



Service Manual

MD120



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1. INTRODUCTION

1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of this model.

1.2 Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system. There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. The manufacturer does not warrant that this product is immune from the above case but will prevent unauthorized use of common-carrier telecommunication service of facilities accessed through or connected to it. The manufacturer will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone

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network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the this phone or compatibility with the network, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

D. Maintenance Limitations

Maintenance limitations on this model must be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. Therefore, note that unauthorized alternations or repair may affect the regulatory status of the system and may void any remaining warranty.

E. Notice of Radiated Emissions

This model complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

F. Pictures

The pictures in this manual are for illustrative purposes only; your actual

1.INTRODUCTION

hardware may look slightly different.

G. Interference and Attenuation

Phone may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from unsuppressed engines or electric motors may cause problems.

H. Electrostatic Sensitive Devices

ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated  by the sign. Following information is ESD handling:

.Service personnel should ground themselves by using a wrist strap when exchange system boards.

. When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.

. Use a suitable, grounded soldering iron.

. Keep sensitive parts in these protective packages until these are used.

. When returning system boards or parts like EEPROM to the factory, use the protective package as described.

1.INTRODUCTION

1.3 Abbreviations

For the purposes of this manual, following abbreviations apply:

APC	Automatic Power Control
AGC	Automatic Gain Control
BB	Baseband
BER	Bit Error Ratio
CC-CV	Constant Current - Constant Voltage
CDMA	Code-Division Multiple Access
DAC	Digital to Analog Converter
dBm	dB relative to 1 milli watt
DSP	Digital Signal Processing
EEPROM	Electrical Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FPCB	Flexible Printed Circuit Board
GPIO	General Purpose Interface Bus
IF	Intermediate Frequency
LCD	Liquid Crystal Display
LDO	Low Drop Outpu
LED	Light Emitting Diode
PA	Power Amplifier

1.INTRODUCTION

PAM	Power Amplifier Module
PCB	Printed Circuit Board
PGA	Programmable Gain Amplifie
PLL	Phase Locked Loop
RF	Radio Frequency
RLP	Radio Link Protocol
RMS	Root Mean Square
RTC	Real Time Clock
SAW	Surface Acoustic Wave
SRAM	Static Random Access Memory
PSRAM	Pseudo SRAM
UART	Universal Asynchronous Receiver/Transmitter
UIM	User Identity Module
USB	universal serial bus
VCO	Voltage Controlled Oscillator
VCTCXO	Voltage Control Temperature Compensated Crystal Oscillator
WAP	Wireless Application Protocol
ZIF	Zero Intermediate Frequency

2.Circuit Description

2.Circuit Description

2.1. RF Transmit/Receive Part

2.1.1 Overview

The RF transmit/receive part employs the direct conversion architecture (ZIF, Zero Intermediate Frequency). The transmit/receive frequency is respectively 824.04~848.97 MHz and 869.04~893.97MHz. The block diagram is shown in [Figure 2-1].

RF signals received through the antenna are fed into RFR6122 through the duplexer. And then, they pass the low noise amplifier (LNA), combined with the signals of local oscillator (VCO) at the frequency mixer in order to create baseband signal directly.

Baseband signals created are changed into digital signals by the analog / digital converter (ADC, A/D Converter) and then, auto gain controlled and, sent to the MSM6000 (Mobile Station Modem) of the digital circuit part. Then, they are demodulated by the modulator / demodulator.

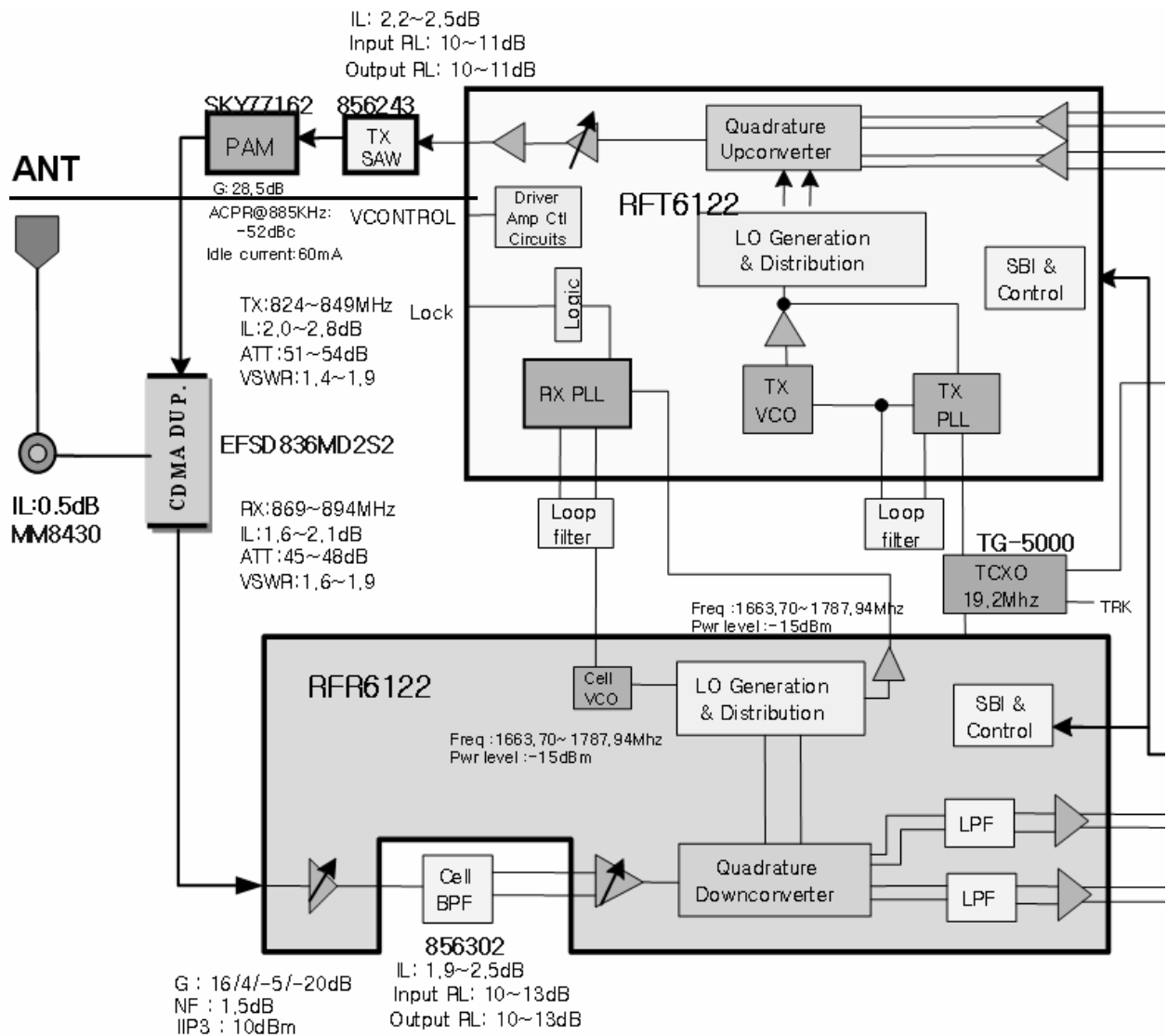
In the case of transmission, MSM6000 modulates, interpolates, and converts the digital signal into an analog baseband before sending it to the RFT6122. RFT6122 receives OQPSK-modulated analog baseband signals from the MSM6000's Tx part. The RFT6122 upconverts the Tx analog baseband into RF.

The RFT6122 connects directly with MSM6000 using an analog baseband interface. In RFT6122, the baseband quadrature signals are upconverted to the Cellular Tx frequency bands and amplified to provide signal drive capability to the

2.Circuit Description

power amp. After that, the RF signal is amplified by the Power Amp in order to have enough power for radiation.

Finally, the RF signal is sent out to the cell site via the antenna after going through the duplexer.



[Figure 2-1] RF Block Diagram Of MD120

2.Circuit Description

2.2 Description of Receive Part Circuit

2.2.1 Duplexer (DP100)

The duplexer consists of the receive part bandpass filter (BPF) and the transmit part bandpass filter (BPF) which have the function of separating transmit/receive signals in the full duplex system using the transmit/receive common antenna. The transmit part BPF is used to suppress noises and spurious waves entering the receive band among transmit signals in order to prevent the drop in receive sensitivity characteristics. The receive part BPF blocks the signals sent out from entering the receive end in order to improve sensitivity characteristics.

Insertion loss (IL) in the transmit band is 2.8dB (Max), whereas IL in the receive band is 2.1dB (Max). The receive band attenuation amount of transmit filter is 51dB (Min) and the transmit band attenuation amount of receive filter is 45dB or more (Min).

2.2.2 LNA (U103)

The RFR6122 has cellular LNA. The characteristics of Low Noise Amplifier (LNA) are low noise figure, high gain, high intercept point and high reverse isolation. The frequency selectivity characteristic of mobile phone is mostly determined by LNA.

The specifications of MD120 LNA are described below

Parameter	Gain Mode 0(G0)	Gain Mode 1(G1)	Gain Mode 2(G2)	Gain Mode 3(G3)	Unit
Gain	16	4	-5	-20	dB
Noise Figure	1.5	5	5.5	20	dB
Input IP3	10	7	15	15	dBm

2.2.3 Rx RF SAW FILTER (F101)

The main function of Rx RF SAW filter is to attenuate mobile phone spurious

2.Circuit Description

frequency, attenuate noise amplified by the LNA and suppress second harmonic originating in the LNA.

2.2.4 Down-Converter Mixers (U103)

The RFR6122 device performs signal direct-down-conversion for Cellular applications. It contains all the circuitry (with the exception of external filters) needed to support conversion of received RF signals to baseband signals. The LO Buffer Amplifier buffers the RF VCO to the RF Transmit Upconverter. RFR6122 offers the most advanced and integrated CDMA Rx solution designed to meet cascaded Noise Figure (NF) and Third-order Intercept Point (IIP3) requirements of IS-98C and J-STD-018 specifications for Sensitivity, Two-Tone Intermodulation, and Single-tone Desense. Operation modes and band selection are specially controlled from the Mobile Station Modem MSM6000.

The specification of MD120 Mixers are described below:

Parameter	High Gain Mode	Low Gain Mode	Unit
Noise Figure	10	25	dB
Input IP3	4	0	dBm
Input IP2	56	30	dBm

2.3 Description of Transmit Part Circuit

2.3.1 Description on the Internal Circuit of MSM6000 (U201) and RFT6122 (U102)

For the transmit data path(Tx), the MSM6000 modulates, interpolates, and converts the digital signal into an analog baseband before sending it to the RFT6122. The RFT6122 upconverts the Tx analog baseband into RF. The MSM6000 communicates with the external RF and analog baseband to control signal gain in the RF Rx and Tx signal paths, reduce base band offset errors, and tune the system

2.Circuit Description

frequency reference. The RFT6122 baseband-to-RF Transmit Processor performs all Tx signal-processing functions required between digital baseband and the Power Amplifier Module (PAM). The baseband quadrature signals are upconverted to the Cellular frequency bands and amplified to provide signal drive capability to the PAM. The RFT6122 includes an mixer for up-converting analog baseband to RF, a programmable PLL for generating Tx and Rx LO frequency, cellular driver amplifier and Tx power control through an 85 dB VGA. As added benefit, the single sideband upconversion eliminates the need for a band-pass filter normally required between the upconverter and driver amplifier. I, I/, Q and Q/ signals proceed from the MSM6000 to RFT6122 are analog signal. In CDMA mode, These signals are modulated by Offset Quadrature Phase Shift Keying (OQPSK). I and Q are 90 deg. out of phase, and I and I/ are 180 deg. The mixer in RFT6122 converts baseband signals into RF signals. After passing through the upconverters, RF signal is inputted into the Power Amplifier Module.

The RFT6122 Cellular CDMA RF specifications are described below:

	Condition	Min.	Typ.	Max.	Unit
Rated Output Power	Average CDMA Cellular		6		dBm
Min Output Power	Average CDMA Cellular		-75		dBm
Rx band noise power	CDMA Cellular		-132		dBm/Hz
ACPR	Cellular: $F_c \pm 885\text{kHz}$ $F_c \pm 1.98\text{MHz}$		-52 -63		dBc dBc

2.3.2 Power Amplifier (U104)

The power amplifier that can be used in the CDMA mode has linear amplification capability. For higher efficiency, it is made up of one module (Monolithic

2.Circuit Description

Microwave Integrated Circuit) for which RF input terminal and internal interface circuit are integrated onto one IC after going through the GaAs HBT(heterojunction bipolar transistor) process.

The module of power amplifier is made up of an output end interface circuit including this module. The maximum power that can be inputted through the input terminal is +7dBm and conversion gain is about 28.5dB. RF transmit signals that have been amplified through the power amplifier are sent to the duplexer.

2.4 Description of Frequency Synthesizer Circuit

2.4.1 Voltage Controlled Temperature Compensation Crystal Oscillator (X100)

The temperature range that can be compensated by VC-TCXO which is the reference frequency generator of a mobile station is -30~+80 °C.

VC-TCXO receives frequency tuning signals called TRK_LO_ADJ from MSM6000 as 0.5V~2.5V DC via R and C filters in order to generate the reference frequency of 19.20MHz and input it into the frequency synthesizer of UHF band.

Frequency stability depending on temperature is ± 2.0 ppm.

2.4.2 Voltage Controlled Oscillator (U103)

The internal VCO signal of RFR6122 is processed by the LO generation and distribution circuits in RFR6122 to create Cellular quadrature downconverter's LO signals. The LO signals applied at the mixer ports are at the frequency different than the VCO frequency. This assures that the VCO frequency is different than the RF frequency, an important consideration for Zero-IF processing. The VCO frequency used are 1738.08~1787.94MHz for cellular and It is produced in single

2.Circuit Description

voltage controlled oscillator of U106.

2.5. Digital/Voice Processing Part

2.5.1 Overview

The digital/voice processing part processes the user's commands and processes all the digital and voice signal processing in order to operate in the phone. The digital/voice processing part is made up of a keypad/LCD, receptacle part, voice processing part, mobile station modem part, memory part, and power supply part.

2.6 Configuration

2.6.1 Keypad/LCD and Receptacle Part

This is used to transmit keypad signals to MSM6000. It is made up of a keypad backlight part that illuminates the keypad, LCD part that displays the operation status on to the screen, and a receptacle that receives and sends out voice and data with external sources.

2.6.2 Voice Processing Part

The voice processing part is made up of an audio codec in MSM6000 used to convert MIC signals into digital voice signals and digital voice signals into analog voice signals, amplifying parts for amplifying the voice signals and MIC signals are on Codec in MSM6000.

2.6.3 MSM6000 (Mobile Station Modem) Part

MSM6000 is the core elements of a CDMA mobile station and carries out the functions of CPU, encoder, interleaver, deinterleaver, Viterbi decoder, Mod/Demod, codec, and vocoder.

2.6.4 Memory Part

The memory part is made up of a flash memory and a SRAM

2.Circuit Description

2.6.5 Power Supply Part

The PMIC(PM6610-2) is made up of 7 Regulators and direct connet to Batt.

Regulator(150mA)s give the power each Circuits(RFT6122/RFR6122).

Regulator(150mA) gives the power to the MSM and memory parts. PAM, Motor, LCD back light LED, Indicator LED, Keypad LED and Audio amplifier are directly conneted to Battery.

2.7 Briefly Circuit Description

2.7.1 Keypad/LCD and Receptacle Part

Once the keypad is pressed, the key signals are sent out to MSM6000 for processing. In addition, when the key is pressed, the keypad lights up through the use of 10 LEDs. The status and operation of a mobile station are displayed on the screen for the user with the characters and icons on the LCD.

Receptacle(CON400) exchanges audio signals and data with external sources and then, receives power from the battery or external batteries.

2.7.2 MSM Part

MSM6000 is the core element of a CDMA mobile station. Subsystems within the MSM6000 include a CDMA processor, an EVRC(Enhanced Variable Rate Codec) vocoder, an ARM7TDMI microprocessor ,and assorted peripheral interfaces that are used to support other functions. MSM6000, when operated in the CDMA mode, utilizes CHIP×8 (9.8304MHz) as the reference clock primarily for CDMA and vocoder processing. MSM6000 also uses TCXO/4 (4.92MHz). The CPU controls total operations of the subscriber unit. Digital voice data, that have been inputted, are encoded using the EVRC algorithm. Then, they are convolutionally encoded so

2.Circuit Description

that error detection and correction are possible. Coded symbols are interleaved in order to avoid a burst error. Each data channel is scrambled by the long code PN sequence of the user in order to ensure the confidentiality of calls.

Moreover, binary quadrature codes are used based on Walsh functions in order to discern each channel. Data created thus are 4-phase modulated by one pair of Pilot PN code and they are used to create I and Q data.

When received, I and Q data are demodulated into symbols by the demodulator and then, de-interleaved in reverse to the case of transmission. Then, the errors of data received from Viterbi decoder are detected and corrected. They are voice decoded at the vocoder in order to output digital voice data.

The MSM6000 also supports Enhanced Variable Rate Coder (EVRC) operation in addition to the standard 8k.

2.7.3 Audio Processing Part

MIC signals are inputted into the audio codec, and amplified with programmable gain, and converted into digital signals(PCM). Then, they are inputted into MSM6000. In addition, digital audio signals(PCM) outputted from MSM6000 are converted into analog signals after going through the audio codec. These signals are amplified with programmable gain on codec's internal AMP and external Audio AMP and then transferred to the ear piece. The signals is generated in MSM6000 using SW MIDI.

2.7.4 Memory Part

The memory part consists of a 32Mbits Flash Memory and a 16Mbits SRAM. In the

2.Circuit Description

Flash Memory, there are programs used for the operation of a mobile station. The programs can be changed through down loading after the assembling of mobile stations. The Flash memory is also emulated as an EEPROM to store ESN(Electronic Serial Number), Calibration Data, etc. On the SRAM, data generated during the operation of a mobile station are stored temporarily.

2.8 Power Supply Part

Turn ON

When the battery voltage (4.2V ~ 3.3V) is fed and the PWR key of keypad is pressed, PMIC is activated by the ON_SW signal, and then the control signal ON_SW_S/ signal is generated. And then, the regulator 2.4V_MSMC & 2.8V_MSMP, 2.6V_MSMA, are operated.

Operating

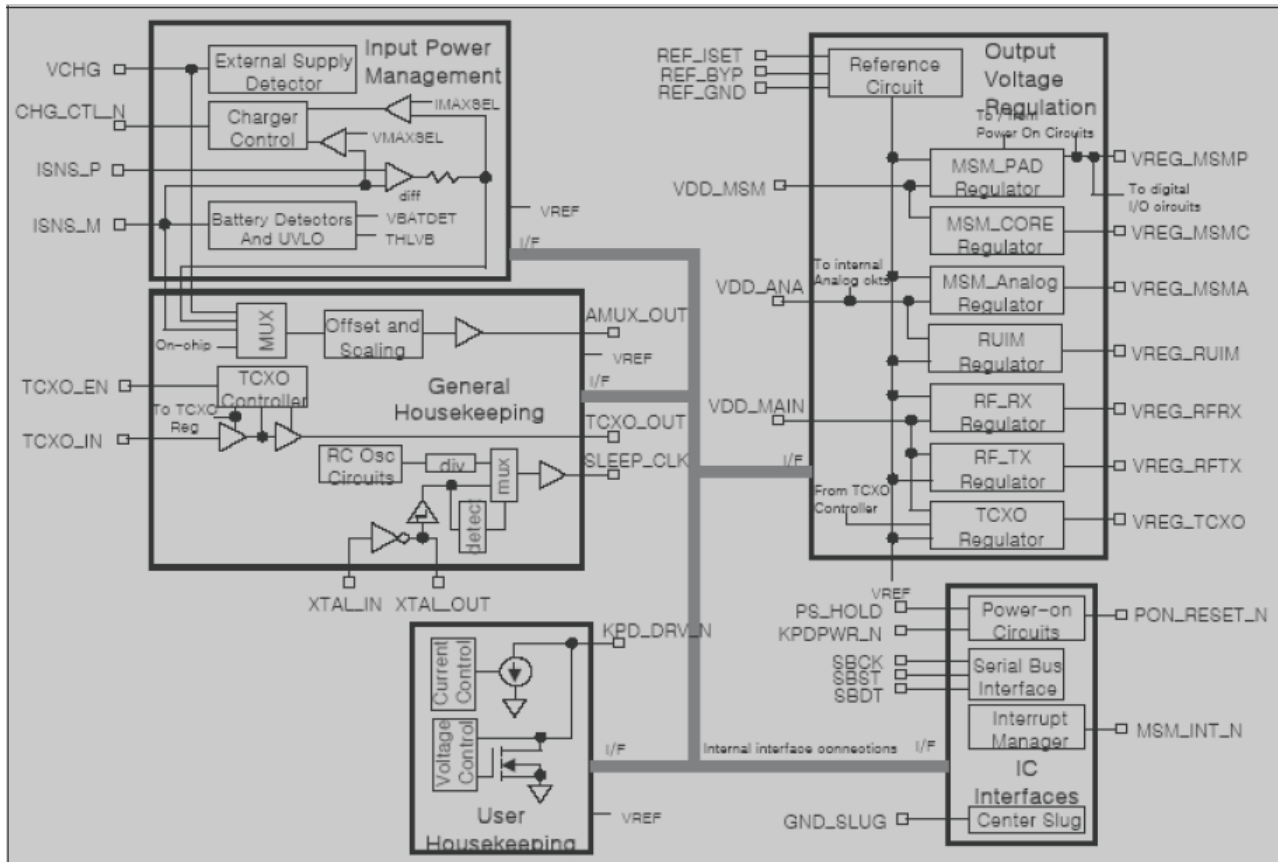
During the phone is on operating state, LDO(in PMIC) for MSM is always enable and gives the power MSM6000 and memory part LDO(in PMIC) for +2.6V_TX part is enabled on IDLE/ state, and gives the power TX part devices. LDO(in PMIC) for +2.6V_RX part is enabled on SLEEP/ state, and gives the power RX part devices.

Turn OFF

When the PWR key is pressed during a few seconds, PMIC is turned on by ON_SW and then, 'Low' is outputted on ON_SW_S/. MSM6000 receives this signal and then, recognizes that the POWER key has been pressed. During this time, MSM6000

2.Circuit Description

outputs PS_HOLD as low and turn off all devices



[Figure 1-2] Block Diagram Of Power Management IC

2.9 Logic Part

The Logic part consists of internal CPU of MSM6000, MEMORY. The MSM6000 receives TCXO/4 clock(19.20Mz) and CHIPX8 clock signals, and then controls the phone during the CDMA and the FM mode. The major components are as follows:

CPU : ARM7TDMI microprocessor core

MEMORY : S71PL064JB06AWOOU

CPU

ARM7TDMI 32-bit microprocessor is used and CPU controls all the circuitry.

Some of the features of the ARM microprocessor include a 3 stage pipelined RISC

2.Circuit Description

architecture, both 32-bit ARM and 16bit THUMB instruction sets, a 32-bit address bus, and a 32-bit internal data bus.

MEMORY

ARCHITECTURAL ADVANTAGES

■64 Mbit Page Mode devices

—Page size of 8 words: Fast page read access from random locations within the page

■Single power supply operation

—Full Voltage range: 2.7 to 3.6 volt read, erase, and program operations for battery-powered applications

■Simultaneous Read/Write Operation

—Data can be continuously read from one bank while executing erase/program functions in another bank

—Zero latency switching from write to read operations

FlexBank Architecture (PL064J)

—4 separate banks, with up to two simultaneous operations per device

—Bank A: PL064J - 8 Mbit (4 Kw x 8 and 32 Kw x 15)

—Bank B: PL064J - 24 Mbit (32 Kw x 48)

—Bank C: PL064J - 24 Mbit (32 Kw x 48)

—Bank D: PL064J - 8 Mbit (4 Kw x 8 and 32 Kw x 15)

Enhanced Versatile I/O (VIO) Control

—Output voltage generated and input voltages tolerated on all control inputs and I/Os is determined by the voltage on the VIO pin

—VIO options at 1.8 V and 3 V I/O for PL127J devices

—3V VIO for PL064J and PL032J devices

SecSi™ (Secured Silicon) Sector region

—Up to 128 words accessible through a command sequence

—Up to 64 factory-locked words

—Up to 64 customer-lockable words

Both top and bottom boot blocks in one device

■Manufactured on 110 nm process technology

■Data Retention: 20 years typical

■Cycling Endurance: 1 million cycles per sector typical

PERFORMANCE CHARACTERISTICS

■High Performance

—Page access times as fast as 20 ns

—Random access times as fast as 55 ns

2.Circuit Description

■Power consumption (typical values at 10 MHz)

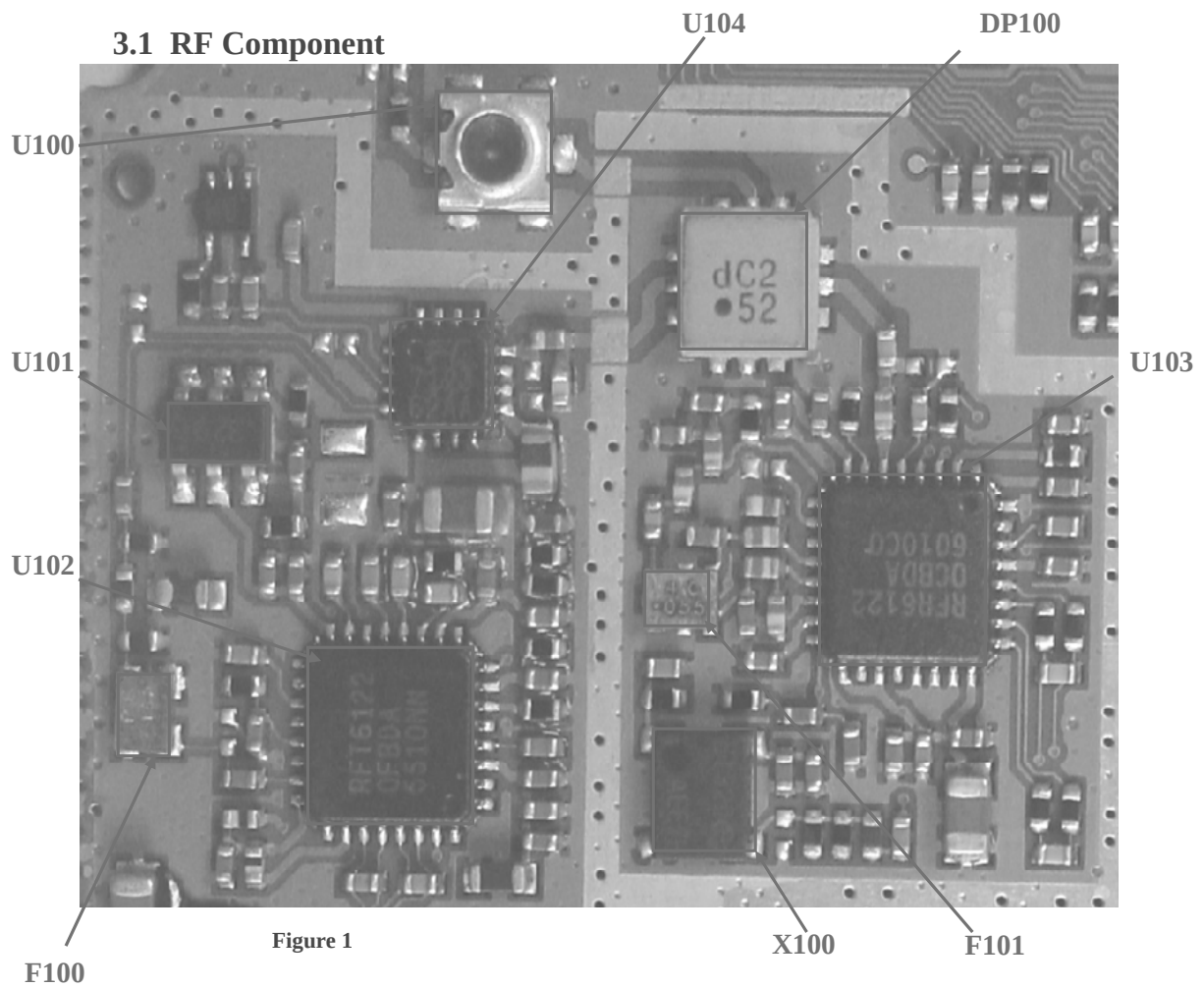
- 45 mA active read current
- 17 mA program/erase current
- 0.2 μ A typical standby mode current

KEYPAD

For key recognition, key matrix is setup using KEY_SENSE0-4_N signals and GPIO32~36 of output ports of MSM6000. Backlight circuitry are included in the keypad for easy operation in the dark.

LCD MODULE

LCD module contains a controller which will display the information onto the LCD by 8-bit data from the MSM.

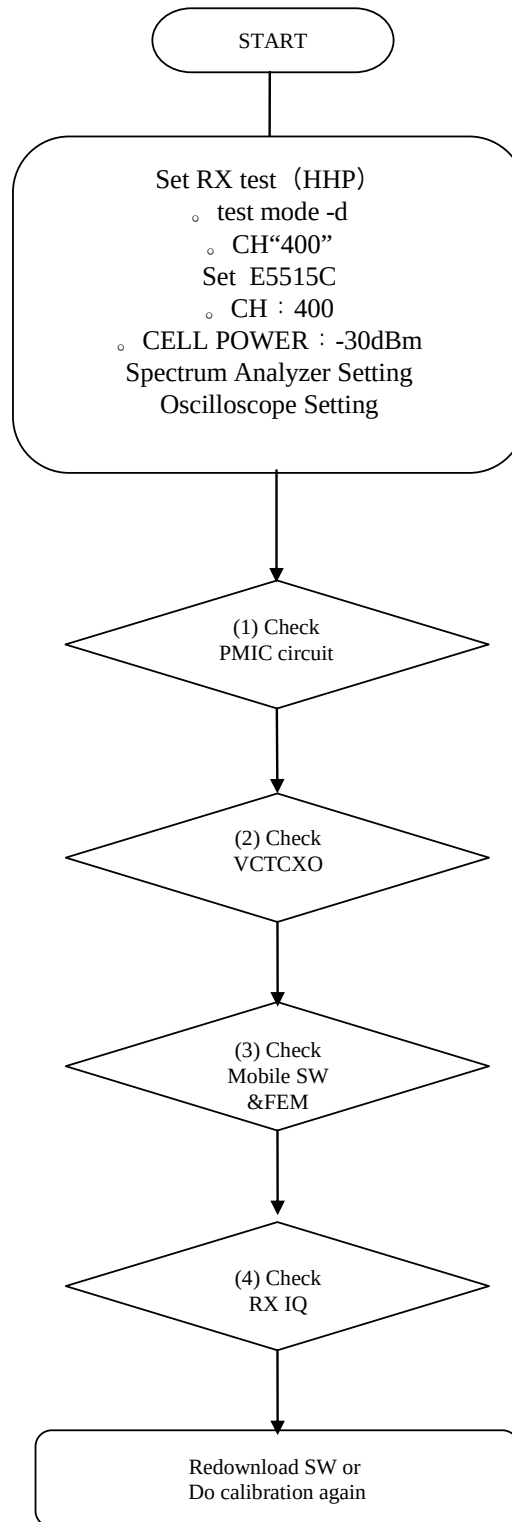


U100	Mobile Switch
U101	LOAD-SWITCH
U102	RF-TRANSMITTER
U103	RF-RECEIVER
U104	PAM
F100	SAW-FILTER
F101	SAW-FILTER
X100	VCTCXO
DP100	DCN-DUPLEXER

3.TROUBLE SHOOTING

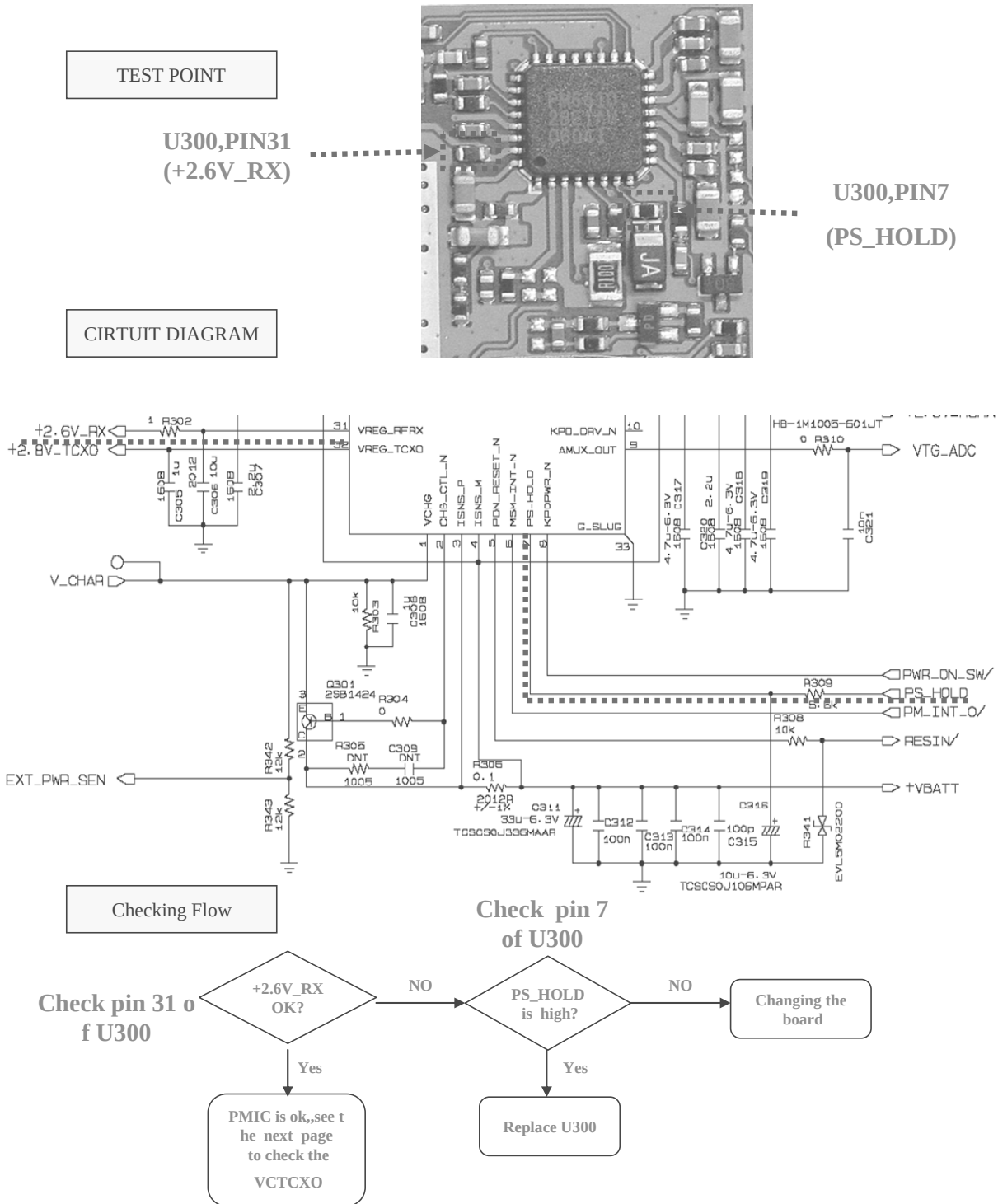
3.2 RX Trouble

CHECKING FLOW



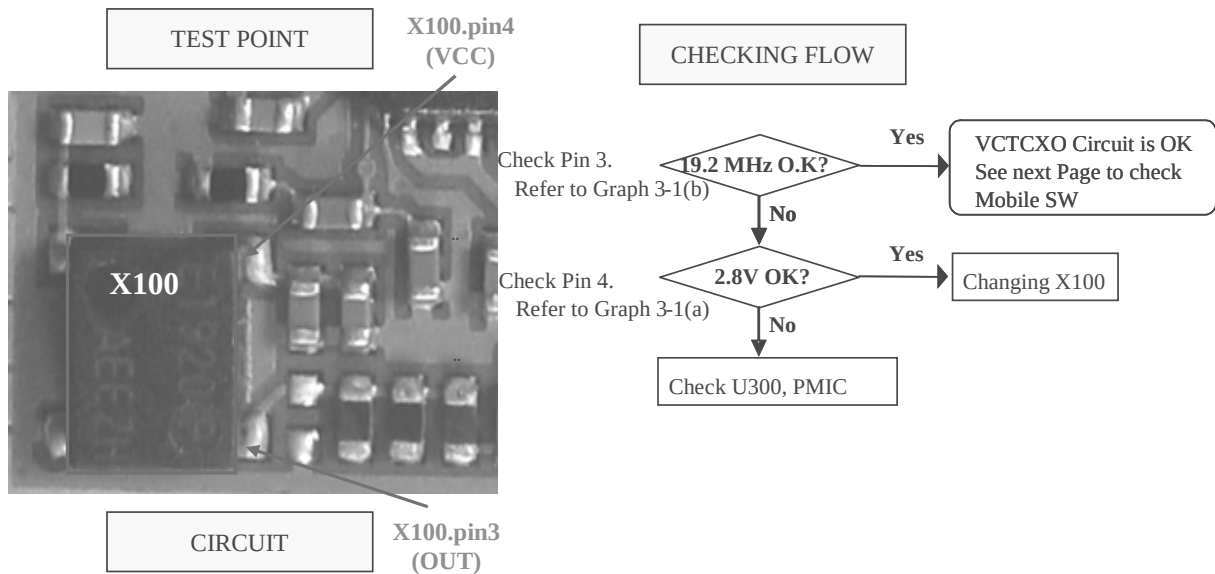
3.TROUBLE SHOOTING

(1) Checking PMIC Circuit

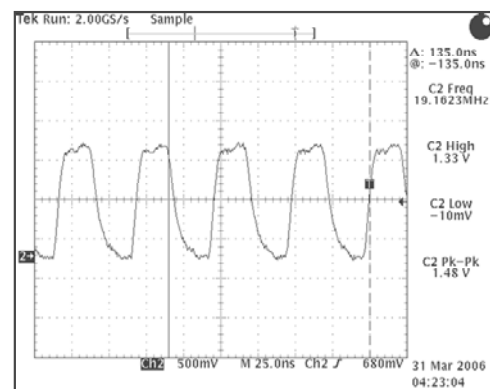
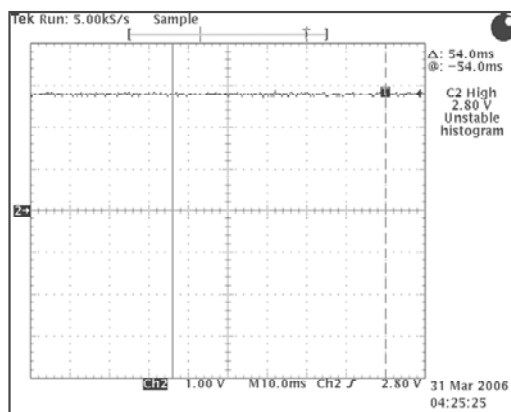
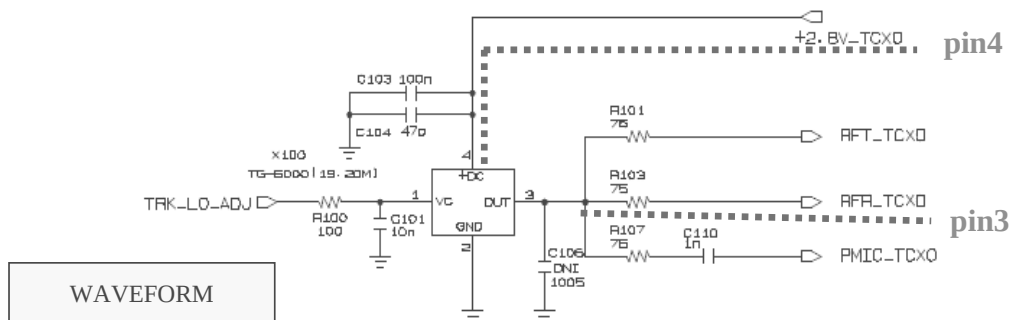


3.TROUBLE SHOOTING

(2) Checking VCTCXO Circuit



< 19.2MHz TCXO & BUFFER >



3.TROUBLE SHOOTING

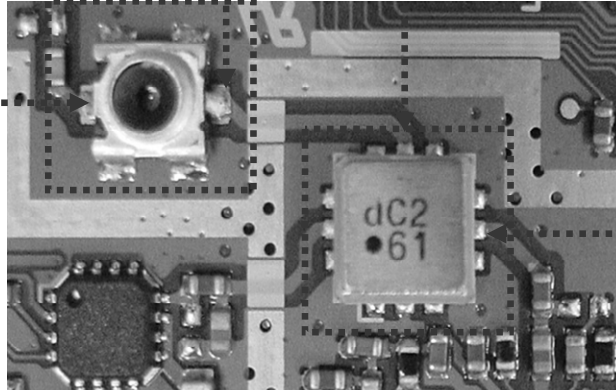
(3) Checking Mobile SW & FEM

TEST POINT

U100, pin in

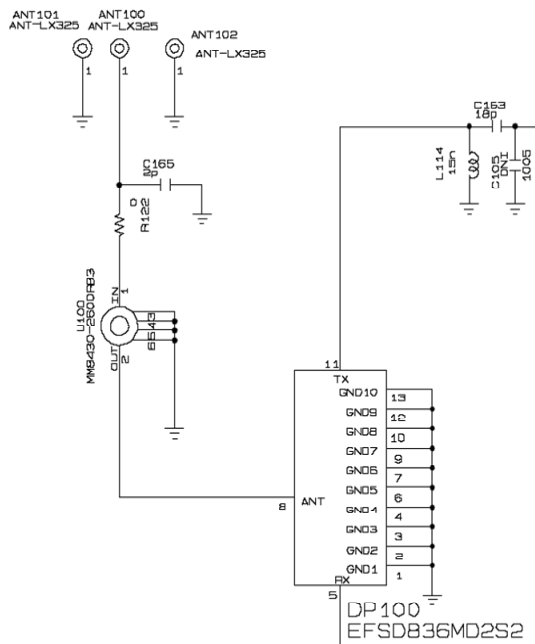
U100, pin out

DP100, pin 8



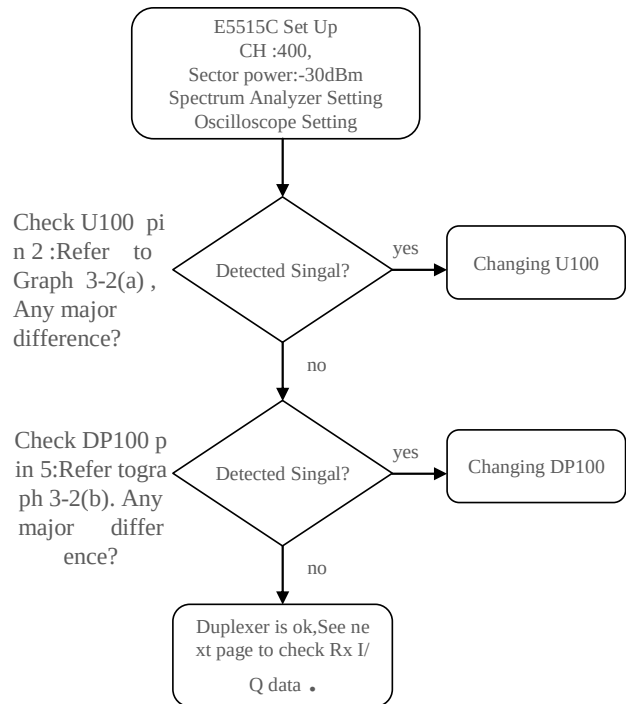
DP100, pin 5

CIRCUIT

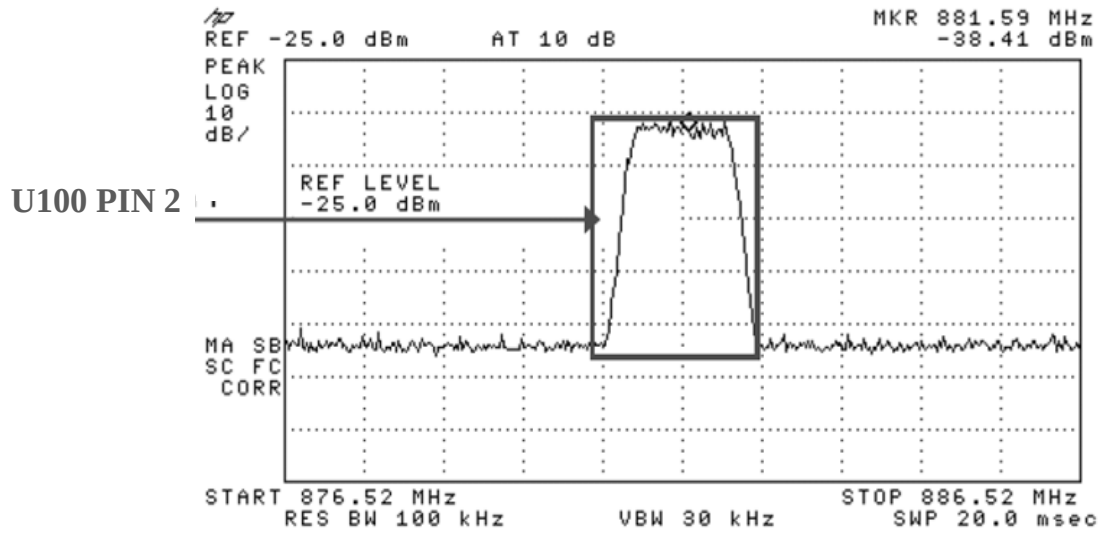


BOM CHANGE:
C165 (2P->DNI)
R122 0 -> C166 4.7P

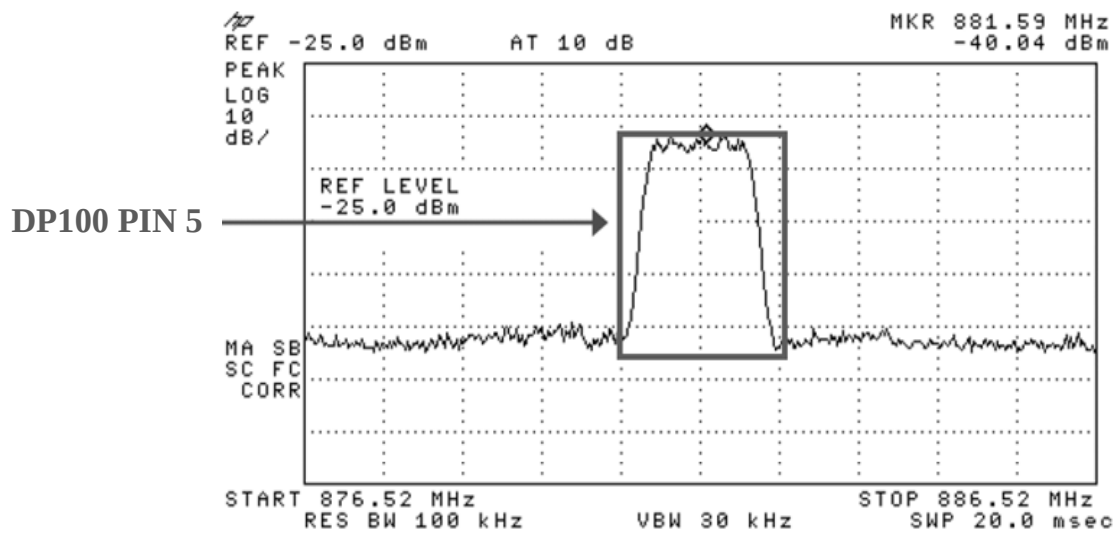
Checking Flow



3.TROUBLE SHOOTING



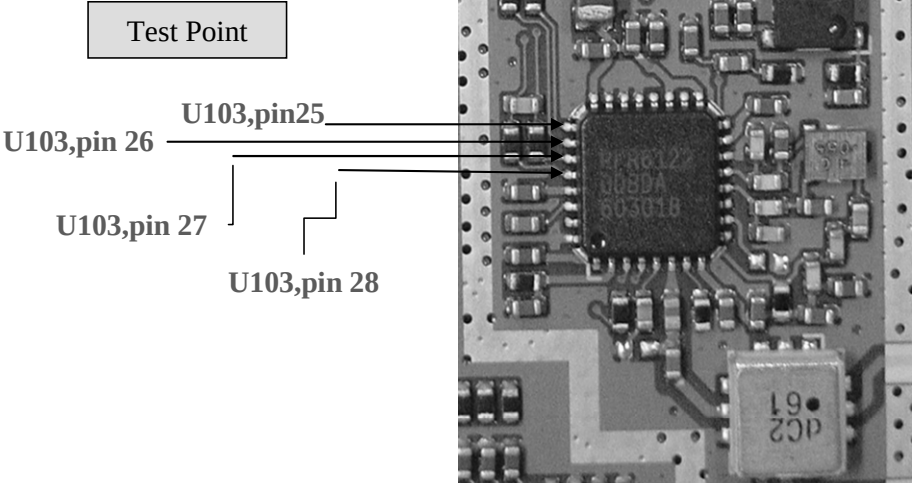
Graph 3-2(a)



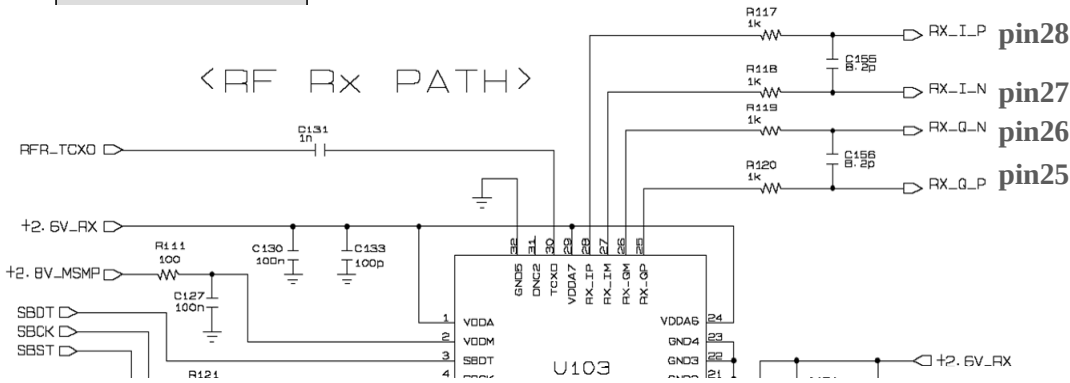
Graph 3-2(b)

3.TROUBLE SHOOTING

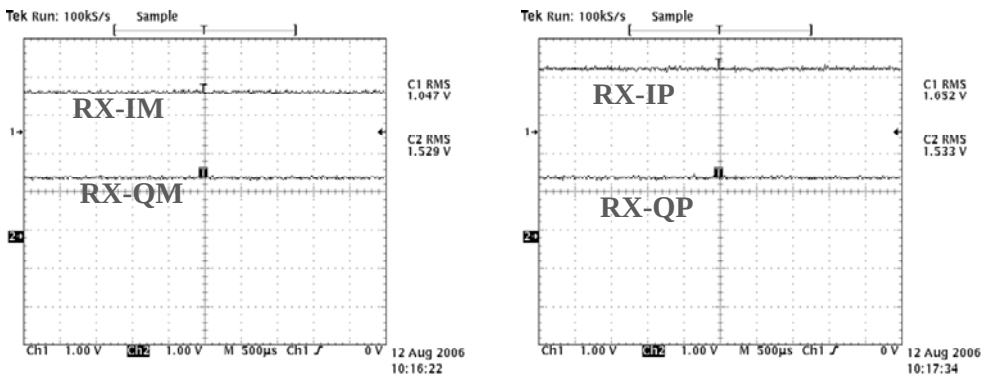
(4) Checking RX IQ



CIRCUIT

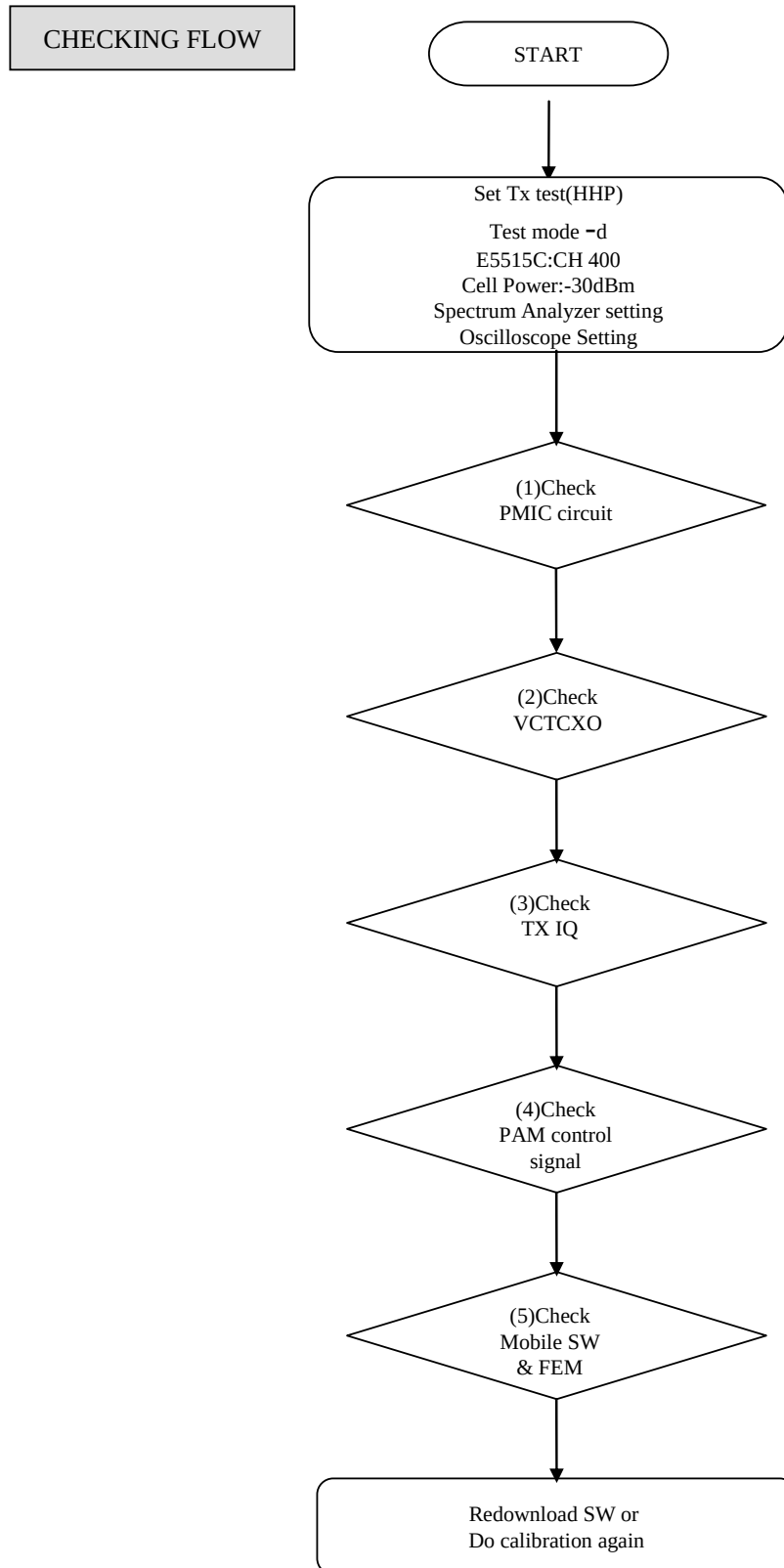


Waveform



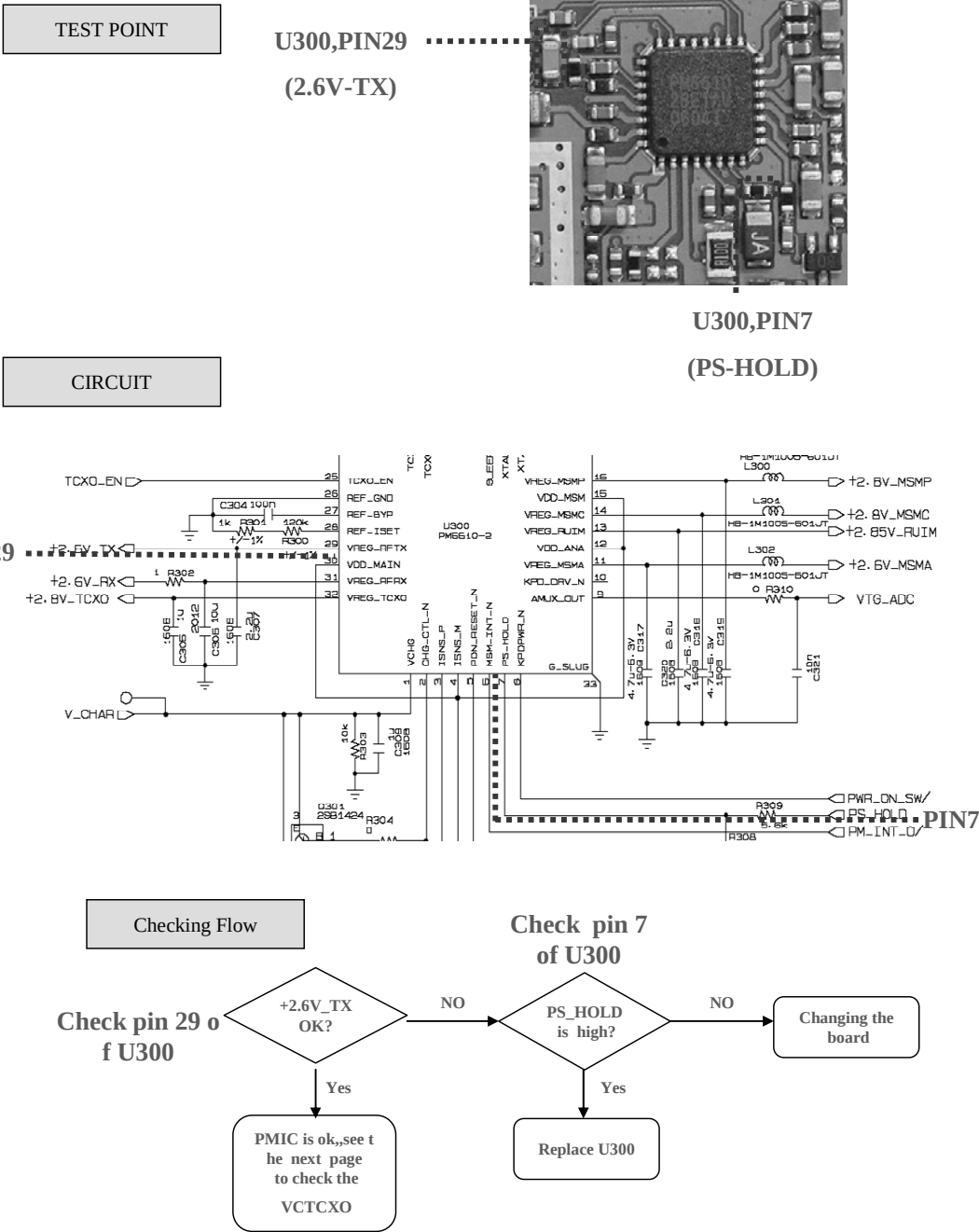
3.TROUBLE SHOOTING

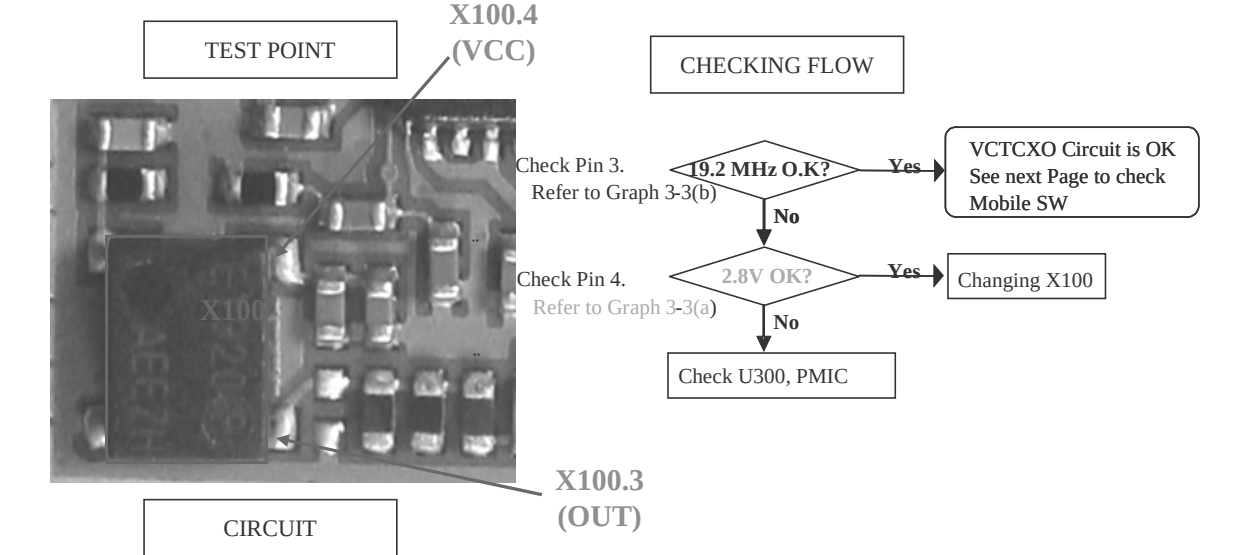
3.2 TX Trouble



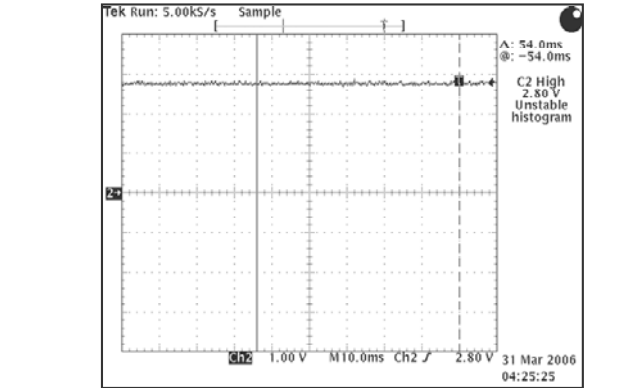
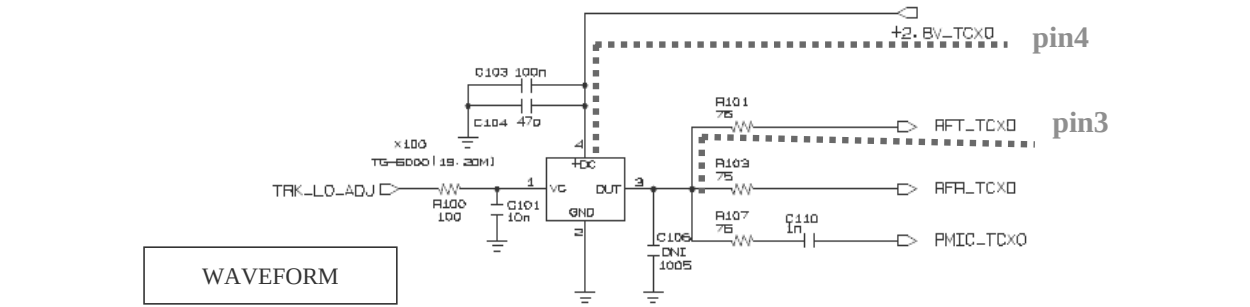
3.TROUBLE SHOOTING

(1) Checking PMIC Circuit

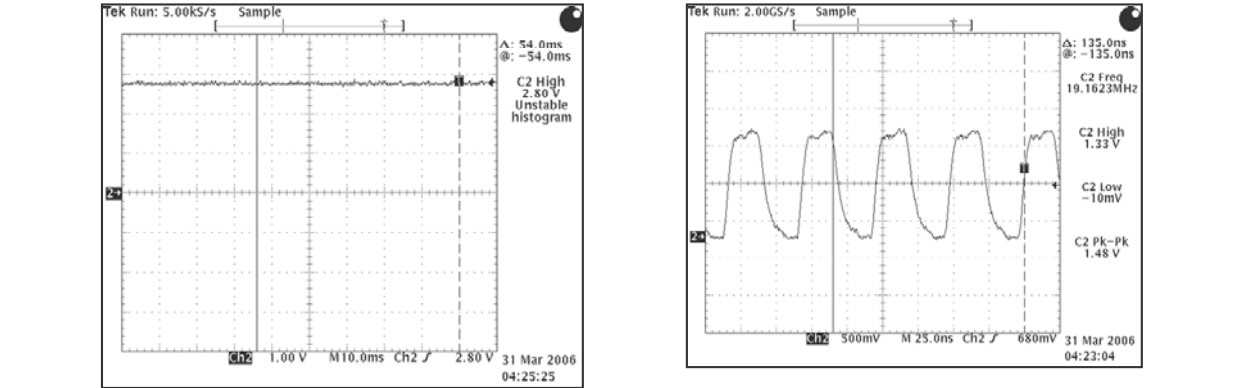




< 19.2MHz TCXO & BUFFFFER >



Graph 3-3(a)



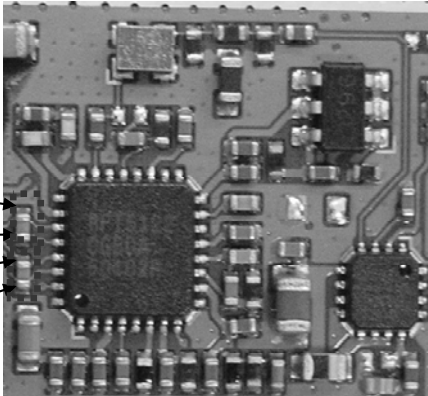
Graph 3-3(a) Graph 3-3(h)

3.TROUBLE SHOOTING

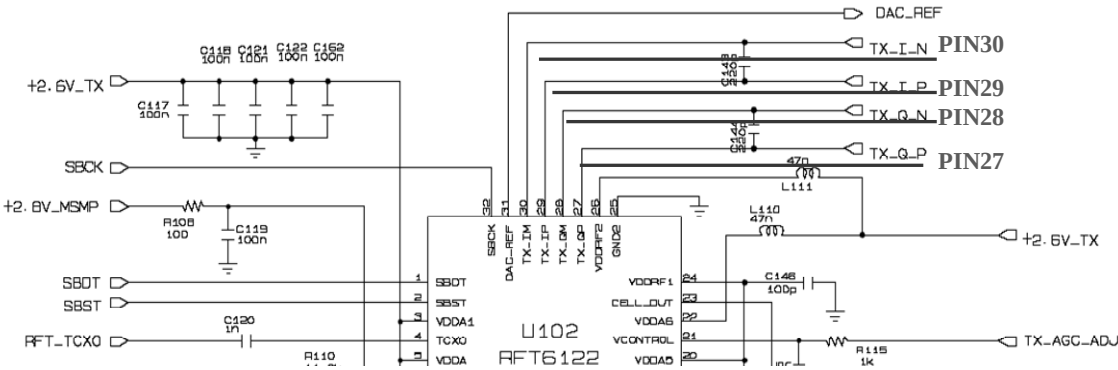
(3) Checking TX IQ

TEST POINT

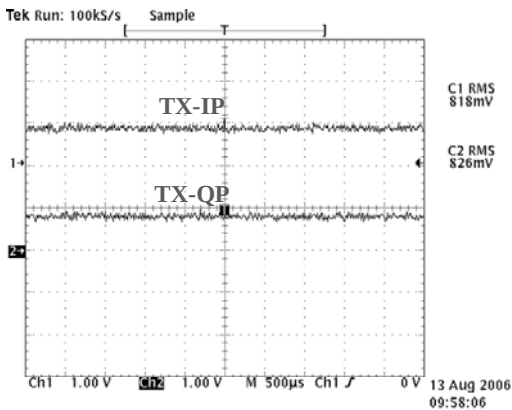
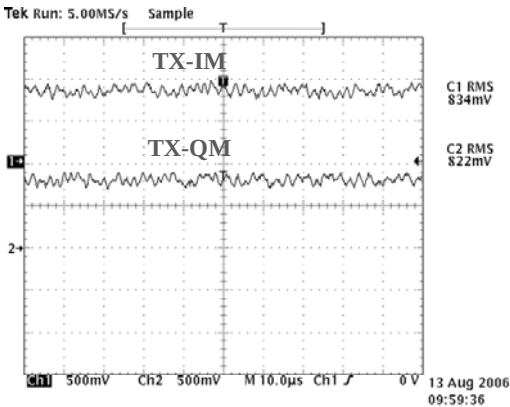
U102,PIN27
U102,PIN28
U102,PIN29
U102,PIN30



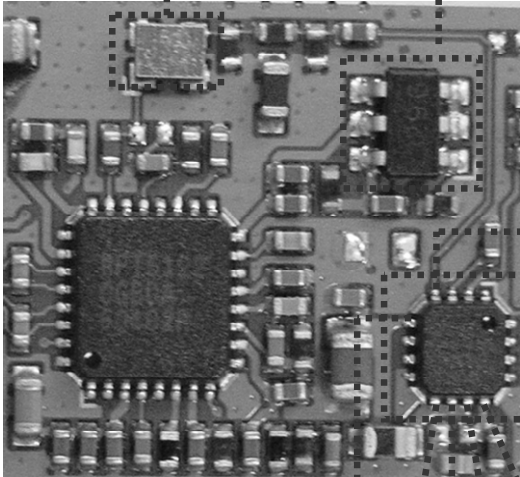
CIRCUIT



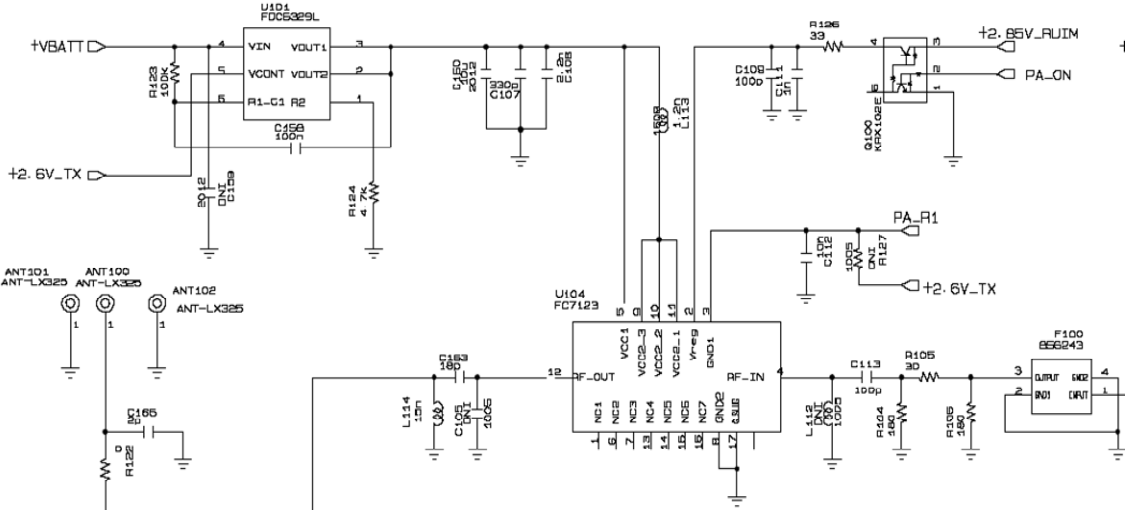
WAVEFORM



TEST POINT

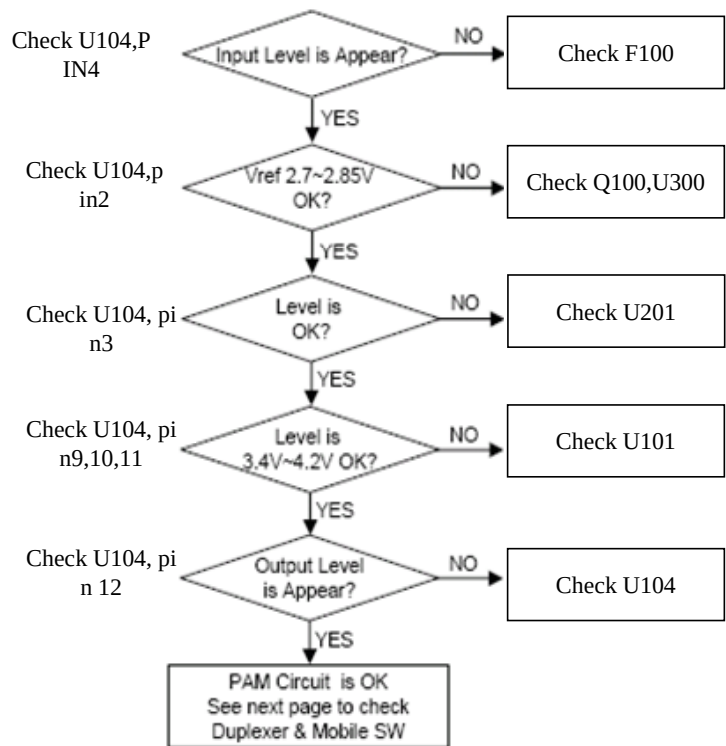


CIRCUIT DIAGRAM



3.TROUBLE SHOOTING

CHECKING FLOW



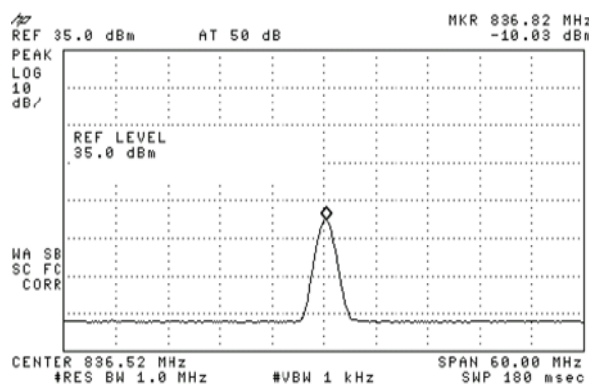
WAVEFORM

SPECTRUM ANALYZER CONDITION

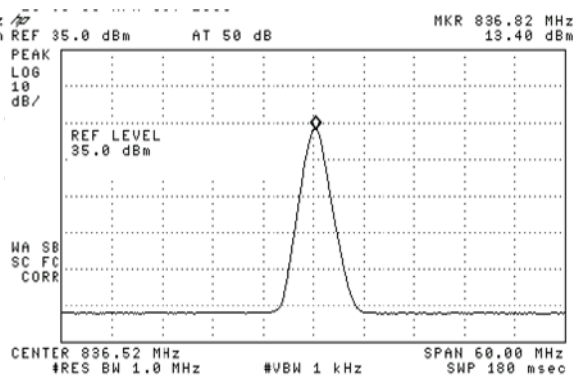
-RBW : 1MHz,VBW: 1KHz

-Span : 60MHz

-Frequency : DCN(836.52MHz)



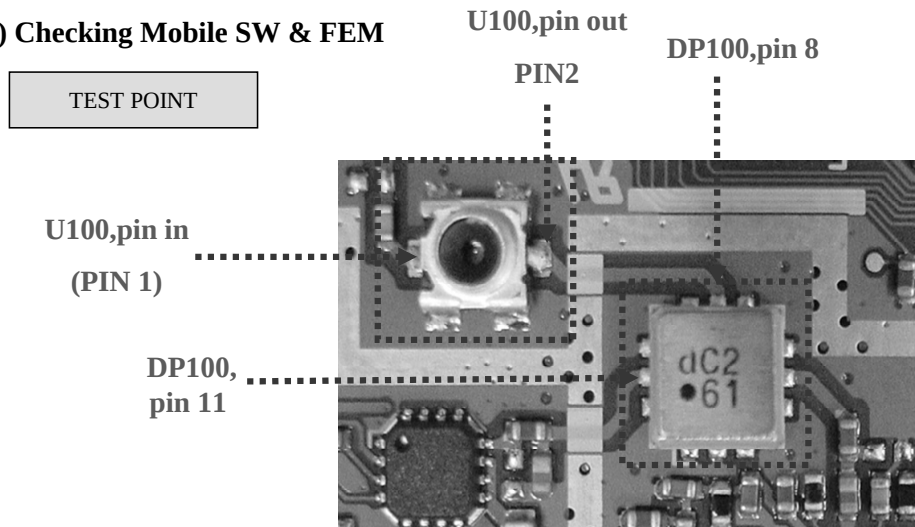
U104 PIN4 PAM_IN



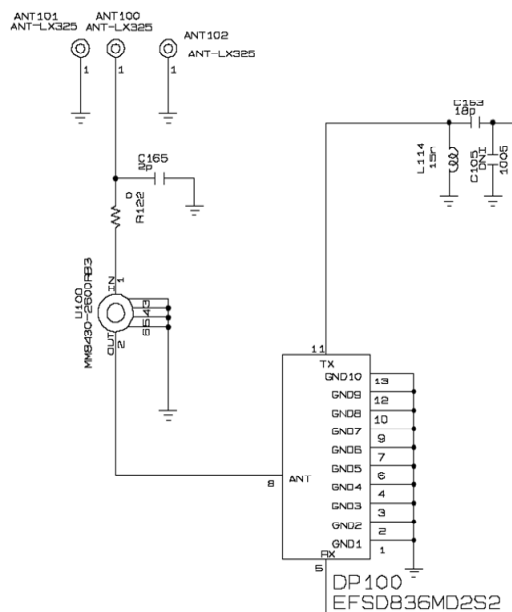
U104 PIN4 PAM_OUT

3.TROUBLE SHOOTING

(5) Checking Mobile SW & FEM



CIRCUIT

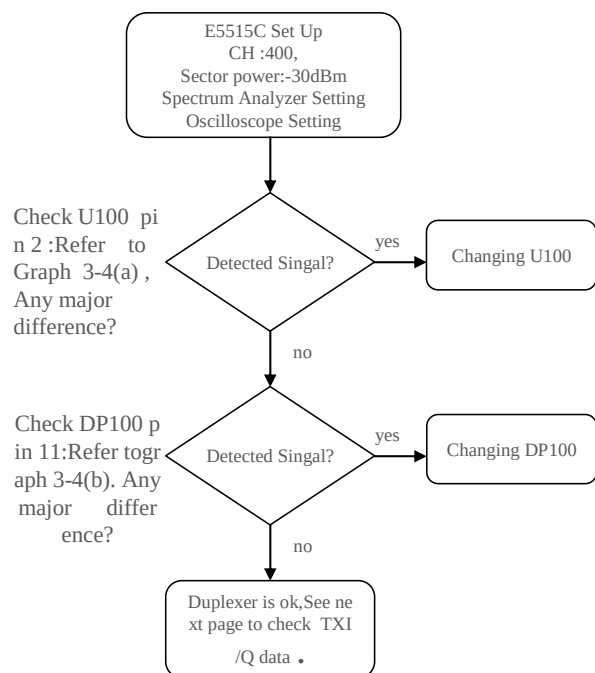


BOM CHANGE:

C165 (2P->DNI)

R122 0 -> C166 4.7P

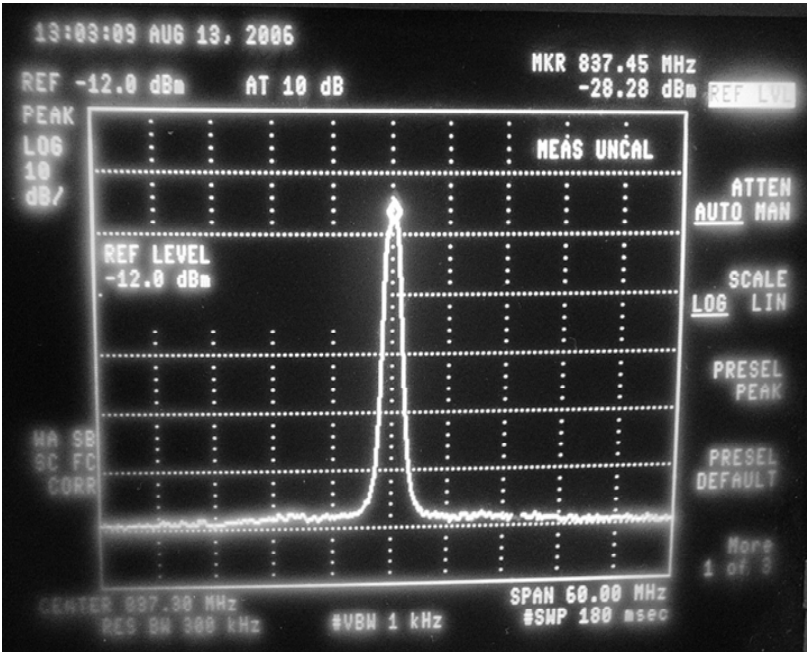
Checking Flow



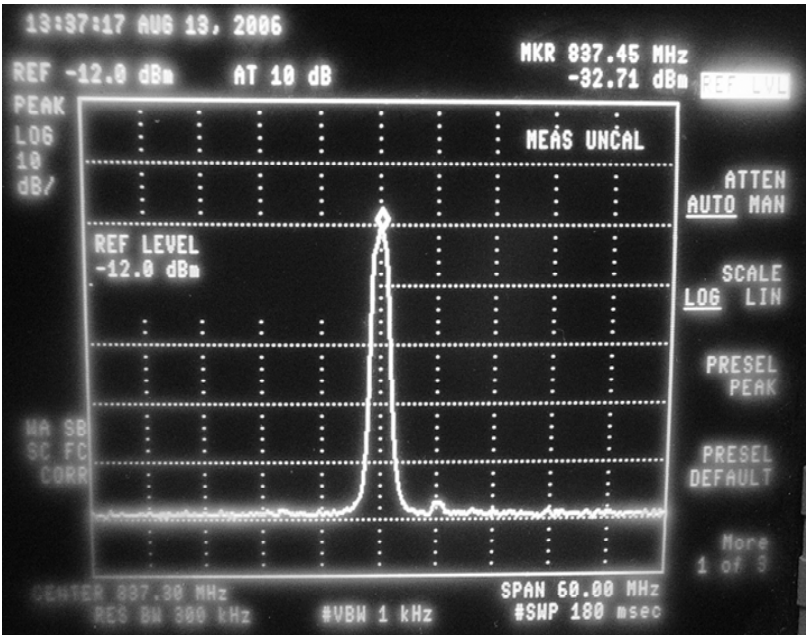
3.TROUBLE SHOOTING

WAVEFORM

U100 PIN2

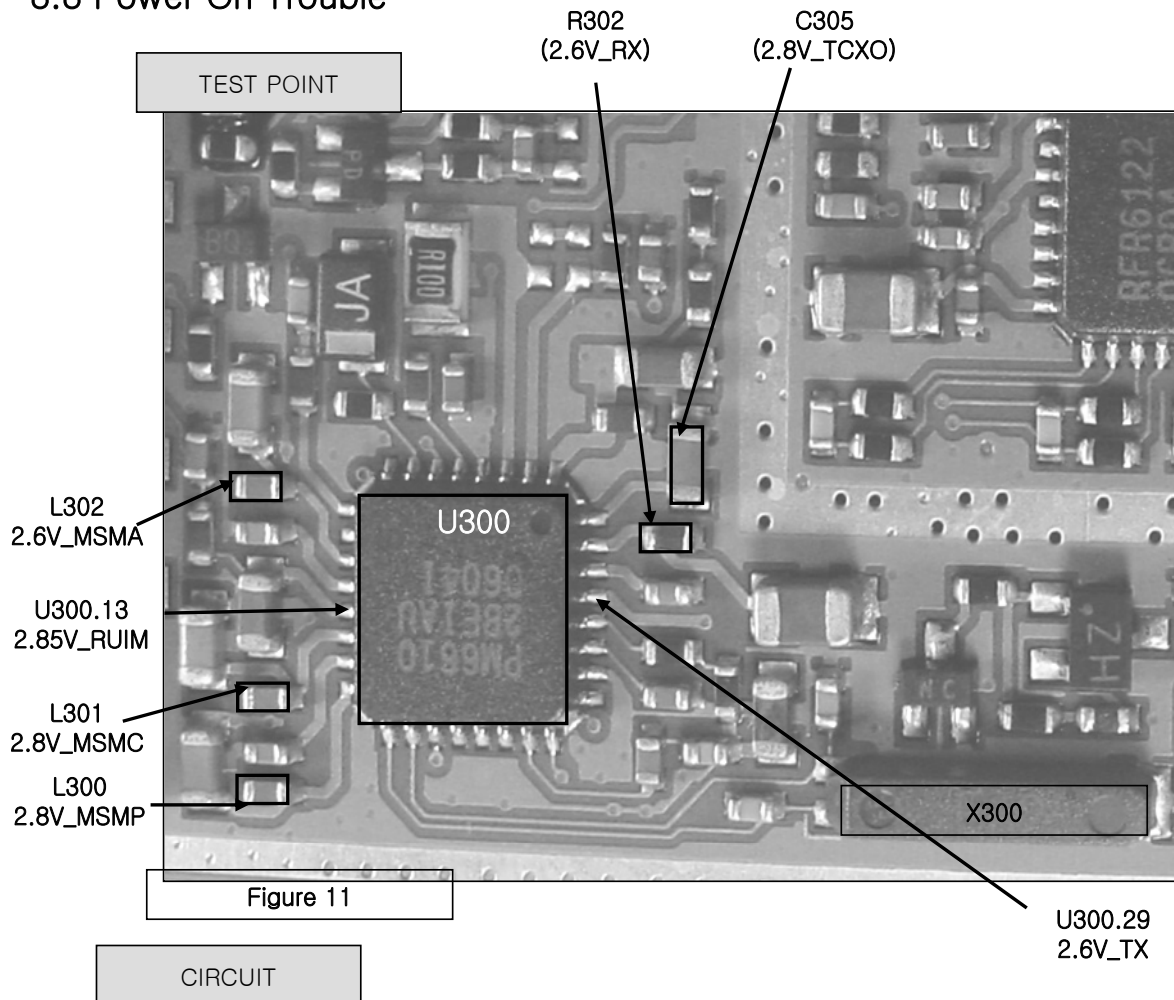


DP100 PIN11



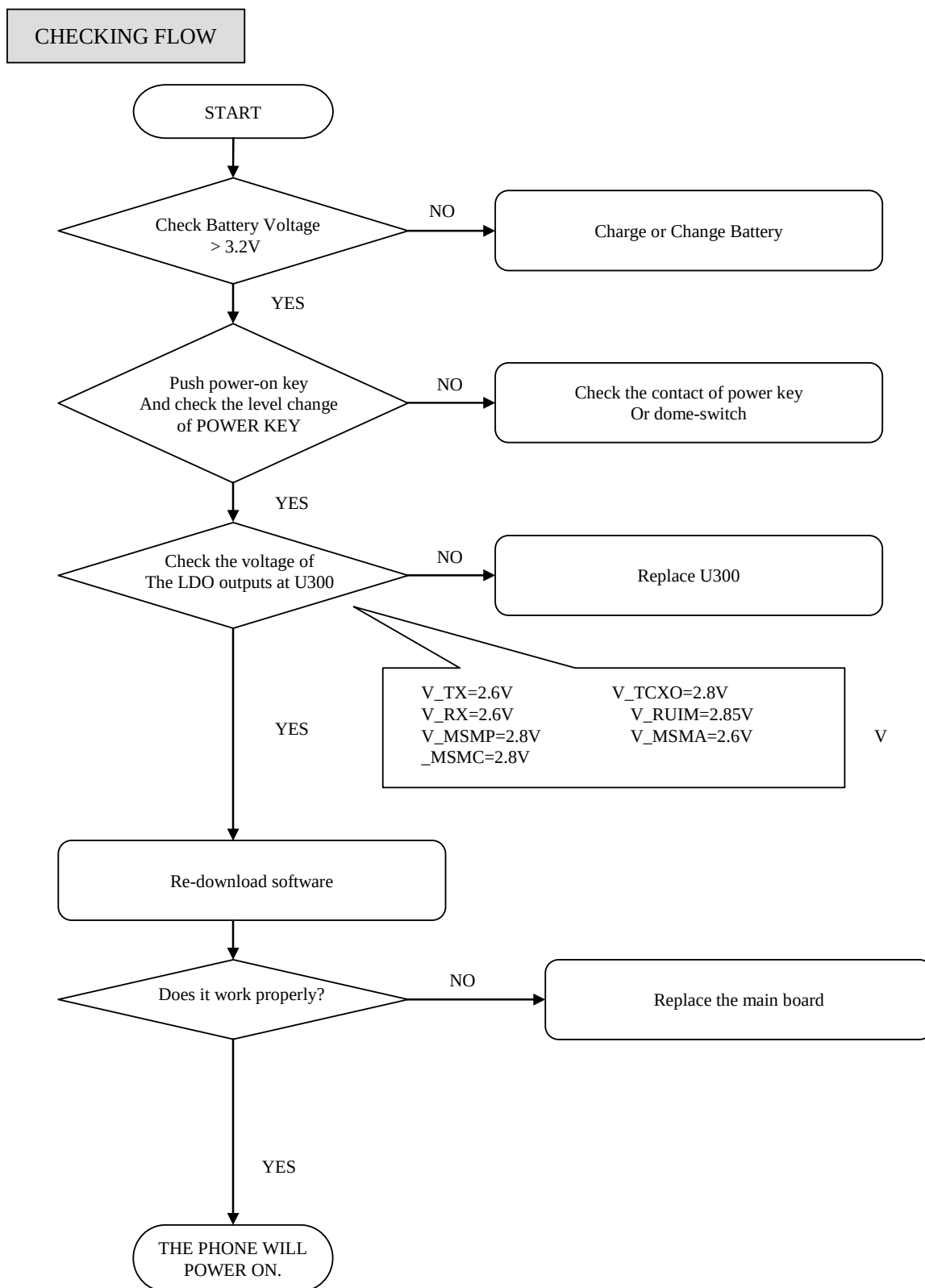
3.TROUBLE SHOOTING

3.3 Power On Trouble



Please refer to the third page of the circuit diagram.

3.TROUBLE SHOOTING



TEST POINT

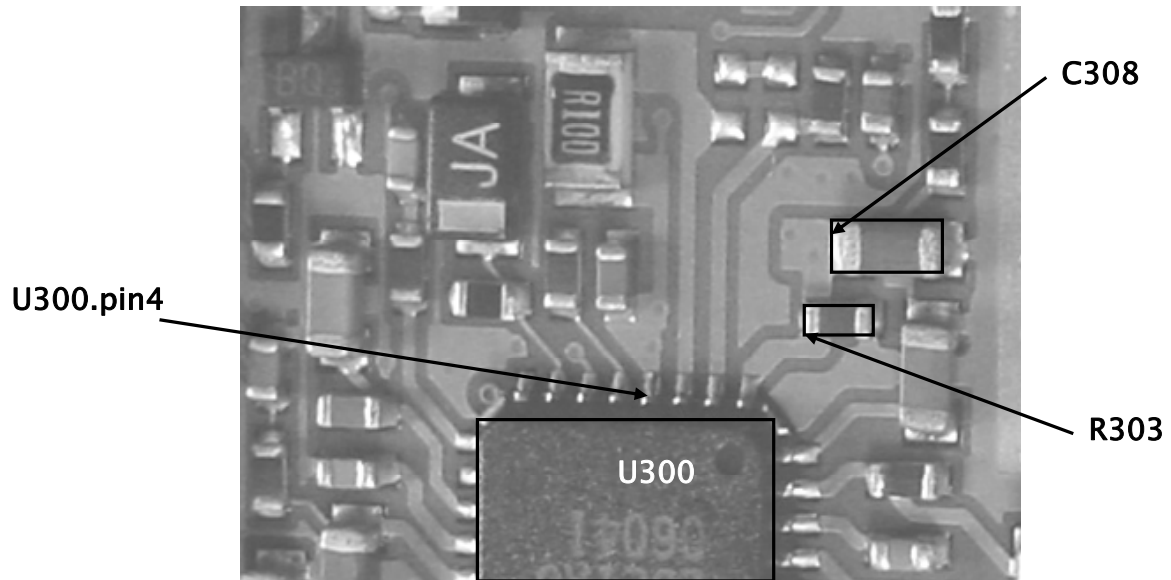
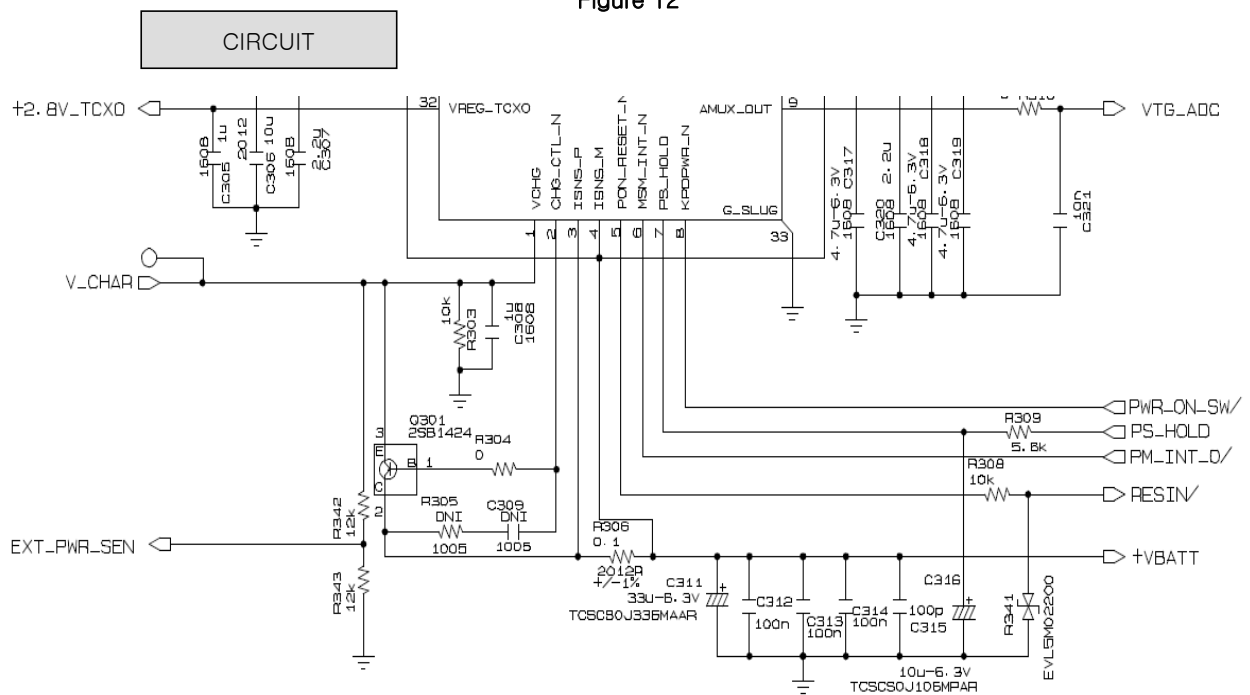
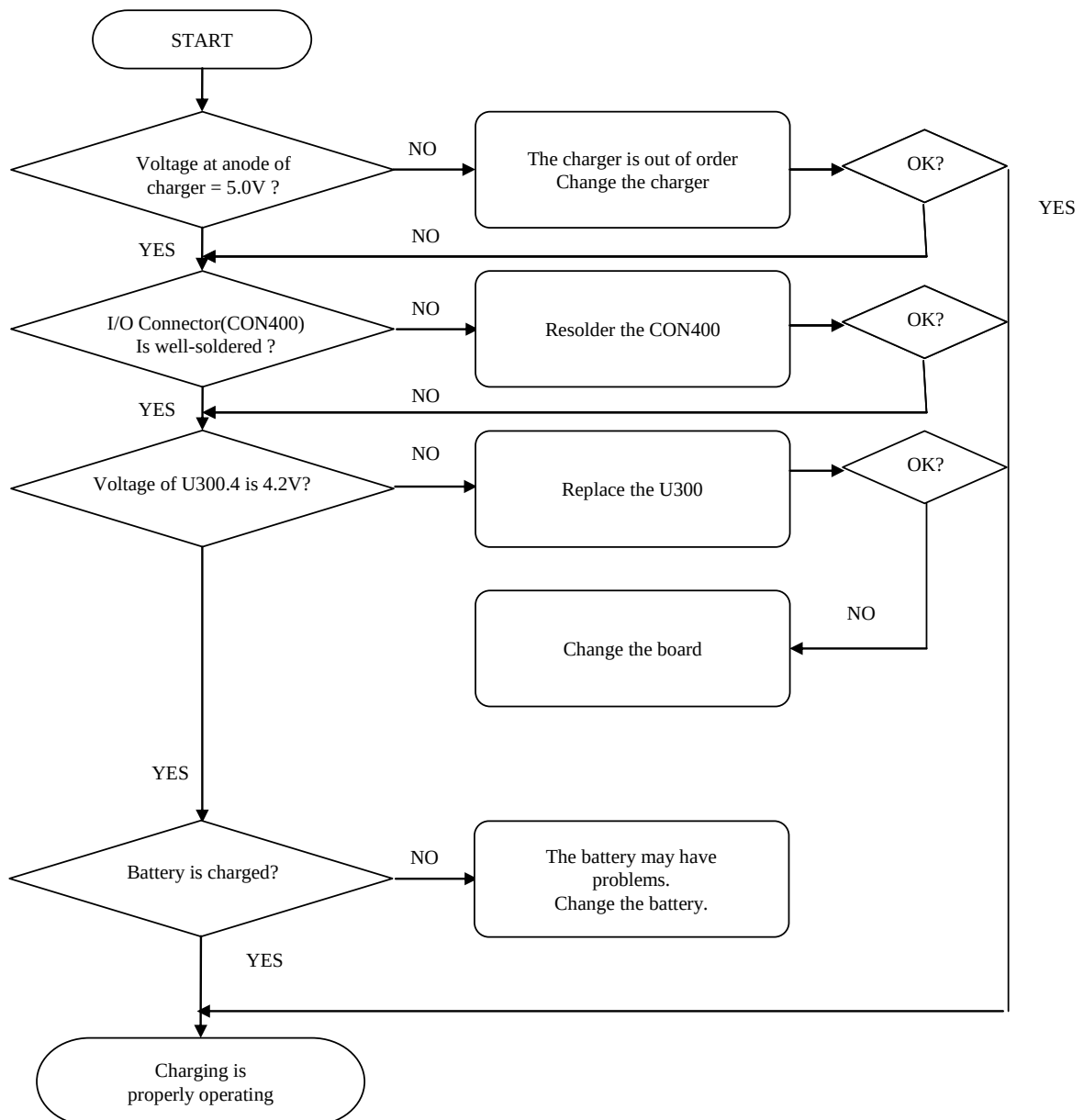


Figure 12



3.TROUBLE SHOOTING

CHECKING FLOW



3.TROUBLE SHOOTING

3.5 Vibrator Trouble

TEST POINT

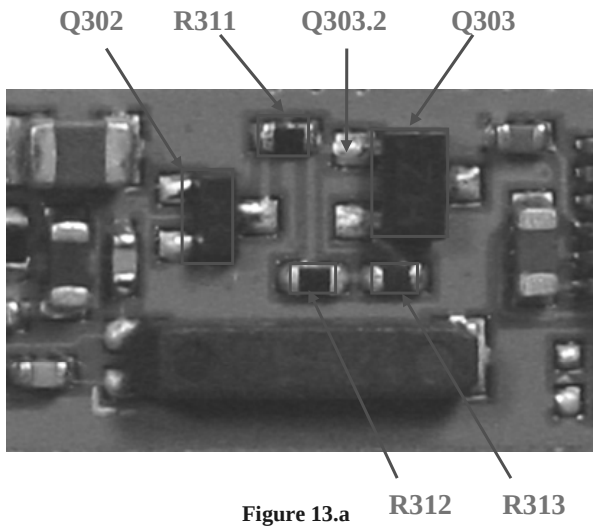


Figure 13.a

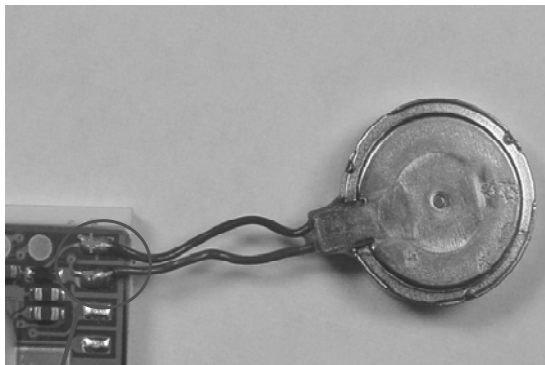
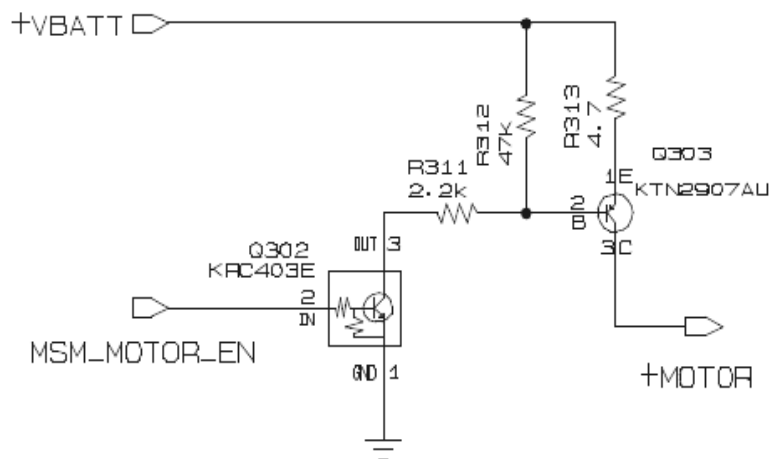


Figure 13.b

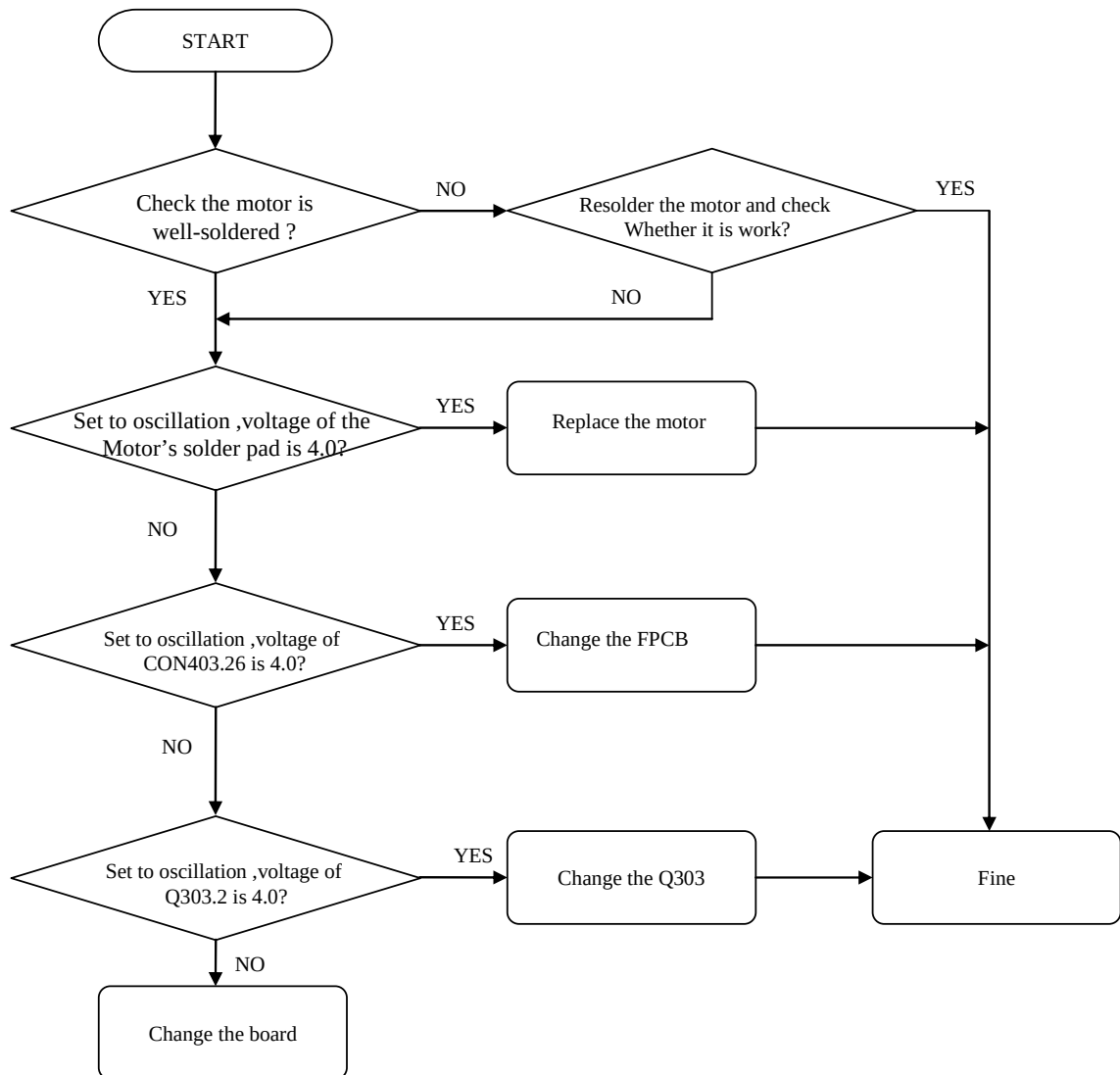
Soldering Check in LCD Module

CIRCUIT



3.TROUBLE SHOOTING

CHECKING FLOW



3.TROUBLE SHOOTING

3.6 LCD Trouble

TEST POINT

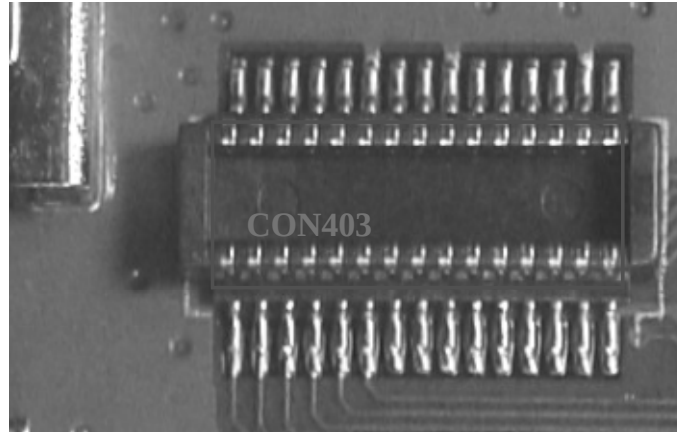


Figure 14

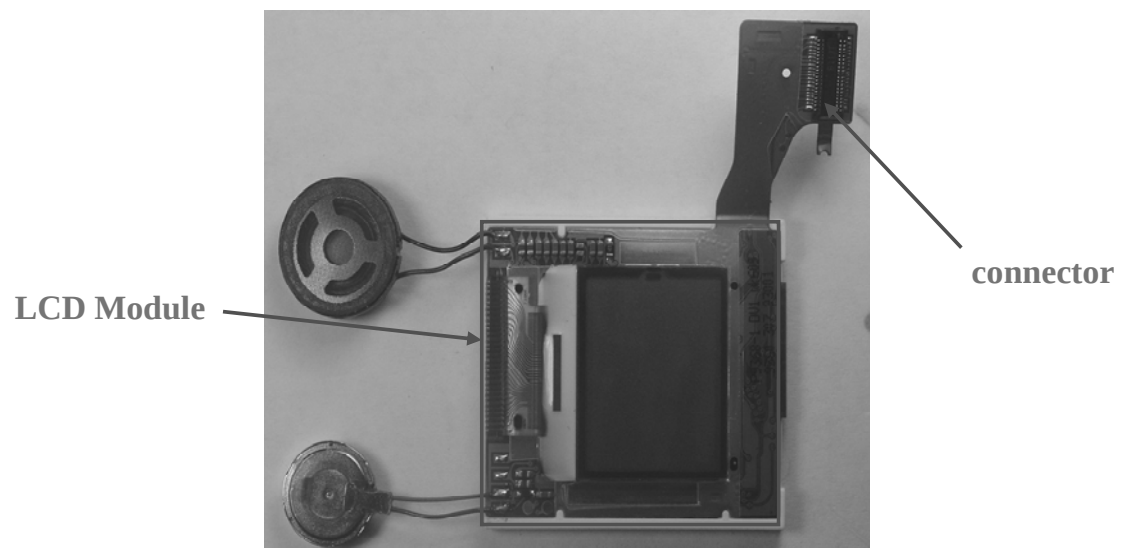
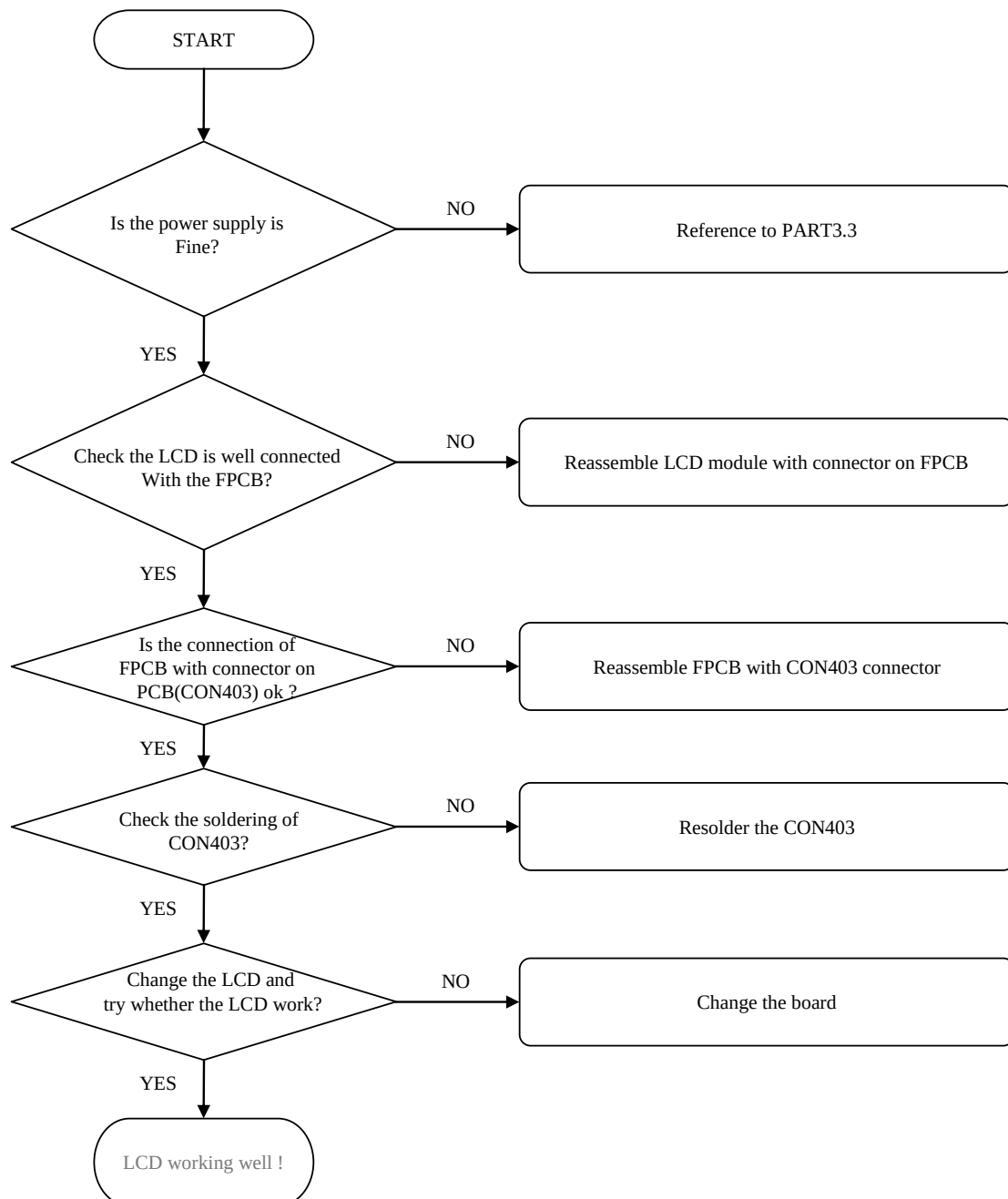


Figure 15

3.TROUBLE SHOOTING

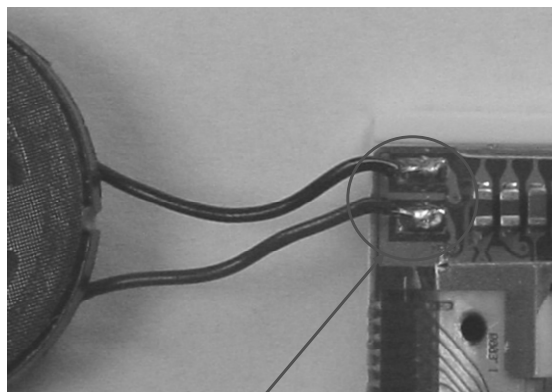
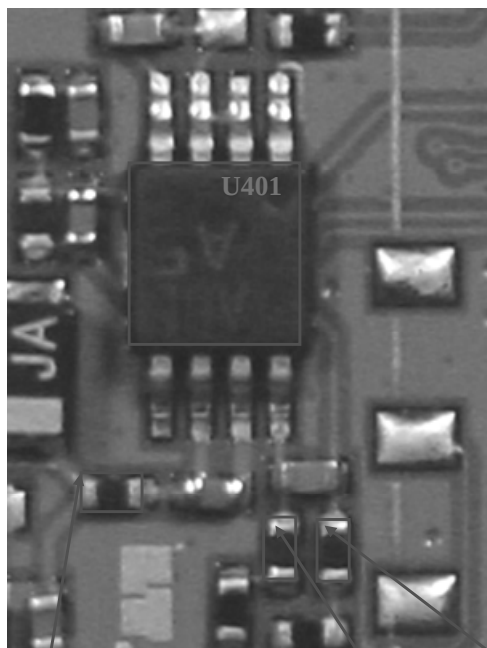
CHECKING FLOW



3.TROUBLE SHOOTING

3.7 Speaker Trouble

TEST POINT



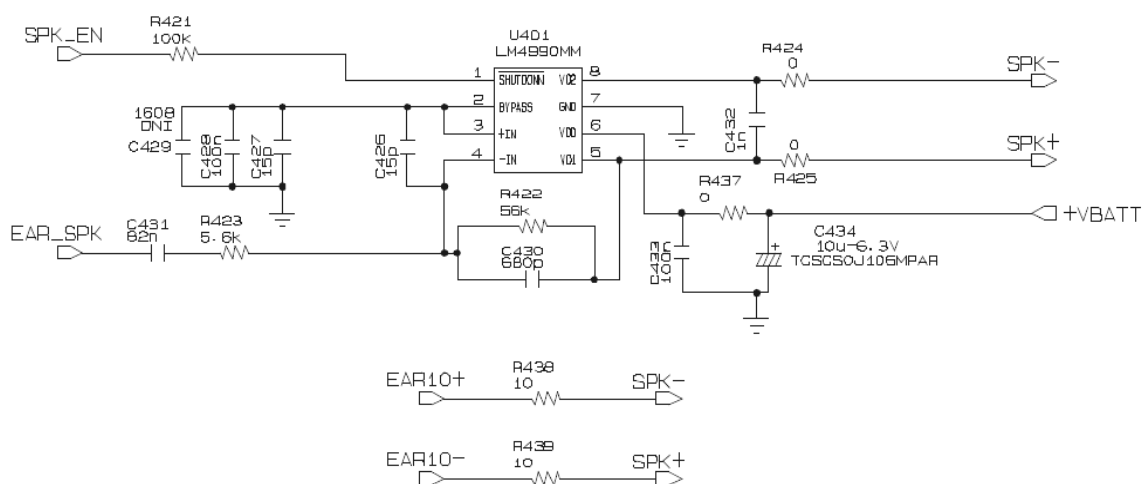
Soldering Check

R437

CIRCUIT

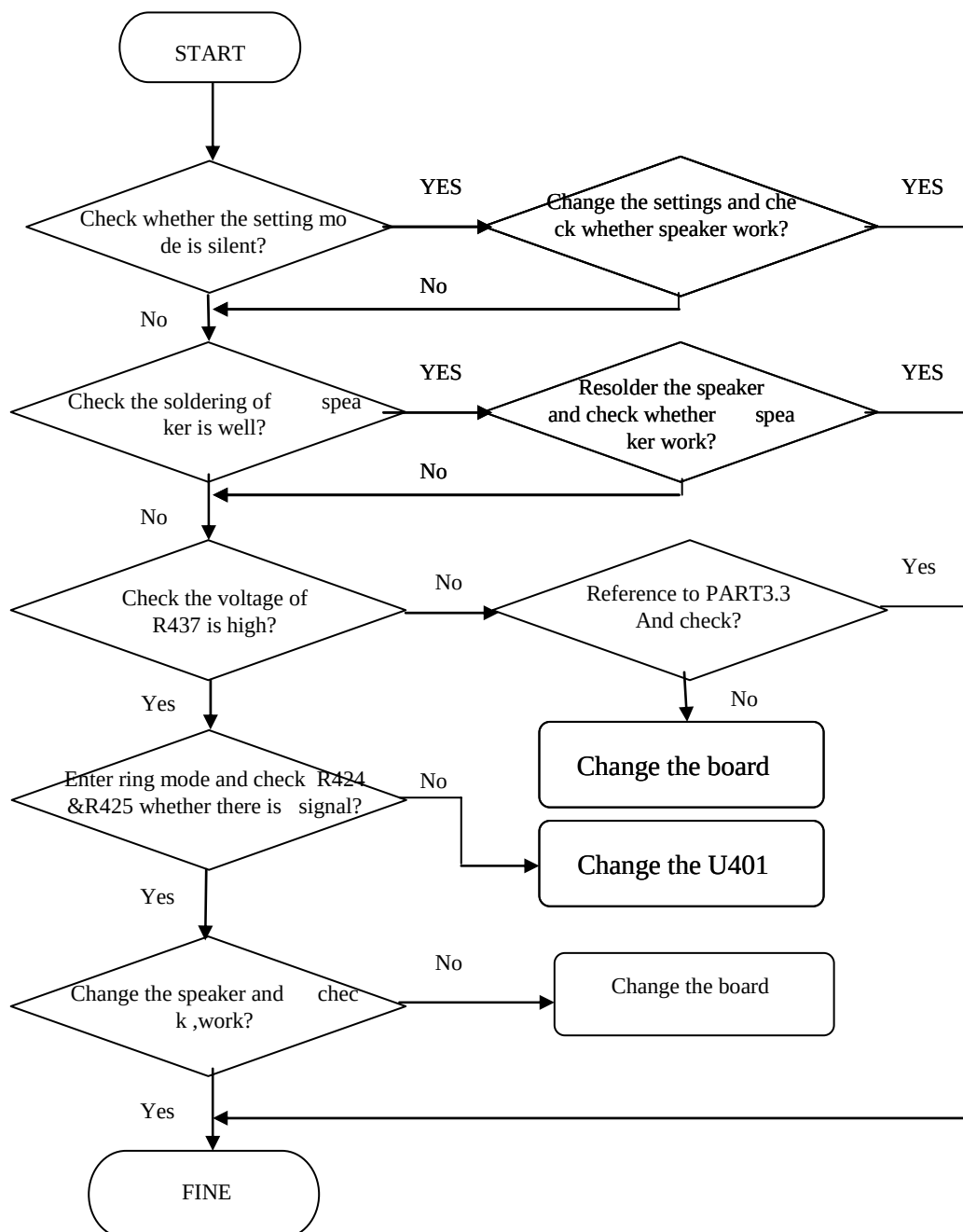
R424

R425



3.TROUBLE SHOOTING

CHECKING FLOW



3.TROUBLE SHOOTING

3.8 Earphone Trouble

TEST POINT

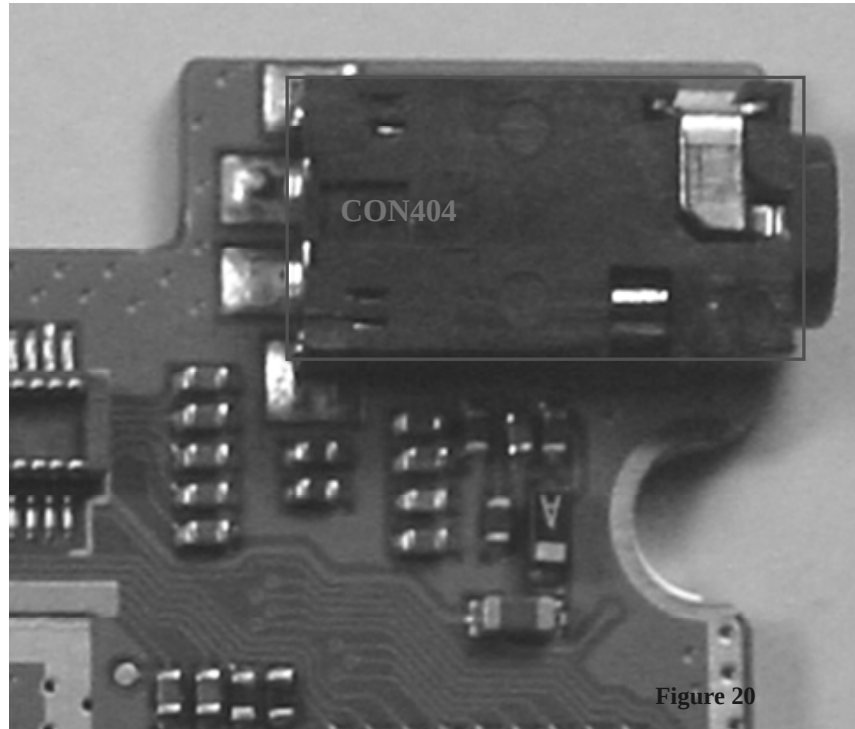
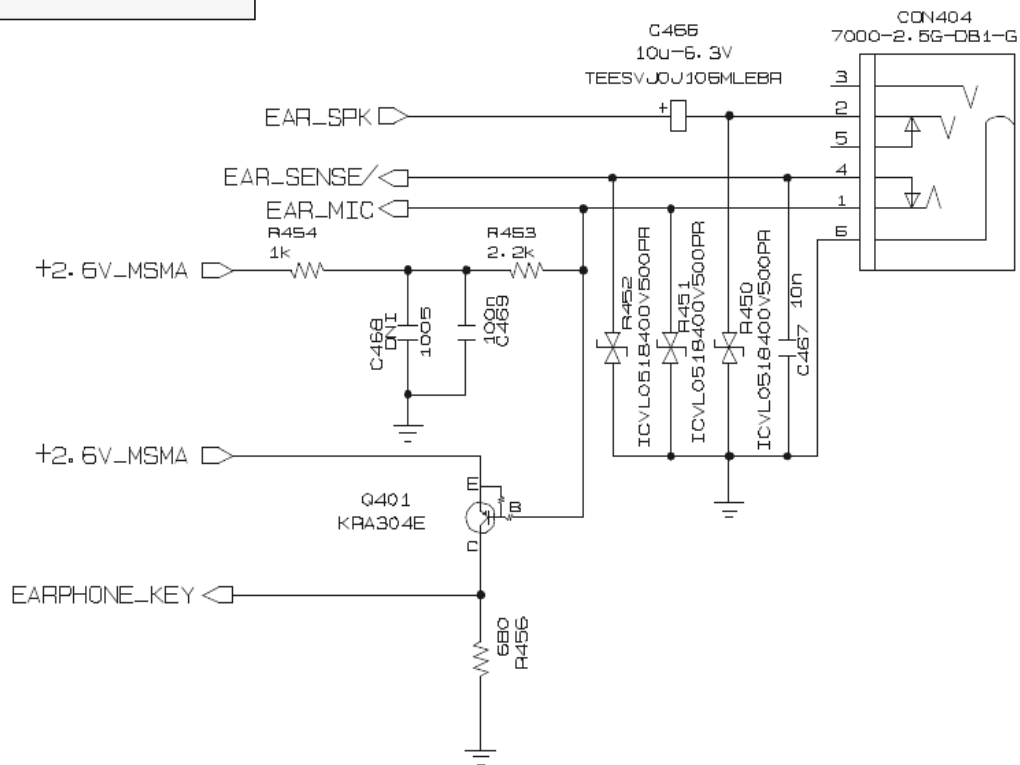


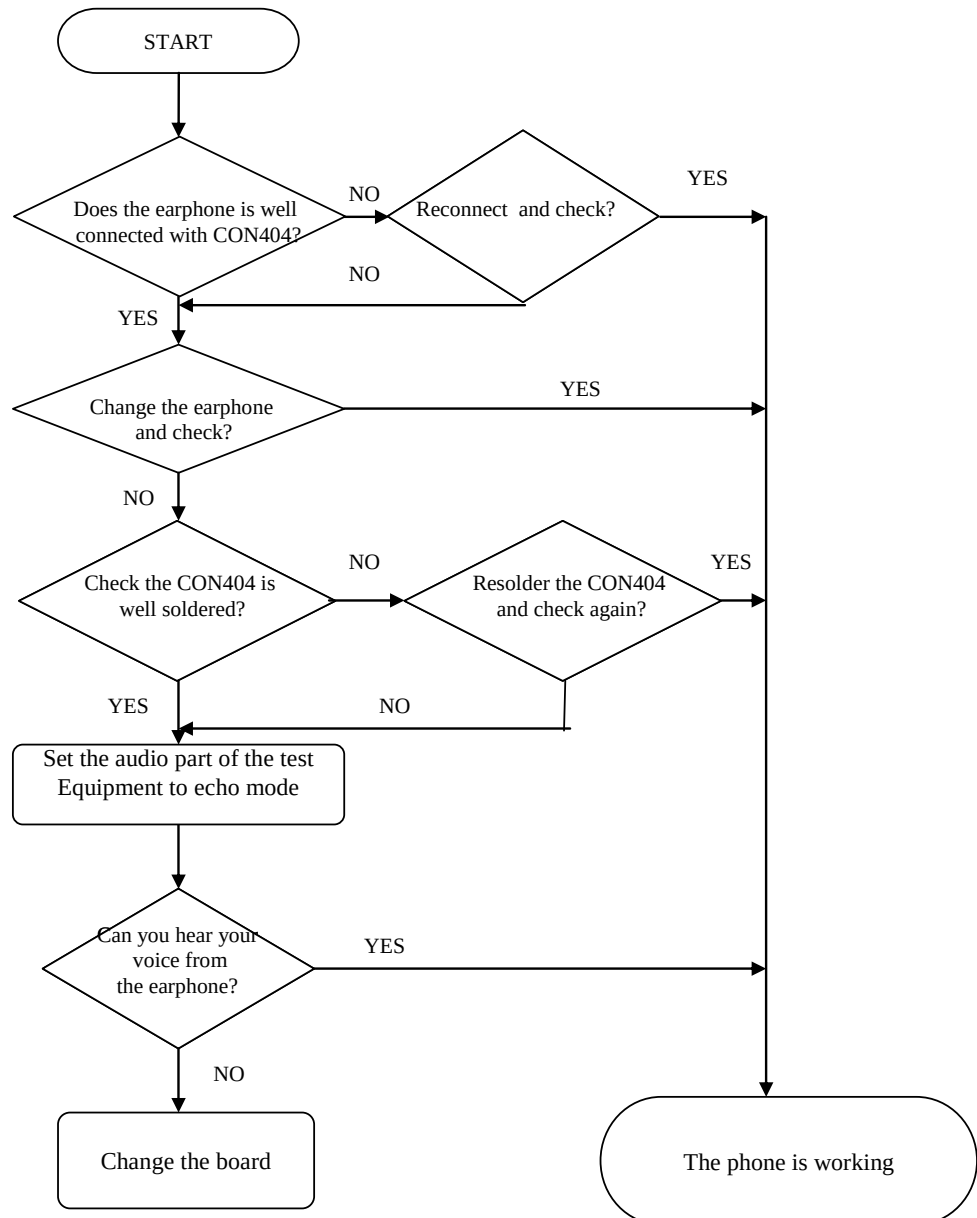
Figure 20

CIRCUIT



3.TROUBLE SHOOTING

CHECKING FLOW



3.TROUBLE SHOOTING

3.9 KEY backlight Trouble

TEST POINT

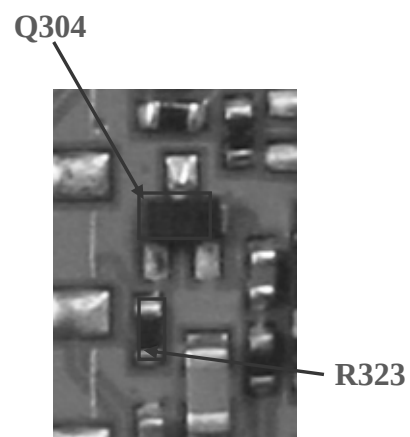
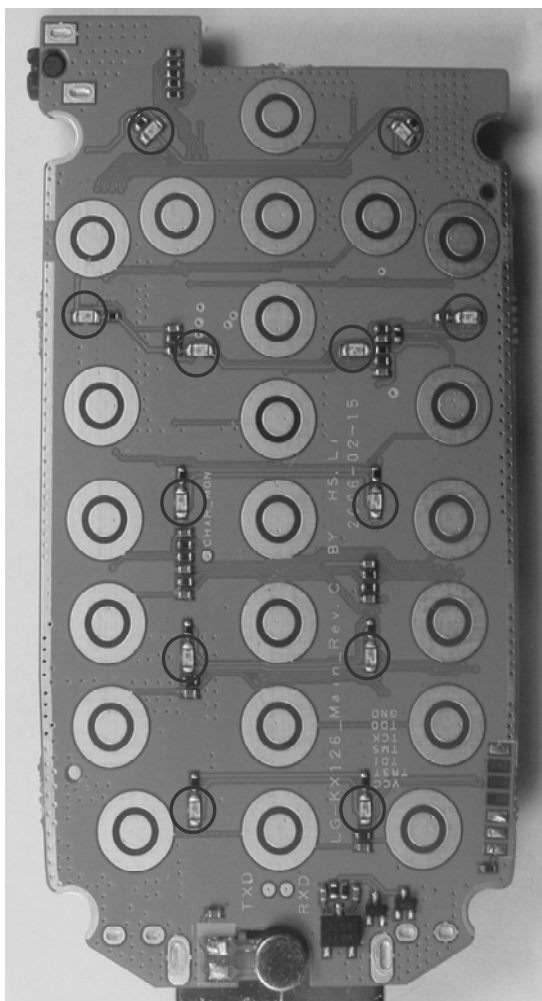
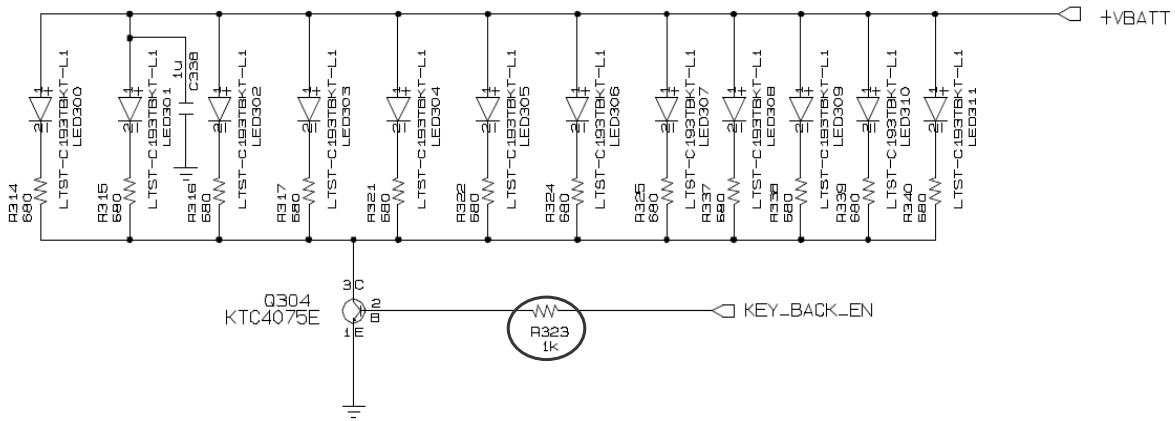


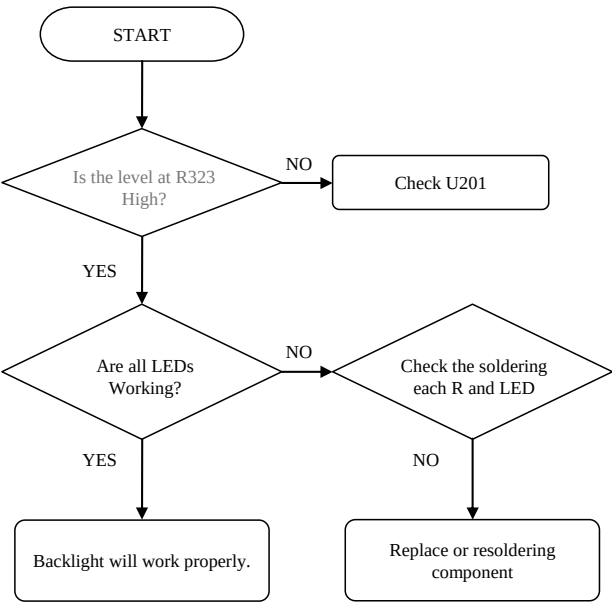
Figure 21

3.TROUBLE SHOOTING

CIRCUIT



CHECKING FLOW



3.TROUBLE SHOOTING

3.10 Receiver Trouble

TEST POINT

CIRCUIT

Please refer to 3.7,the SPK trouble.

CHECKING FLOW

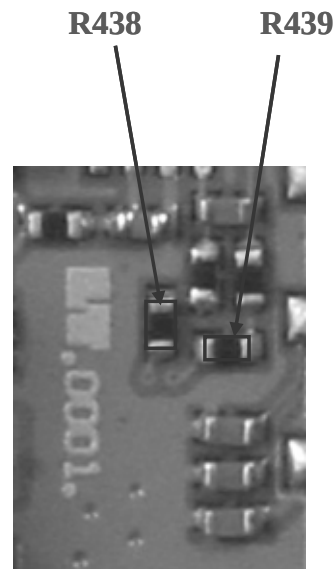
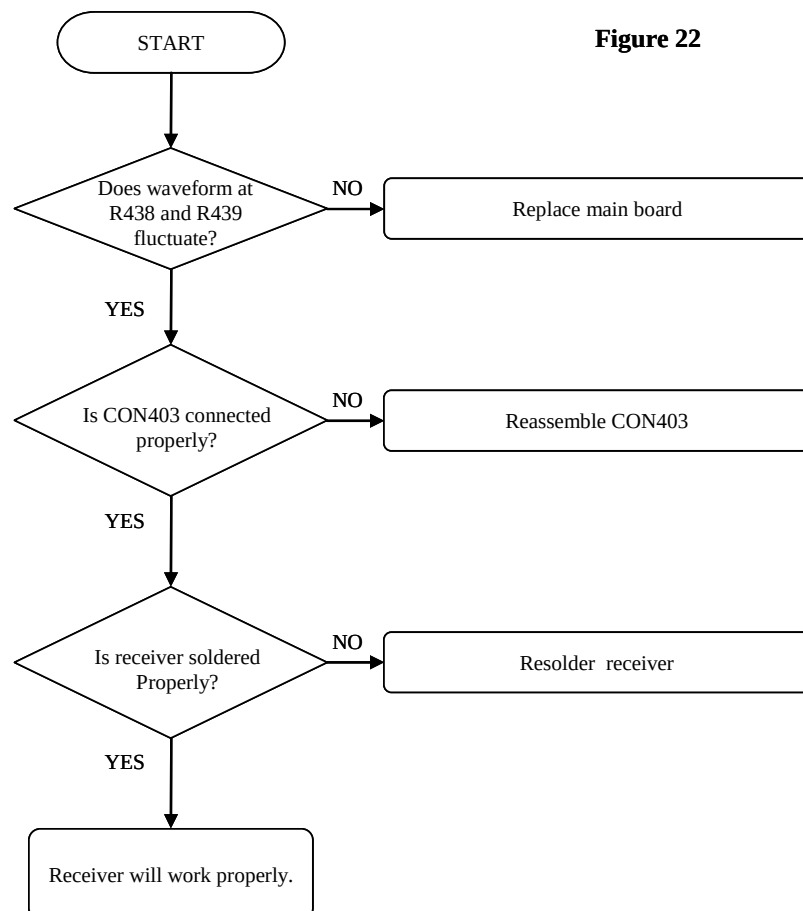


Figure 22

3.11 Microphone Trouble

TEST POINT

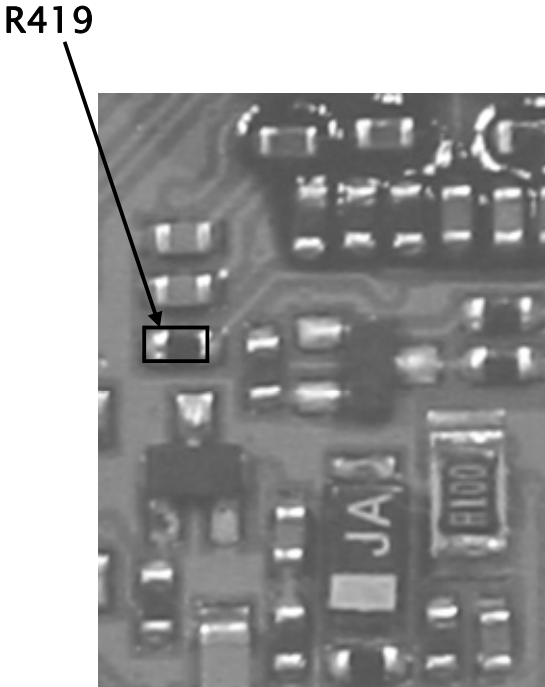
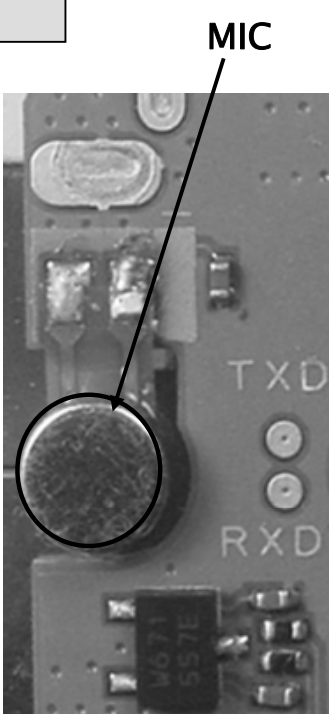
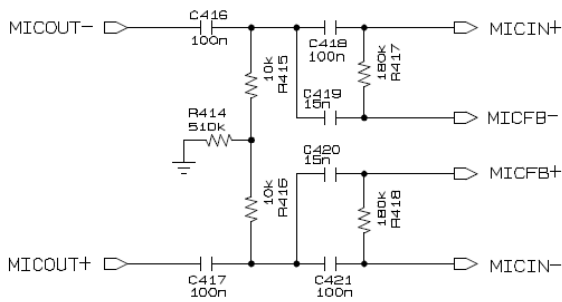


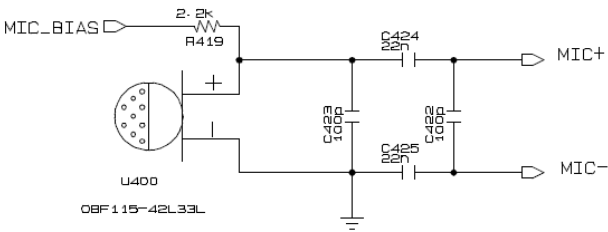
Figure 19

CIRCUIT

<MIC FILTER>

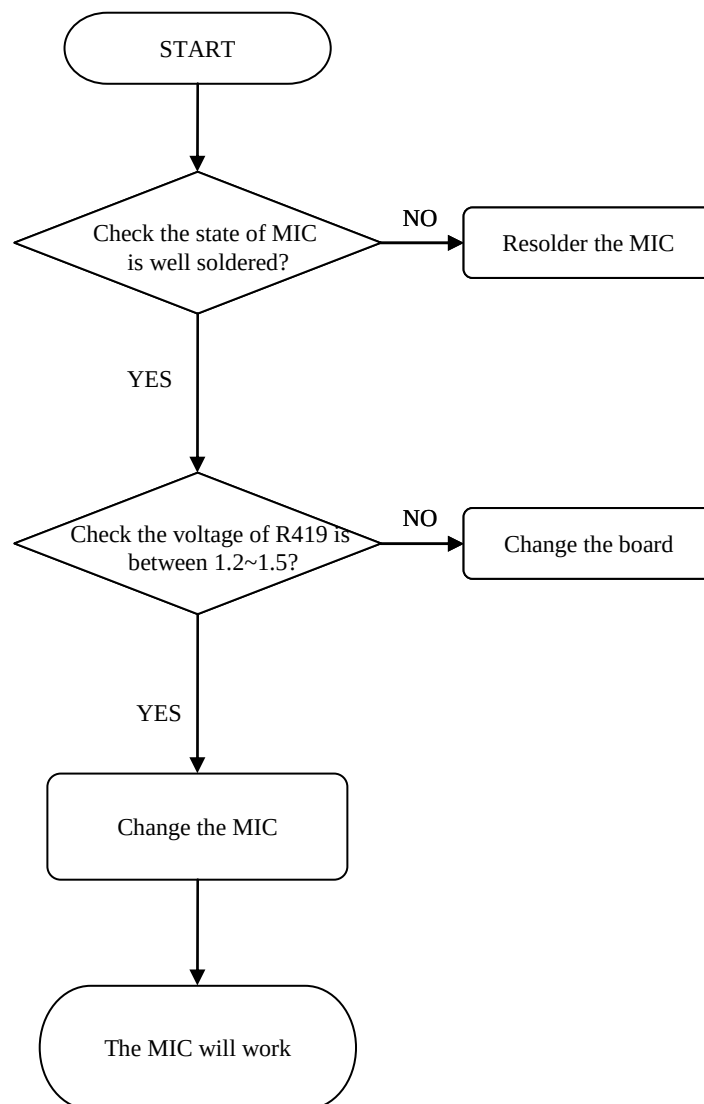


<MIC>



3.TROUBLE SHOOTING

CHECKING FLOW



3.12 Folder on/off Trouble

TEST POINT

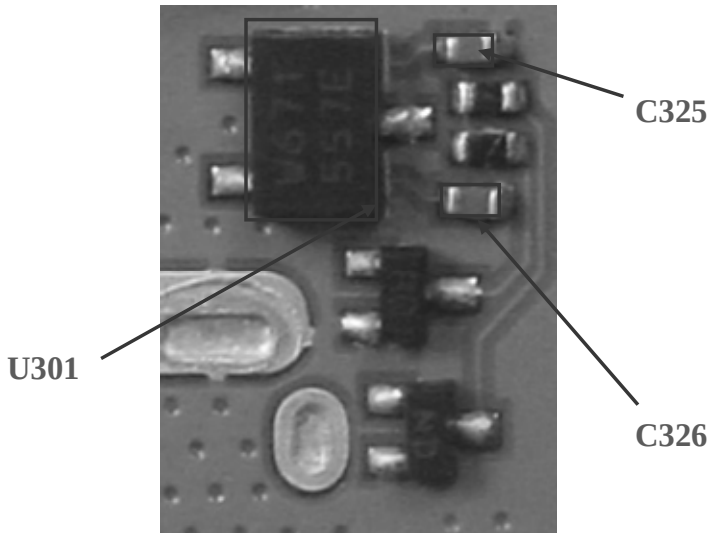
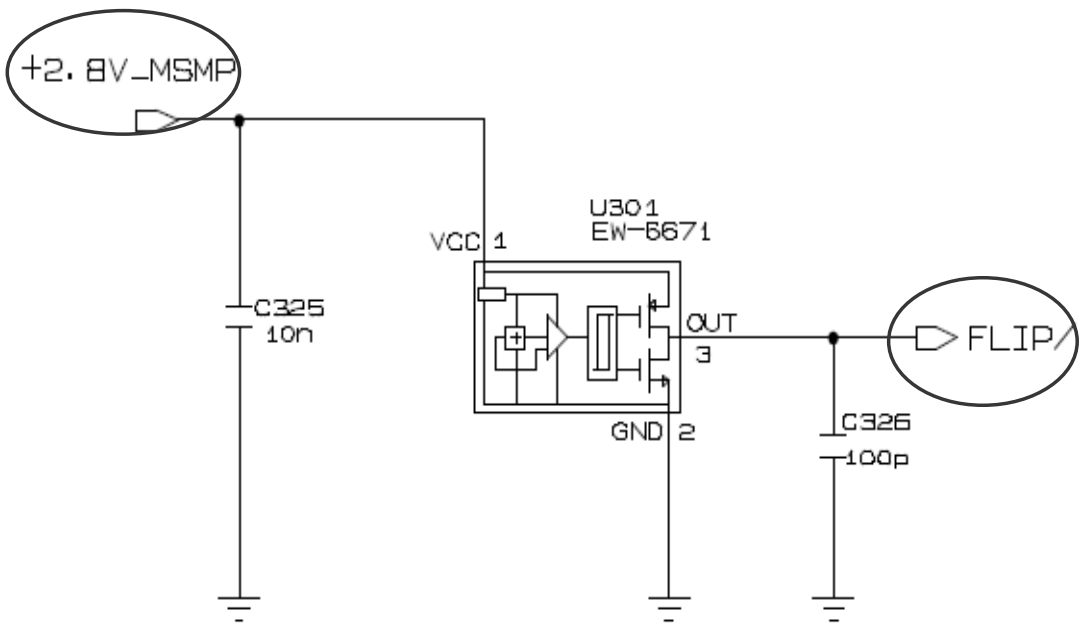
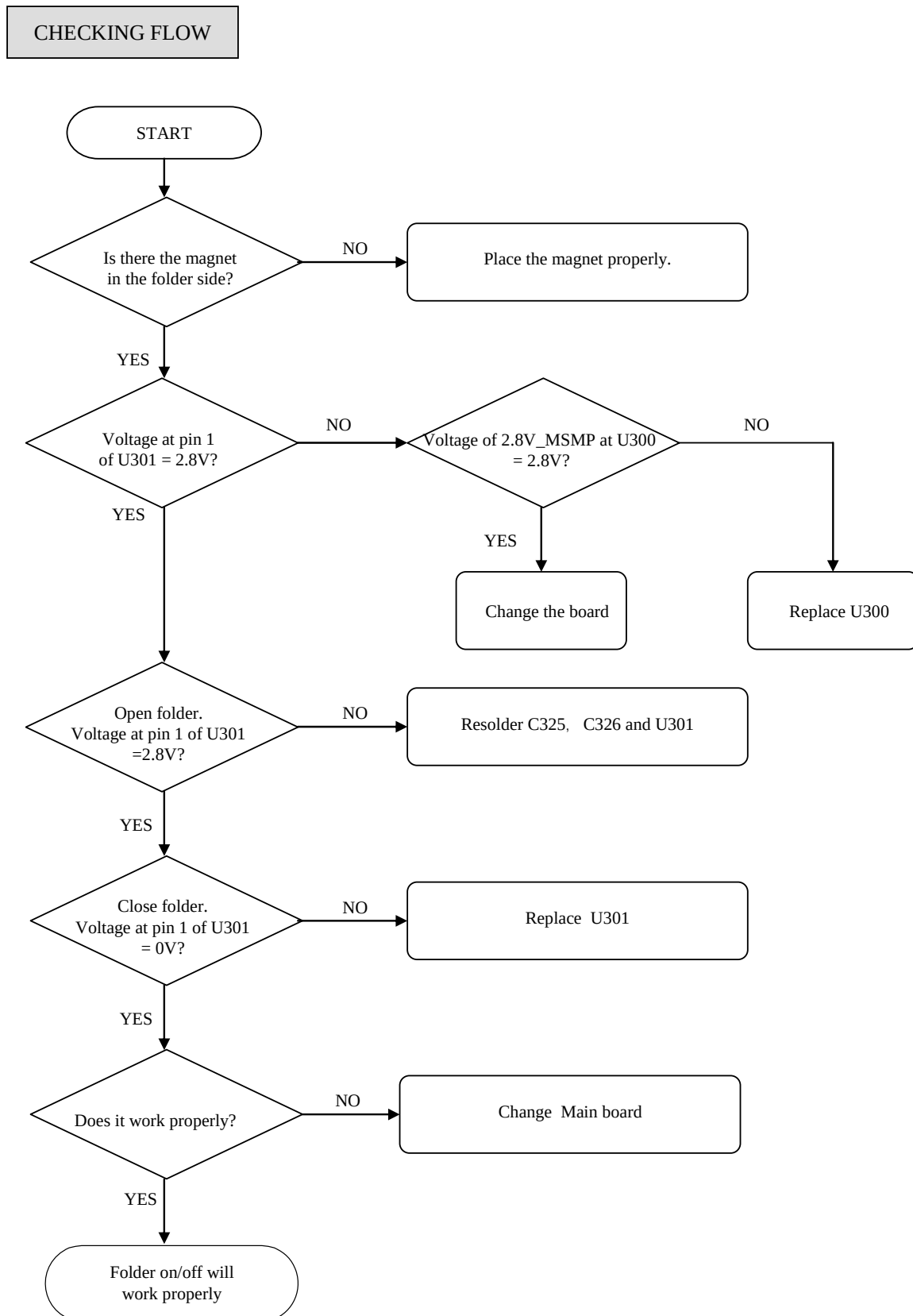


Figure 26

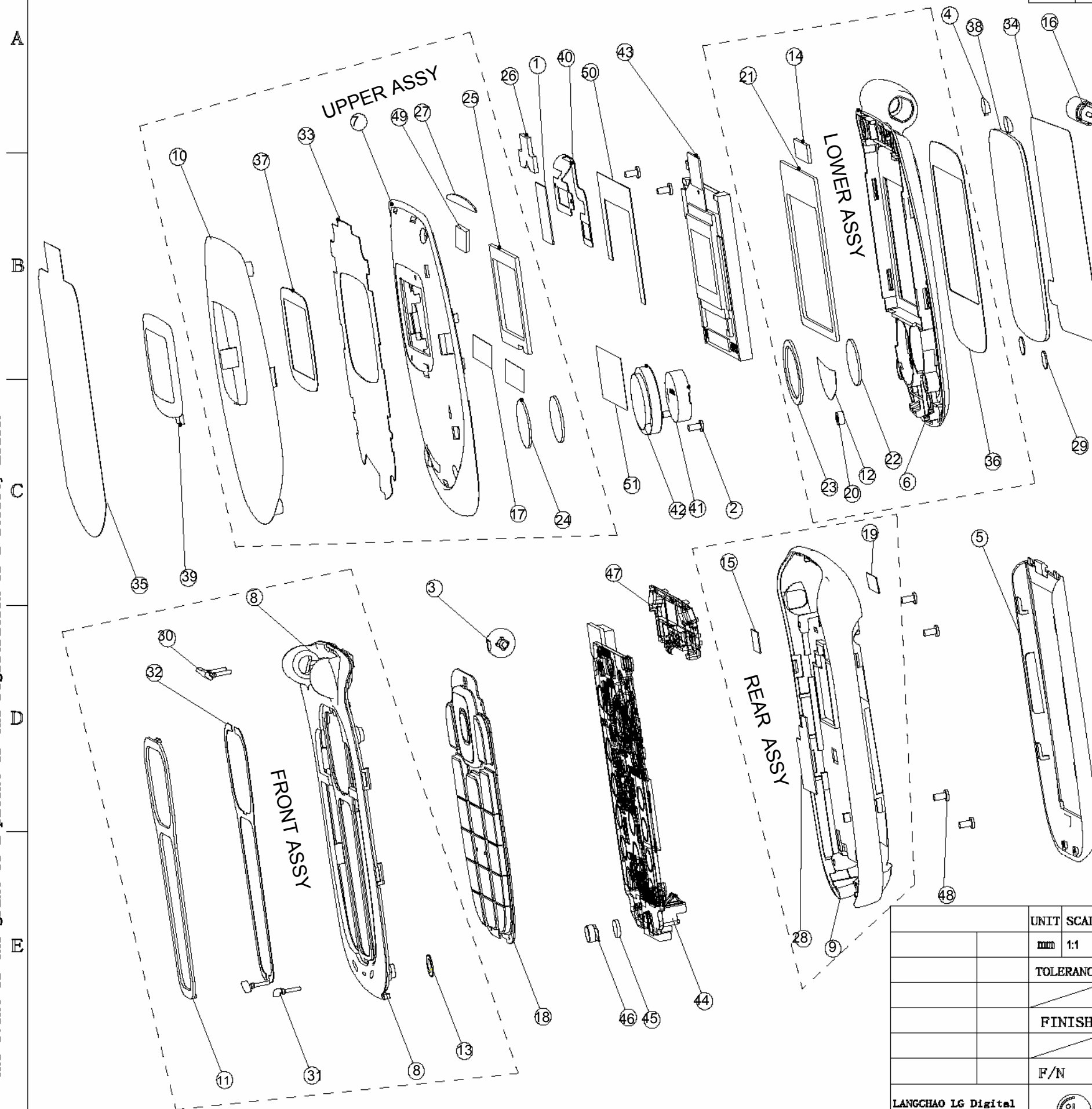
CIRCUIT



3.TROUBLE SHOOTING



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REVISION				
ISSUE	CONTENTS	ENGINEER	APPROVER	DATE
1.0	1st Drawing	Yu Haiyuan	Choi Y.C	26-Jul-06

UNIT	SCALE	NO.	DESCRIPTION		Q' TY	DRAWING NO.	REMARK
mm	1:1		PARTS INDEX				
TOLERANCE		DATE	NAME		MATERIAL		
		APP. 26-Jul-06	Kim Y.M				
FINISH		CHEC.			REL DWG		
		DESG. 26-Jul-06	YU HAIYUAN				
F/N			SIZE		DWG NAME		
			A3		DWG NO.		

LANGCHAO LG Digital
Mobile Communications
Co. Ltd.

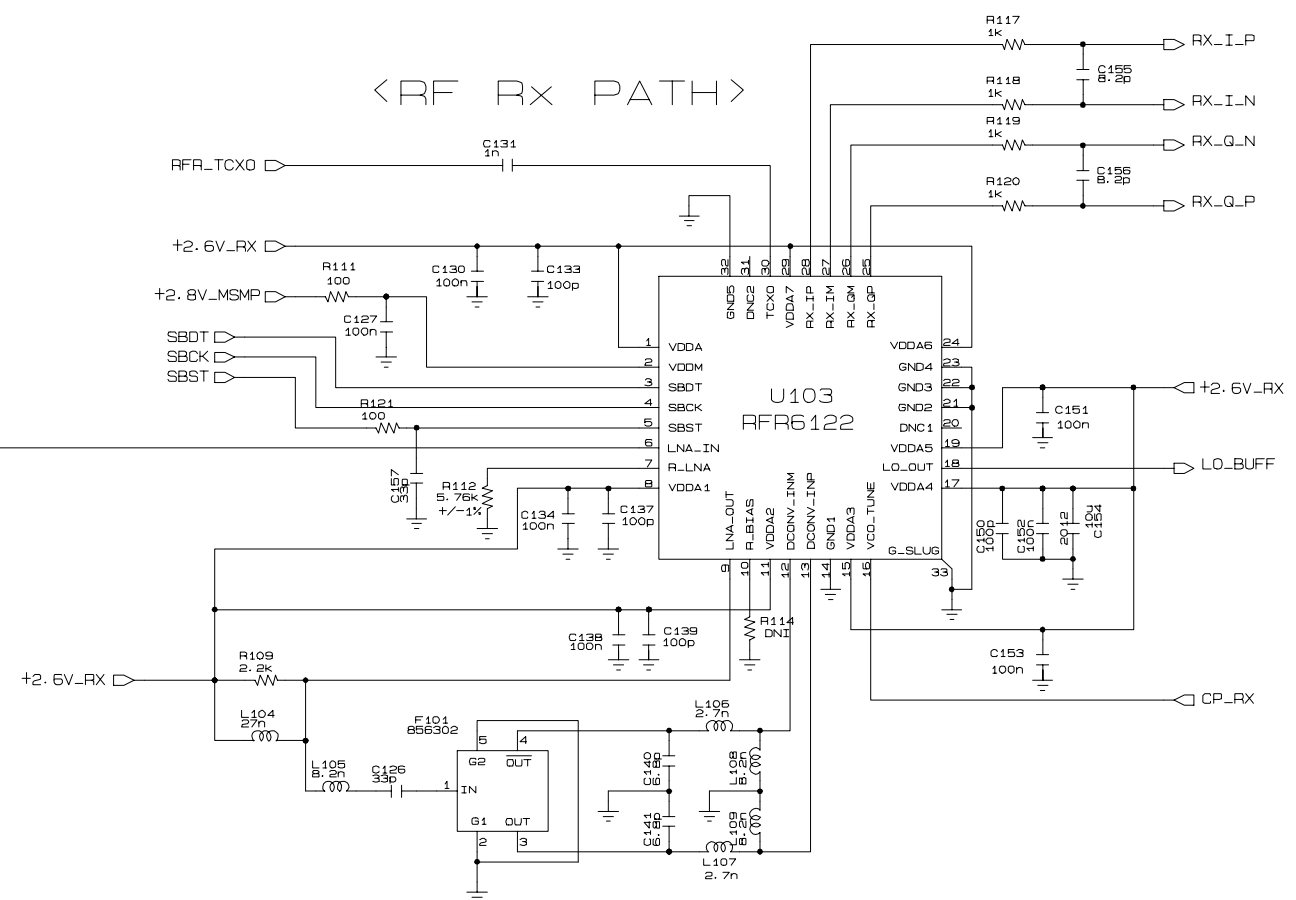


A3

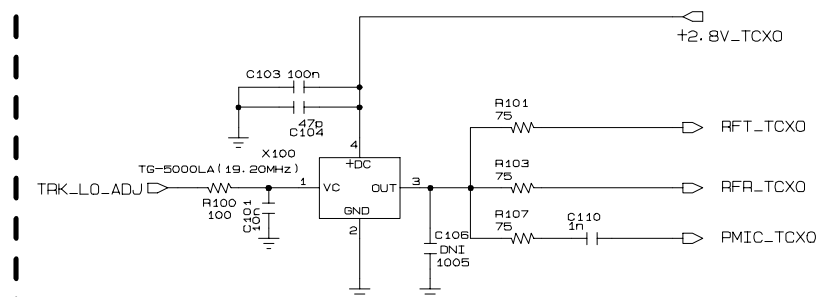
LCLG<24>-A-5923

R122(0)→C166(4.7P)

<RF Rx PATH>



< 19. 2MHz TCXO & BUFFER >



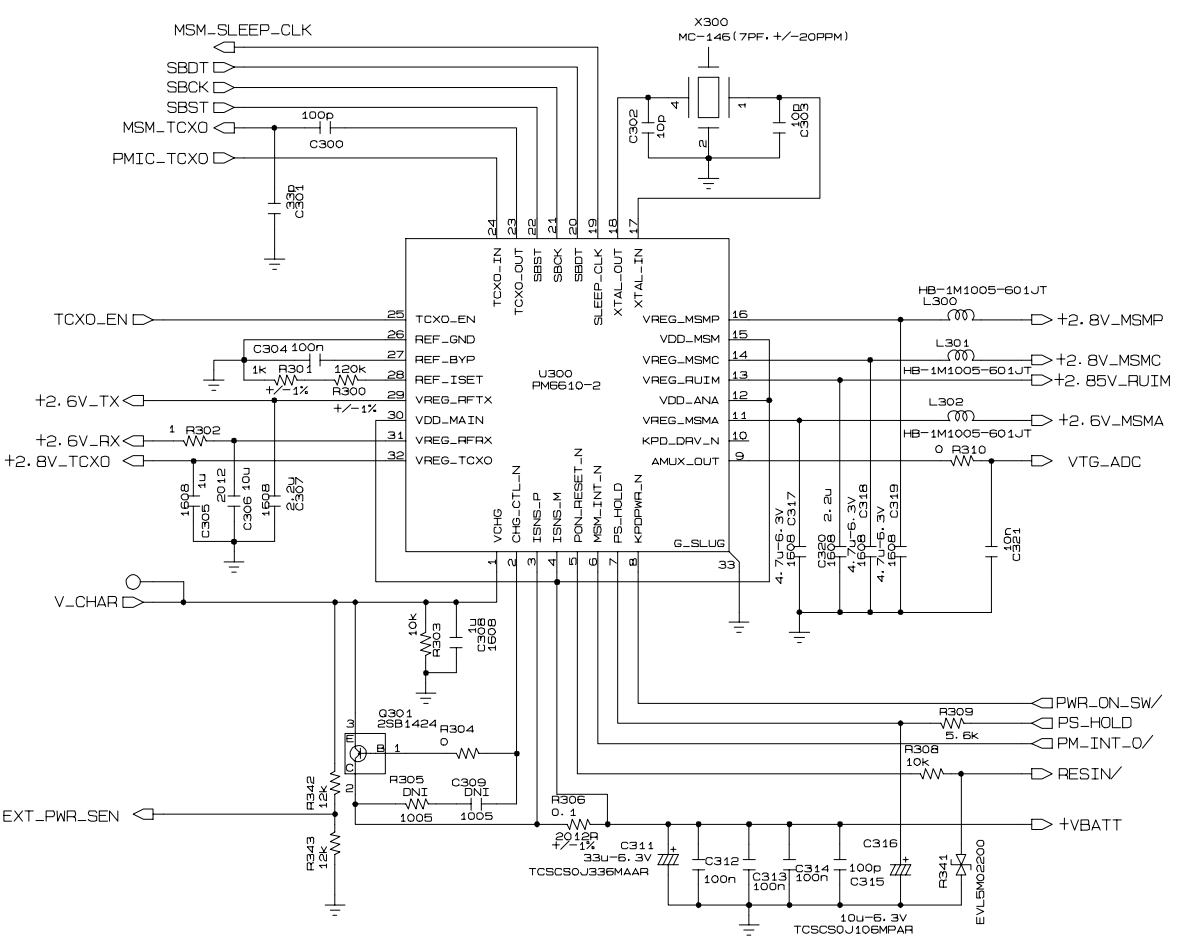


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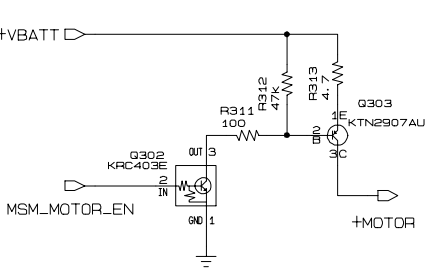
A->B
F_WP/:
    GPIO20->GPIO13
SPK_EN:
    GPIO09->GPIO14
UIM_RESET:
    GPIO18->GPIO09
SUB_LCD_CS:
    GPIO5->GPIO39
FLIP/:
    GPIO39->GPIO5
ADD:
    EAR_SENSE/
    EAR_PHONEKEY
C->D
ADD:
    C228: 22n
    D->E
CHANGE:
    C224->R218

```

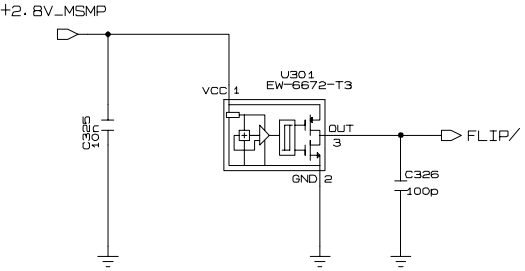
<PMIC PART>



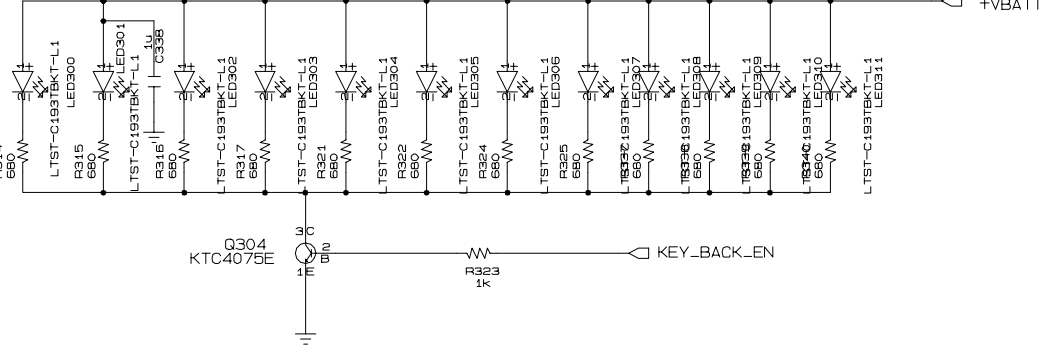
<MOTOR>



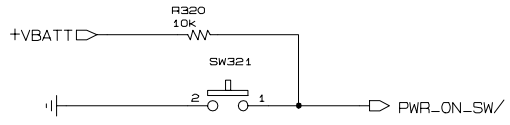
<FLIP S/W>



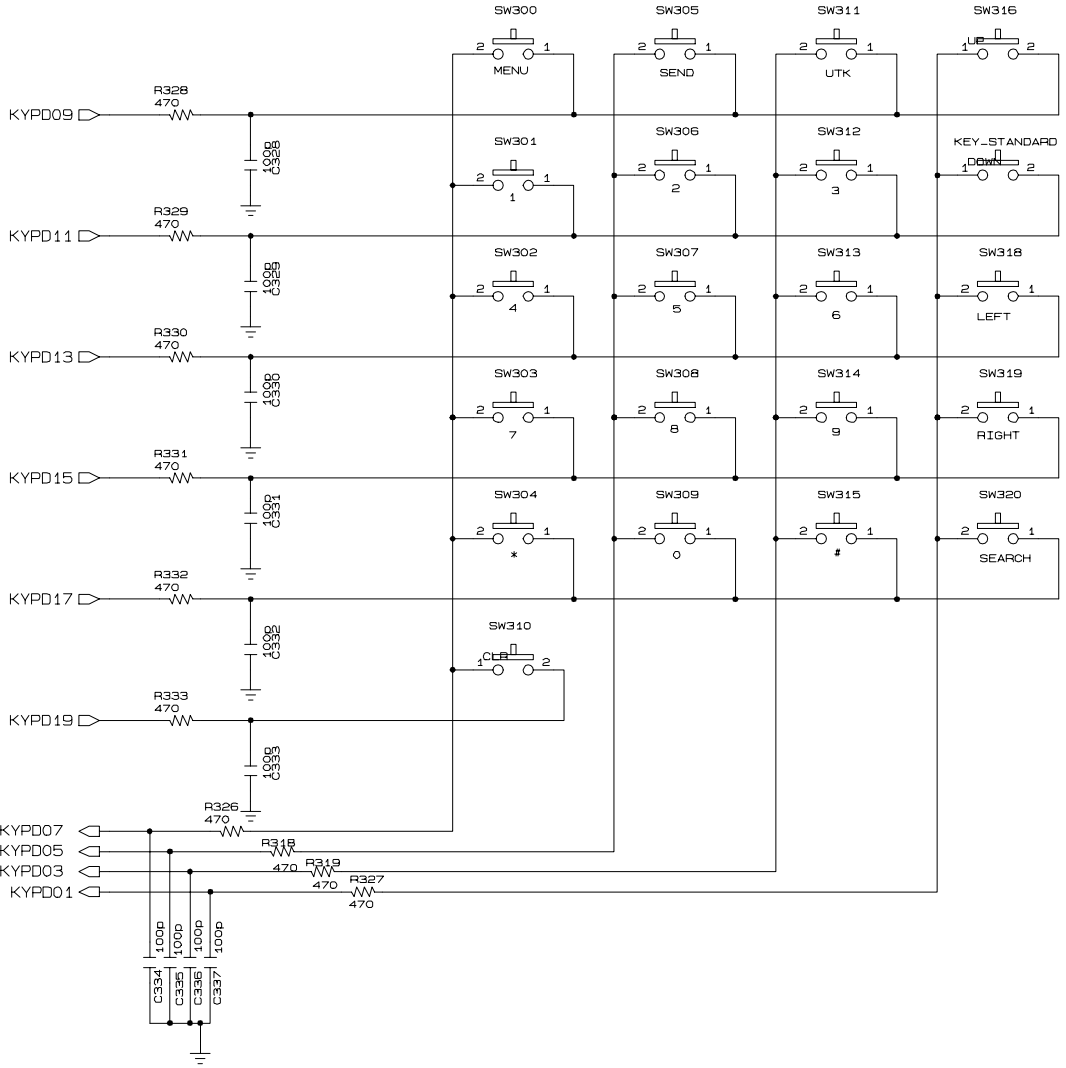
<KEYPAD LED>



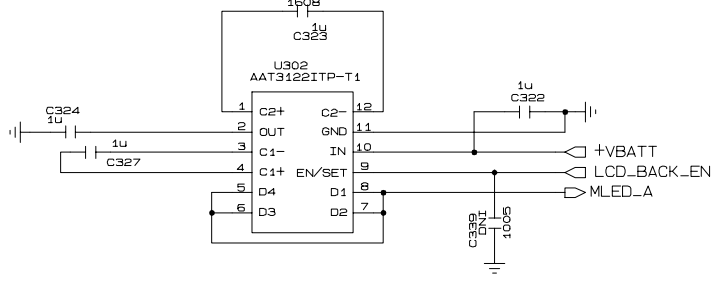
<POWER ON/OFF SWITCH>



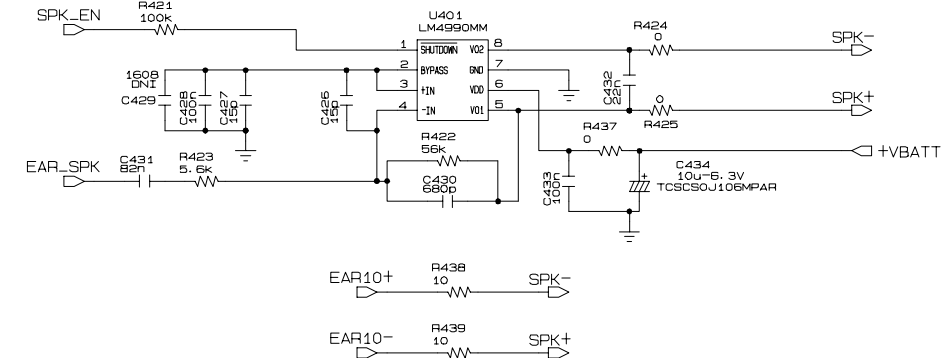
<MAIN KEY>



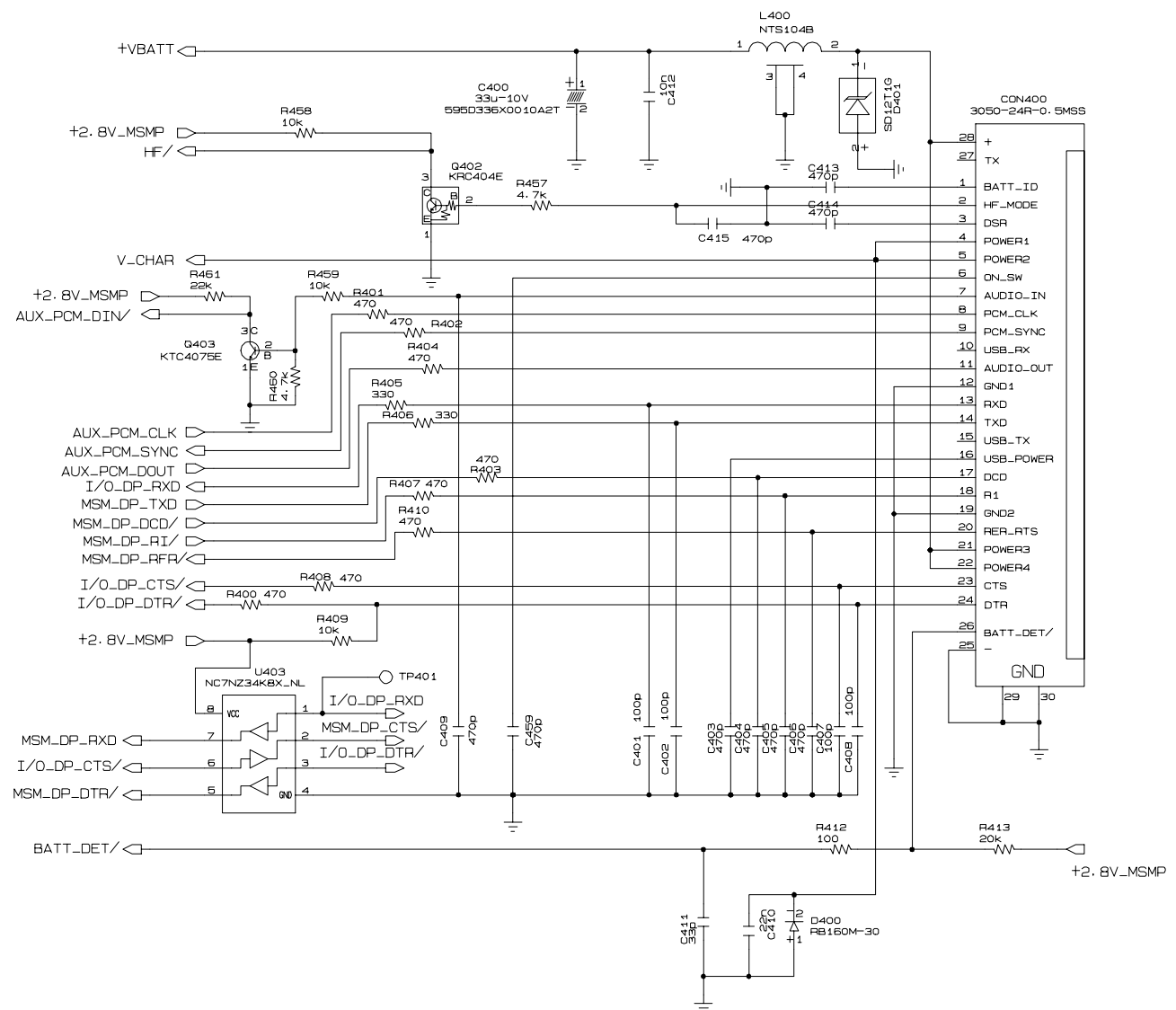
<CHARGE PUMP>

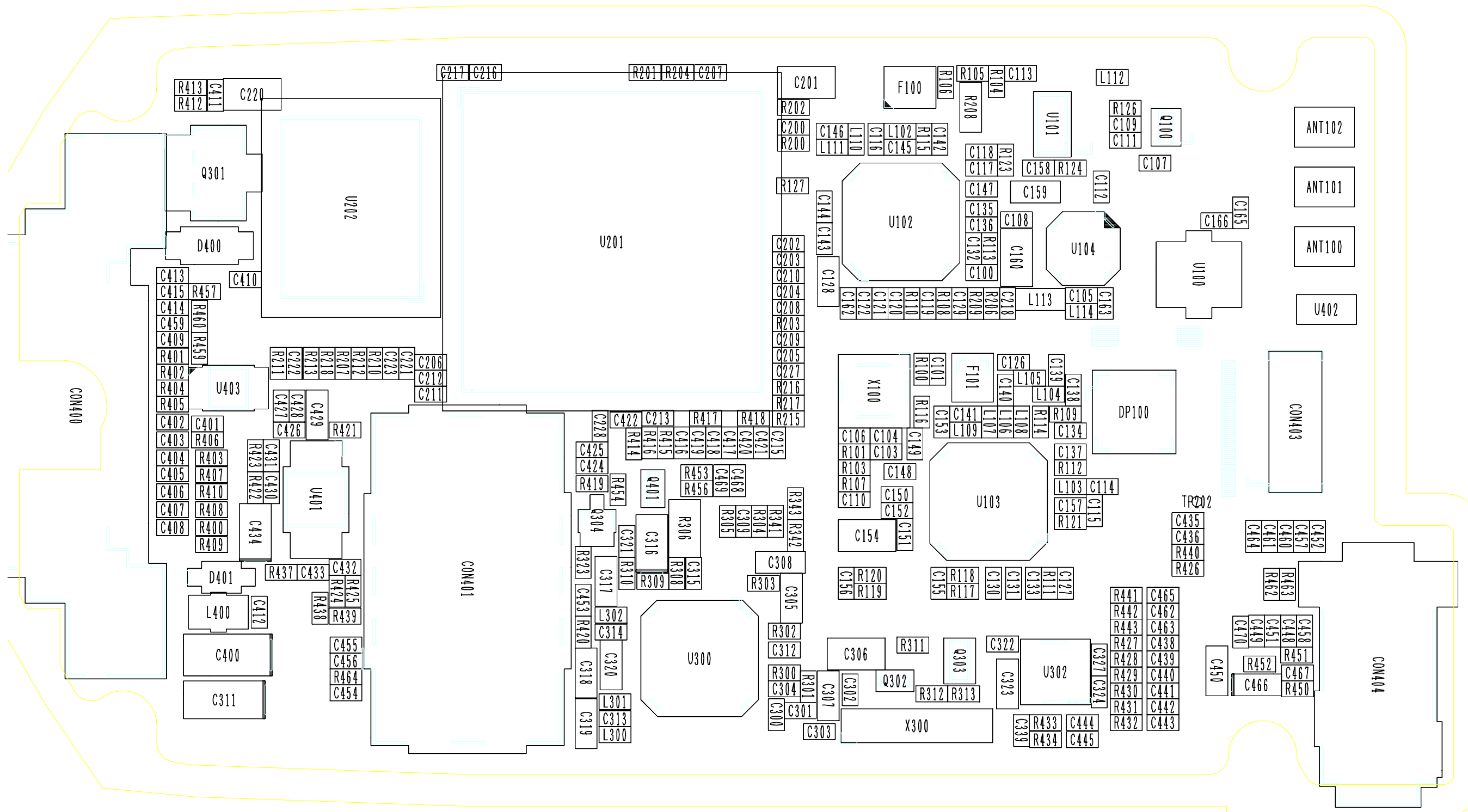


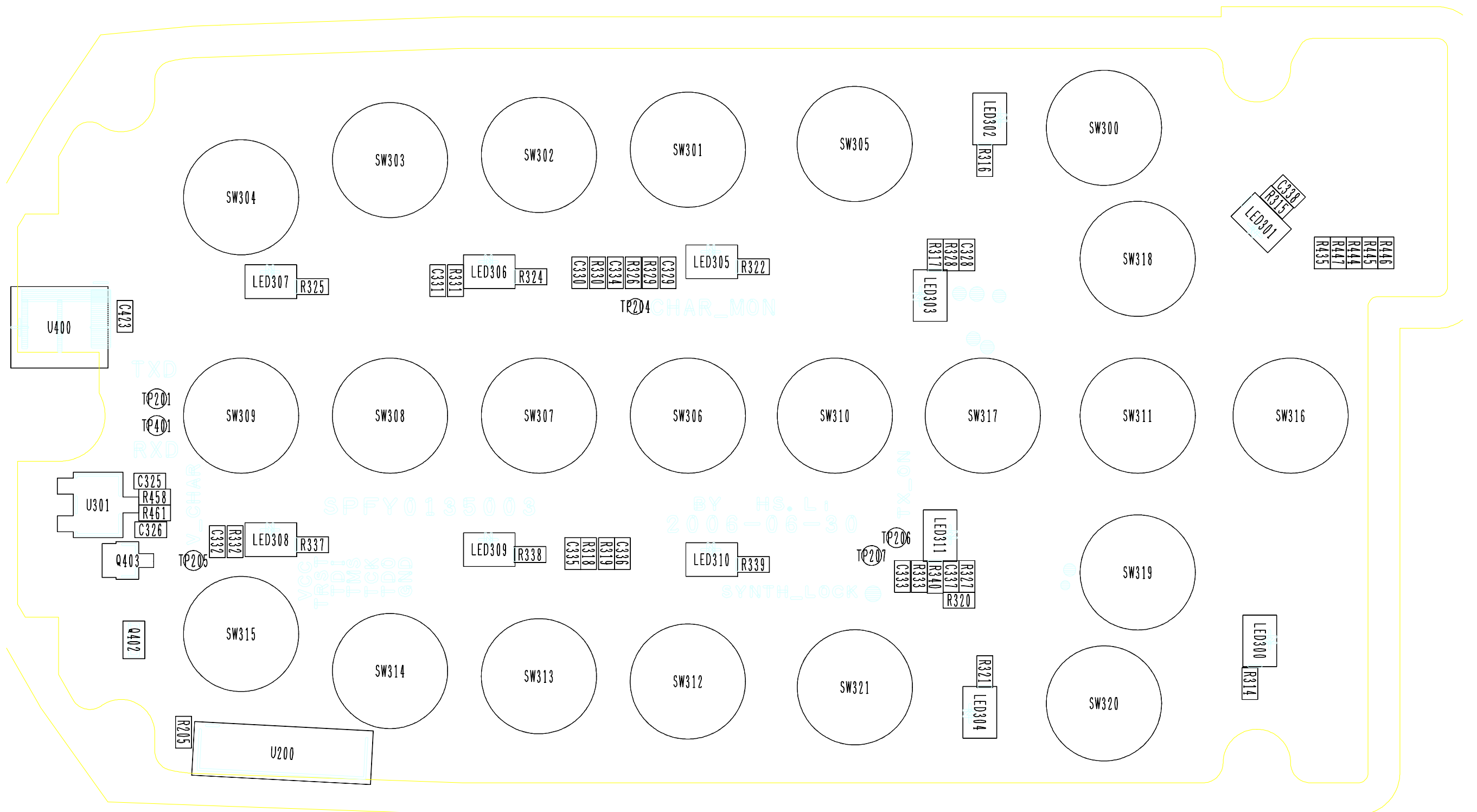
<SPK PHONE AUDIO AMP>



<RECEPTACLE with DC JACK>

[illegible]





Mechanical Part

Level	Ref No	Part Name	Part Number	Spec	color	remark
1		PRODUCT(FOLDER)	TPFA0083401			
2	AAAY00	ADDITION	AAAY0171301			
3	ACGA00	COVER ASSY,BATTERY	ACGA0016302			
4	MCJA00	COVER,BATTERY	MCJA0033302	MOLD, PC LUPOY SC-1004ML	Silver	5
3	MMBB00	MANUAL,OPERATION	MMBB0223001	PRINTING, (empty)		
3	SBPL00	BATTERY PACK,LI-ION	SBPL0085902	3.7 V,830 mAh,1 CELL,PRISMATIC ,MD120 INNERPACK ,PRISMATIC ,BLACK		
3	SSAD00	ADAPTOR,AC-DC	SSAD0007839	FREE ,50 Hz,5.2 V,800 mA,CE,CB ,		
2	APAY00	PACKAGE	APAY0071101			
3	APLY00	PALLET ASSY	APLY0001101	India_Palletizing Assy_TDR_1		
4	MBEC00	BOX,CARTON	MBEC0000207	TDR_Reliance_Body_TDR_RLC		
4	MCJZ00	COVER	MCJZ0030501	1146*996*105_TDR_Reliance		
4	MPCY00	PALLET	MPCY0013701	COMPLEX, (empty)		
4	MSCY00	SLEEVE	MSCY0001001	Deadspace Keeping Off_TDR_RLC		
3	MBAD00	BAG,VINYL(PE)	MBAD0005201	BAG,VINYL(PE)_GSM Phone(LDPE 0.05t x 85 x 195)		
3	MBEE00	BOX,MASTER	MBEE0051801	TDR "B" Type		
3	MBEF00	BOX,UNIT	MBEF0112301	PRINTING, (empty)		
3	MLAJ00	LABEL,MASTER BOX	MLAJ0004201	New_TDR_Shipping Label		
3	MLAJ01	LABEL,MASTER BOX	MLAJ0004301	TDR_10ea Stuffing M/Box Barcode		
3	MLAQ00	LABEL,UNIT BOX	MLAQ0015001	New Unit Box Barcode Label(65*55)		
3	MPAD00	PACKING,SHELL	MPAD0005804	TDR2-CDMA		
2	APEY00	PHONE	APEY0326101			
3	ACGG00	COVER ASSY,FOLDER	ACGG0074701			
4	ACGH00	COVER ASSY,FOLDER(LOWER)	ACGH0044901		Yellow	50
5	MCJH00	COVER,FOLDER(LOWER)	MCJH0035901	MOLD, PC LUPOY SC-1004ML	Gray	6
5	MFBB00	FILTER,RECEIVER	MFBB0016401		Black	12
5	MGAZ00	GASKET	MGAZ0034201	COMPLEX, (empty)	Yellow	14
5	MMAA00	MAGNET,SWITCH	MMAA0001601	7100 magnetic	Silver	20
5	MPBG00	PAD,LCD	MPBG0048701	COMPLEX, (empty)		
5	MPBJ00	PAD,MOTOR	MPBJ0032601			
5	MPBM00	PAD,RECEIVER	MPBM0013101	LOWER	Black	23
5	MTAD00	TAPE,WINDOW	MTAD0055901	COMPLEX, (empty)	Yellow	36
4	ACGJ00	COVER ASSY,FOLDER(UPPER)	ACGJ0058601			
5	MCJJ00	COVER,FOLDER(UPPER)	MCJJ0044701	MOLD, PC LUPOY SC-1004ML	Gray	7
5	MDAE00	DECO,FOLDER(UPPER)	MDAE0037801	MOLD, PC LUPOY SC-1004ML	Silver	10
5	MIDZ00	INSULATOR	MIDZ0113101	COMPLEX, (empty)	without color	17

Mechanical Part

Level	Ref No	Part Name	Part Number	Spec	color	remark
5	MPBJ00	PAD,MOTOR	MPBJ0032601		Black	22
5	MPBM00	PAD,RECEIVER	MPBM0013401	COMPLEX, (empty)	Black	24
5	MPBQ00	PAD,LCD(SUB)	MPBQ0028901	COMPLEX, (empty)	Black	25
5	MPBZ00	PAD	MPBZ0154801	COMPLEX, (empty)	Black	27
5	MPBZ01	PAD	MPBZ0161101	COMPLEX, (empty)	Black	49
5	MTAA00	TAPE,DECO	MTAA0120301	COMPLEX, (empty)	Yellow	33
5	MTAE00	TAPE,WINDOW(SUB)	MTAE0028301	COMPLEX, (empty)	Yellow	37
4	ACGK00	COVER ASSY,FRONT	ACGK0074802			
5	MCJK00	COVER,FRONT	MCJK0059202	MOLD, PC LUPOY SC-1004ML	Gray	8
5	MDAG00	DECO,FRONT	MDAG0020902	MOLD, PC LUPOY SC-1004ML	Gray	11
5	MPBH00	PAD,MIKE	MPBH0026901	COMPLEX, (empty)	Black	13
5	MSGB00	STOPPER,HINGE	MSGB0015002	MOLD, Silicone Rubber K-770	Gray	30
5	MSGY00	STOPPER	MSGY0016602	MOLD, Silicone Rubber K-770	Gray	31
5	MTAA00	TAPE,DECO	MTAA0114901		Yellow	32
4	GMZZ00	SCREW MACHINE	GMZZ0017701	1.4 mm,3.0 mm,MSWR3 ,N ,+ , - ,	White	2
4	MCCH00	CAP,SCREW	MCCH0089901	MOLD, PC LUPOY SC-1004ML	Gray	4
4	MGAZ00	GASKET	MGAZ0040401	COMPLEX, (empty)	Yellow	1
4	MGAZ01	GASKET	MGAZ0044901	COMPLEX, (empty)		
4	MHFD00	HINGE,FOLDER	MHFD0003701	PI5.8 5Kgf CAN TYPE/ KATO SPRING(HEAD R1.0)	Silver	16
4	MIDA00	INSULATOR,LCD	MIDA0024101	COMPLEX, (empty)	without color	51
4	MPBZ00	PAD	MPBZ0138501	PAD FPCB	Black	26
4	MPFB00	PLATE,COVER	MPFB0002002	COMPLEX, (empty)	Gray	29
4	MTAB00	TAPE,PROTECTION	MTAB0110201	COMPLEX, (empty)	Yellow	34
4	MTAB01	TAPE,PROTECTION	MTAB0064101	TAPE, PROTECTION(SUB)	Yellow	35
4	MWAC00	WINDOW,LCD	MWAC0069501	CUTTING, PMMA HI835M	without color	38
4	MWAF00	WINDOW,LCD(SUB)	MWAF0034101	MOLD, PMMA HI835M	without color	39
5	BFAA00	FILM,INMOLD	BFAA0044001	.		
4	SACY00	PCB ASSY,FLEXIBLE	SACY0048701		Black	21
5	SACB00	PCB ASSY,FLEXIBLE,INSERT	SACB0032201			
6	SJMY00	VIBRATOR,MOTOR	SJMY0002601	3.0 V,80 mA,12*3.4 ,	White	41
6	SUSY00	SPEAKER	SUSY0015501	ASSY ,8 ohm,90 dB,16 mm,3.7T	Black	42
6	SVLM00	LCD	SVLY0026601	MAIN ,35.78*39.7*4.8(t) ,128*128, 96*64 (MONO) ,65k ,CSTN ,TM ,M:NT7525 (NOVATEK),S:NT7534(NOVATEK) ,	White	43

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Level	Ref No	Part Name	Part Number	Spec	color	remark
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0043601		Yellow	40
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0026101			
7	ENBY00	CONNECTOR,BOARD TO BOARD	ENBY0022001	30 PIN,0.4 mm,ETC , ,H=1.5,Socket		
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0036101			
7	ENBY00	CONNECTOR,BOARD TO BOARD	ENBY0012301	40 PIN,0.4 mm,ETC		
6	SPCY00	PCB,FLEXIBLE	SPCY0083401	POLYI , mm,MULTI-3 ,		
3	ACGM00	COVER ASSY,REAR	ACGM0076801			
4	MCJN00	COVER,REAR	MCJN0056001	MOLD, PC LUPOY SC-1004A	Silver	9
4	MGAZ00	GASKET	MGAZ0034301	connector rear	Yellow	15
4	MLAN00	LABEL,QUALCOMM	MLAN0000601	Black,95C	White	19
4	MPBZ00	PAD	MPBZ0154901	COMPLEX, (empty)	Black	28
3	GMEY00	SCREW MACHINE,BIND	GMEY0009201	1.4 mm,3.5 mm,MSWR3(BK) ,B ,+ ,HEAD D=2.7mm	Black	48
3	MCCC00	CAP,EARPHONE JACK	MCCC0038202	MOLD, Silicone Rubber K-770	White	3
3	MKAZ00	KEYPAD	MKAZ0030202	COMPLEX, (empty)	Black	18
3	MLAA00	LABEL,APPROVAL	MLAA0002310	Portuguese(Produzido no Brasil)		
3	SAFY00	PCB ASSY,MAIN	SAFY0175701			
4	SAFB00	PCB ASSY,MAIN,INSERT	SAFB0062401			
5	ADCA00	DOME ASSY,METAL	ADCA0052701			
5	MGAZ00	GASKET	MGAZ0034401	receptacle		
5	MPBH00	PAD,MIKE	MPBH0023401		Black	45
5	SUMY00	MICROPHONE	SUMY0003809	FPCB ,42 dB,4*1.5 ,	Black	46
4	SAFF00	PCB ASSY,MAIN,SMT	SAFF0097001			
5	MLAZ00	LABEL	MLAZ0038301	PID Label 4 Array		
5	SAFC00	PCB ASSY,MAIN,SMT BOTTOM	SAFC0083001			

Mechanical Part

Level	Ref No	Part Name	Part Number	Spec	color	remark
6	C326	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C328	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C329	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C330	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C331	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C332	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C333	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C334	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C335	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C336	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C337	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C338	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C423	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	U301	IC	EUSY0194002	3.1x3.0x1.0 ,3 PIN,R/TP ,Ultra-Sensitive Hall Switch, Pb Free		
6	Q402	TR,BJT,NPN	EQBN0012301	ESM ,100 mW,R/TP ,NPN TRANSISTOR		
6	Q403	TR,BJT,NPN	EQBN0007601	SOT-23 ,0.15 W,R/TP ,EMT3		
6	LED300	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED301	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED302	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED303	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED304	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED305	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED306	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED307	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED308	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED309	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED310	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	LED311	DIODE,LED,CHIP	EDLH0011601	BLUE ,1608 ,R/TP ,PB-FREE		
6	C325	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	R205	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R435	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R444	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R445	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R446	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R447	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R458	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R461	RES,CHIP,MAKER	ERHZ0000444	22 Kohm,1/16W ,J ,1005 ,R/TP		
6	R318	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	R319	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R320	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R321	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R322	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R324	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R325	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R326	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R327	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R328	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R329	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R330	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R331	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R332	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R333	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R337	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R338	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R339	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R340	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	C100	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C101	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C103	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C104	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C107	CAP,CERAMIC,CHIP	ECCH0000137	330 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C108	CAP,CERAMIC,CHIP	ECCH0000147	2.2 nF,50V,K,X7R,HD,1005,R/TP		
6	C109	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C110	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C111	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C112	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C113	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C114	CAP,CERAMIC,CHIP	ECCH0001002	180 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C116	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C117	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C118	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C119	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C120	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C121	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C122	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C126	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C127	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C128	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
6	C129	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C130	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C131	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C132	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C133	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C134	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C135	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C136	CAP,CHIP,MAKER	ECZH0001107	5600 pF,25V ,K ,X7R ,HD ,1005 ,R/TP		
6	C137	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C138	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C139	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C140	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C141	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C142	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C143	CAP,CHIP,MAKER	ECZH0000801	220 pF,16V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C144	CAP,CHIP,MAKER	ECZH0000801	220 pF,16V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C145	CAP,CHIP,MAKER	ECZH0001106	4700 pF,25V ,K ,X7R ,HD ,1005 ,R/TP		
6	C146	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	C147	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C148	CAP,CERAMIC,CHIP	ECCH0000147	2.2 nF,50V,K,X7R,HD,1005,R/TP		
6	C149	CAP,CHIP,MAKER	ECZH0001203	33 nF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C150	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C151	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C152	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C153	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C154	CAP,CERAMIC,CHIP	ECCH0003002	10 uF,10V ,Z ,Y5V ,HD ,2012 ,R/TP		
6	C155	CAP,CHIP,MAKER	ECZH0000846	8.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C156	CAP,CHIP,MAKER	ECZH0000846	8.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C157	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C158	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C160	CAP,CERAMIC,CHIP	ECCH0003002	10 uF,10V ,Z ,Y5V ,HD ,2012 ,R/TP		
6	C162	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C163	CAP,CERAMIC,CHIP	ECCH0000113	18 pF,50V,J,NP0,TC,1005,R/TP		
6	C165	CAP,CHIP,MAKER	ECZH0000803	2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C200	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C201	CAP,CERAMIC,CHIP	ECCH0002102	0.68 uF,10V ,K ,NP0 ,TC ,2012 ,R/TP		
6	C202	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C203	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C204	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C205	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C206	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C207	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C208	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C209	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C210	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C211	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C212	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C213	CAP,CHIP,MAKER	ECZH0001202	0.022 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C215	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C218	CAP,CHIP,MAKER	ECZH0001206	0.068 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C220	CAP,CERAMIC,CHIP	ECCH0006501	10 uF,6.3V ,K ,X5R ,TC ,2012 ,R/TP		
6	C227	CAP,CHIP,MAKER	ECZH0001206	0.068 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C228	CAP,CHIP,MAKER	ECZH0001202	0.022 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C300	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C301	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C302	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	C303	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C304	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C305	CAP,CHIP,MAKER	ECZH0003501	1 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C306	CAP,CERAMIC,CHIP	ECCH0003002	10 uF,10V ,Z ,Y5V ,HD ,2012 ,R/TP		
6	C307	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
6	C308	CAP,CHIP,MAKER	ECZH0001501	1 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
6	C311	CAP,TANTAL,CHIP	ECTH0003401	33 uF,6.3V ,M ,STD ,3216 ,R/TP		
6	C312	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C313	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C314	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C315	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C316	CAP,TANTAL,CHIP,MAKER	ECTZ0003701	10 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C317	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C318	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C319	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C320	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
6	C321	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C322	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C323	CAP,CHIP,MAKER	ECZH0001501	1 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
6	C324	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C327	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C400	CAP,TANTAL,CHIP,MAKER	ECTZ0000318	33 uF,10V ,M ,STD ,3216 ,R/TP		
6	C401	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C402	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C403	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C404	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C405	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C406	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C407	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C408	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C409	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C410	CAP,CHIP,MAKER	ECZH0001202	0.022 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C411	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C412	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C413	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C414	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C415	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	C416	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C417	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C418	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C419	CAP,CERAMIC,CHIP	ECCH0000157	15 nF,16V,K,X7R,HD,1005,R/TP		
6	C420	CAP,CERAMIC,CHIP	ECCH0000157	15 nF,16V,K,X7R,HD,1005,R/TP		
6	C421	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C422	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C424	CAP,CHIP,MAKER	ECZH0001202	0.022 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C425	CAP,CHIP,MAKER	ECZH0001202	0.022 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C426	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C427	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C428	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C430	CAP,CHIP,MAKER	ECZH0001122	680 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C431	CAP,CHIP,MAKER	ECZH0003125	82000 pF,16V ,K ,X7R ,HD ,1005 ,R/TP		
6	C432	CAP,CHIP,MAKER	ECZH0001202	0.022 uF,16V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C433	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C434	CAP,TANTAL,CHIP,MAKER	ECTZ0003701	10 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C435	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C436	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C438	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C439	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C440	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C441	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C442	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C443	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C444	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C445	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C448	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C449	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C450	CAP,CHIP,MAKER	ECZH0001501	1 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
6	C451	CAP,CERAMIC,CHIP	ECCH0000133	220 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C452	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C457	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C458	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
6	C459	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C460	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C461	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C462	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C463	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	R101	RES,CHIP,MAKER	ERHZ0000509	75 ohm,1/16W ,J ,1005 ,R/TP		
6	R103	RES,CHIP,MAKER	ERHZ0000509	75 ohm,1/16W ,J ,1005 ,R/TP		
6	R104	RES,CHIP,MAKER	ERHZ0000429	180 ohm,1/16W ,J ,1005 ,R/TP		
6	R105	RES,CHIP,MAKER	ERHZ0000457	30 ohm,1/16W ,J ,1005 ,R/TP		
6	R106	RES,CHIP,MAKER	ERHZ0000429	180 ohm,1/16W ,J ,1005 ,R/TP		
6	R107	RES,CHIP,MAKER	ERHZ0000509	75 ohm,1/16W ,J ,1005 ,R/TP		
6	R108	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R109	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R110	RES,CHIP,MAKER	ERHZ0003203	11.3 Kohm,1/16W ,F ,1005 ,R/TP		
6	R111	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R112	RES,CHIP,MAKER	ERHZ0003202	5.76 Kohm,1/16W ,F ,1005 ,R/TP		
6	R113	RES,CHIP,MAKER	ERHZ0000203	10 Kohm,1/16W ,F ,1005 ,R/TP		
6	R115	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R116	RES,CHIP,MAKER	ERHZ0000346	7500 ohm,1/16W ,F ,1005 ,R/TP		
6	R117	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R118	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R119	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R120	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R121	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R122	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	R123	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R124	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
6	R126	RES,CHIP,MAKER	ERHZ0000463	33 ohm,1/16W ,J ,1005 ,R/TP		
6	R200	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R201	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R202	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R204	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R206	RES,CHIP,MAKER	ERHZ0000318	80.6 Kohm,1/16W ,F ,1005 ,R/TP		
6	R207	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R208	THERMISTOR	SETY0004501	NTC ,150 Kohm,SMD ,		
6	R209	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP		
6	R210	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R211	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
6	R212	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R215	RES,CHIP,MAKER	ERHZ0000301	560 Kohm,1/16W ,F ,1005 ,R/TP		
6	R216	RES,CHIP,MAKER	ERHZ0000301	560 Kohm,1/16W ,F ,1005 ,R/TP		
6	R217	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R218	VARISTOR	SEVY0003901	5.5 V ,SMD ,480pF, 1005		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	R300	RES,CHIP,MAKER	ERHZ0000213	120 Kohm,1/16W ,F ,1005 ,R/TP		
6	R301	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP		
6	R302	RES,CHIP,MAKER	ERHZ0000434	1 ohm,1/16W ,J ,1005 ,R/TP		
6	R303	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R304	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R306	RES,CHIP,MAKER	ERHZ0003901	.1 ohm,1/4W ,F ,2012 ,R/TP		
6	R308	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R309	RES,CHIP,MAKER	ERHZ0000499	5600 ohm,1/16W ,J ,1005 ,R/TP		
6	R310	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R311	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R312	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R313	RES,CHIP,MAKER	ERHZ0000488	4.7 ohm,1/16W ,J ,1005 ,R/TP		
6	R323	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R341	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	R342	RES,CHIP,MAKER	ERHZ0002401	12 Kohm,1/16W ,J ,1005 ,R/TP		
6	R343	RES,CHIP,MAKER	ERHZ0002401	12 Kohm,1/16W ,J ,1005 ,R/TP		
6	R400	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R401	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R402	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R403	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R404	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R405	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP		
6	R406	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP		
6	R407	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R408	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R409	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R410	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R412	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R413	RES,CHIP,MAKER	ERHZ0000438	20 Kohm,1/16W ,J ,1005 ,R/TP		
6	R414	RES,CHIP,MAKER	ERHZ0000494	510 Kohm,1/16W ,J ,1005 ,R/TP		
6	R415	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R416	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R417	RES,CHIP,MAKER	ERHZ0000433	180 Kohm,1/16W ,J ,1005 ,R/TP		
6	R418	RES,CHIP,MAKER	ERHZ0000433	180 Kohm,1/16W ,J ,1005 ,R/TP		
6	R419	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R421	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R422	RES,CHIP,MAKER	ERHZ0000498	56 Kohm,1/16W ,J ,1005 ,R/TP		
6	R423	RES,CHIP,MAKER	ERHZ0000499	5600 ohm,1/16W ,J ,1005 ,R/TP		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	R424	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R425	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R426	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R427	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R428	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R429	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R430	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R431	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R432	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R433	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R434	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R437	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R438	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R439	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R440	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R441	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R442	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R443	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R450	VARISTOR	SEVY0003901	5.5 V ,SMD ,480pF, 1005		
6	R451	VARISTOR	SEVY0003901	5.5 V ,SMD ,480pF, 1005		
6	R452	VARISTOR	SEVY0003901	5.5 V ,SMD ,480pF, 1005		
6	R453	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R454	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R456	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R457	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
6	R459	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R460	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
6	R462	VARISTOR	SEVY0003901	5.5 V ,SMD ,480pF, 1005		
6	R463	VARISTOR	SEVY0003901	5.5 V ,SMD ,480pF, 1005		
6	U100	CONN,RF SWITCH	ENWY0001801	STRAIGHT ,SMD ,2 dB,3000PCS/REEL		
6	U101	IC	EUSY0080901	SUPER SOT-6 ,6 PIN,R/TP ,		
6	U102	IC	EUSY0203001	QFN ,32 PIN,R/TP ,32-pin QFN type, R/TP, Baseband to RF Transmitter IC, 5x5		
6	U103	IC	EUSY0203101	QFN ,32 PIN,R/TP ,32-pin QFN type, R/TP, RF to Baseband Receiver IC, 5x5		
6	U104	PAM	SMPY0014101	28 dBm,39.5 %,470 A,-30 dBc,28 dB,3x3x0.85 ,SMD ,		
6	U201	IC	EUSY0218701	FBGA ,208 PIN,R/TP ,MSM6000		

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Level	Ref No	Part Name	Part Number	Spec	color	remark
6	U202	IC	EUSY0250701	TLC-056 / FBGA (9*7*1.2) ,56 PIN,ETC ,64M NOR+32M PSRAM / TOSHIBA PSRAM / PB FREE		
6	U300	IC	EUSY0233501	QFN ,32 PIN,R/TP ,QFN Power Management IC (2.8V)		
6	U302	IC	EUSY0193801	TSOPJW-12 ,12 PIN,R/TP ,1X,1.5X Charge Pump For White LED Driver		
6	U401	IC	EUSY0158801	MSOP ,8 PIN,R/TP ,2W Audio Power Amplifier		
6	U402	TERMINAL,GROUND	MTCA0001801			
6	U403	IC	EUSY0161702	US-8 ,8 PIN,R/TP ,UHS TRIPLE BUFFER / 3.1 WIDE SIZE, Pb Free		
6	X100	VCTCXO	EXSK0005001	19.2 MHz,2 PPM,10 pF,SMD ,3.2*2.5*1.1 ,Old Version, Do Not Use		
6	X300	X-TAL	EXXY0004601	.032768 MHz,20 PPM,7 pF,65000 ohm,SMD ,6.9*1.4*1.3 ,		
5	SAFD00	PCB ASSY,MAIN,SMT TOP	SAFD0081901			
6	R314	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R315	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R316	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R317	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
5	SPFY01	PCB,MAIN	SPFY0135003	FR-4 ,1.0 mm,BUILD-UP 6 ,4		
5	WSYY00	SOFTWARE	WSYY0411801	MD12VV08, 00, 2006/08/25-10:34:00:000		
3	SNMF00	ANTENNA,MOBILE,FIXED	SNMF0026801	6 ,-5 dB,Internal, DCN_single, Pb Free ,SINGLE		