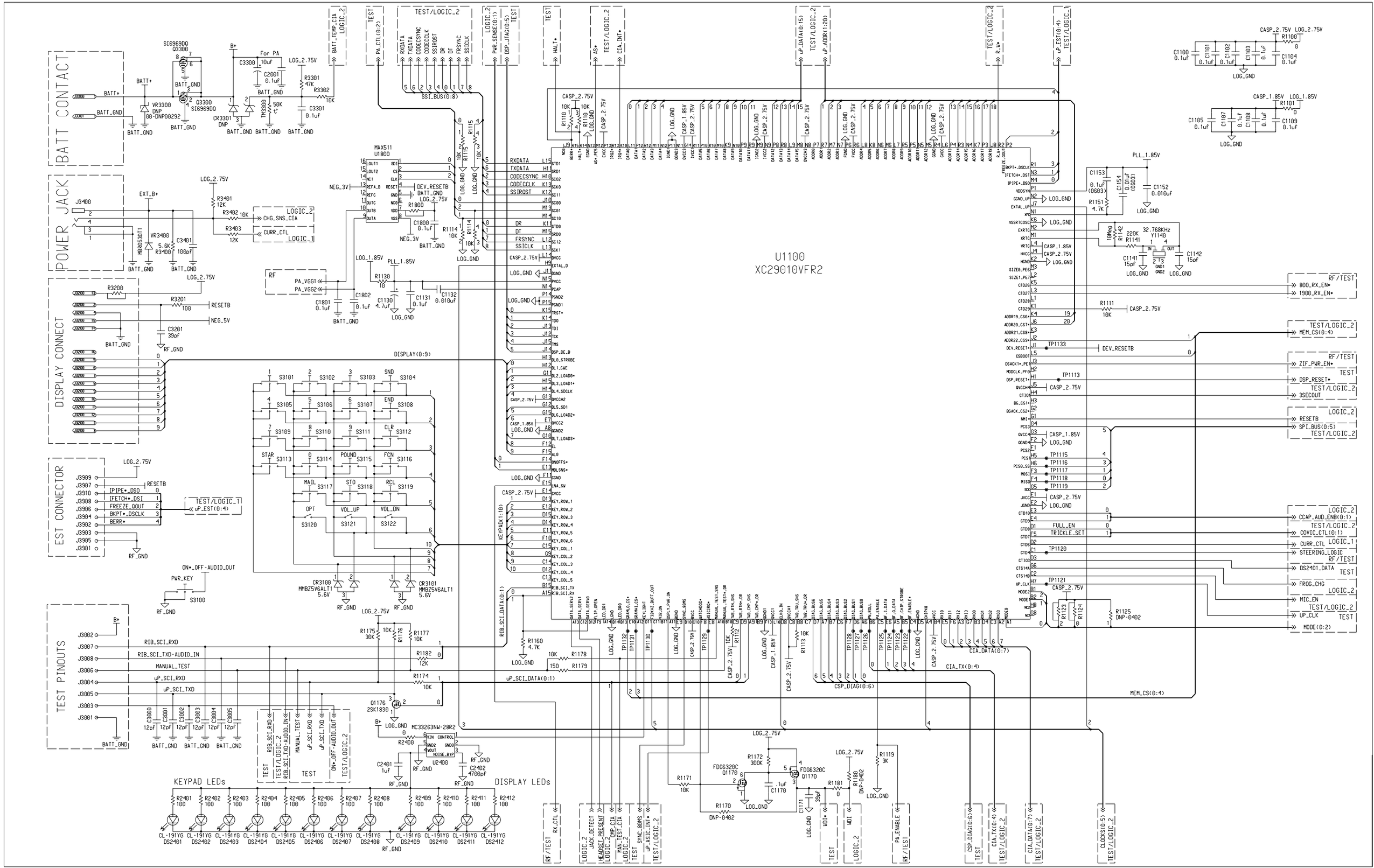
Antenna Switch	10-19
1900_Rx FRONT END	20-39
800_Rx FRONT END	40-60
1900_Rx Mixer/LO Injection	100-119
800_Rx Mixer/LO Injection	120-149
Digital and Analog IF	200-229
RF Switch Control	300-379
Reference Oscillator	325-349
800_Power Detect Circuit	400-429
800_Power Amplifer Module	430-469
1900_Power Detect Circuit	500-509
1900_Power Amplifier Module	510-519
TX Mixer Exciter	600-629
TX Offset Loop Filter	650-674
Main Synth Loop Filter	670-679
Main Synth VCO	680-699
ZIFSyn-Right	700-724
ZIFSyn-Bottom	725-749
ZIFSyn-Left	750-774
ZIFSyn-Top	775-799
Tx Monitor Logic	800-809
RF Supply Switching	900-909

ZIFSYN_SHIELD SH1 · TCXO_SHIELD SH2 · TX_SHIELD SH3 · RX_SHIELD SH4 · LOG_POWER_SHIELD SH5 · LOG_IC_SHIELD SH6

Truth Table for VCO Band Switch

Mode	Pin 7	Pin 3	Pin 4	Pin 8	Pin 10	Pin 12	Pin 1
1900_Rx_EN•	on	on	on	off	on	off	on
800_Rx_EN•	off	off	on	on	on	on	off

CDMA V/T-2267 : AL SCHEMATICS SIDE 1 OF 2



CDMA V/T-2267 : AL SCHEMATICS SIDE 2 OF 2