Features of AX8575

1. Wave Type

- CELLULAR : G7W
- PCS: G7W

2. Frequency Scope

Transmit Frequency (MHz)		Receive Frequency (MHz)		
CELLULAR	**PCS**	**CELLULAR**	**PCS**	**GPS**
824.82 ~ 848.19	1850~1910	869.82~893.19	1930~1990	1575.42

3. Rated Output Power : CELLULAR = 0.316W

PCS = 0.251W

4. Output Conversion Method : This is possible by correcting the key board channel.

5. Voltage and Current Value of Termination Part Amplifier (Catalogue included)

MODE	Part Name	Voltage	Current	Power
CELLULAR	ACPM-7353	4.2V	600mA	0.316W
PCS	ACPM-7353	4.2V	700mA	0.251W

6. Functions of Major Semi-Conductors

Classification	Function
MSM6575-NSP	Terminal operation control and digital signal processing
Memory MCP (TYAB0A111081KC)	OneNAND Flash Memory (2G) + SDRAM (1G) Storing of terminal operation program
RTR6500	Converts Rx and Tx RF signal to baseband signal

7. Frequency Stability

- CELLULAR : ±0.5PPM
- PCS : ±0.1PPM

CDMA Mobile Subscriber Unit
AX8575

SERVICE MANUAL

DUAL BAND CDMA
[PCS/Cellular/GPS]
CDMA MOBILE PHONE

General Introduction

The AX8575 phone has been designed to operate on the latest digital mobile communication technology, Code Division Multiple Access (CDMA). This CDMA digital technology has greatly enhanced voice clarity and can provide a variety of advanced features. Currently, CDMA mobile communication technology has been commercially used in Cellular and Personal Communication Service (PCS). The difference between them is the operating frequency spectrum. Cellular uses 800MHz and PCS uses 1.9GHz. The AX8575 support GPS Mode, we usually call it tri-band phone. Also, AX8575 works on Advanced Mobile Phone Service (S-GPS). We call it dual-mode phone. If one of the Cellular, PCS base stations is located nearby, Call fail rate of triple-mode phone is less than dual-mode phone or single-mode phone.

The CDMA technology adopts DSSS (Direct Sequence Spread Spectrum). This feature of DSSS enables the phone to keep communication from being crossed and to use one frequency channel by multiple users in the same specific area, resulting that it increases the capacity 10 times more compared with that in the analog mode currently used. Soft/Softer Handoff, Hard Handoff, and Dynamic RF power Control technologies are combined into this phone to reduce the call being interrupted in a middle of talking over the phone.

Cellular and PCS CDMA network consists of MSO (Mobile Switching Office), BSC (Base Station Controller), BTS (Base station Transmission System), and MS (Mobile Station). The following table lists some major CDMA Standards.

CDMA Standard	Designator	Description
Basic air interface	TIA/EIA/IS-95-A/B/C ANSI J-STD-008	Protocol between MS and BTS for Cellular & AMPS Protocol between MS and BTS for PCS
Network	TIA/EIA/IS-634 TIA/EIA/IS/651 TIA/EIA/IS-41-C TIA/EIA/IS-124	MAS-BS PCSC-RS Intersystem operations Nom-signaling data comm.
Service	TIA/EIA/IS-96-B TIA/EIA/IS-99 TIA/EIA/IS-637 TIA/EIA/IS-657	Speech CODEC Assign data and fax Short message service Packet data
Performance	TIA/EIA/IS-97 TIA/EIA/IS-98 ANSI J-STD-018 ANSI J-STD-019 TIA/EIA/IS-125	Cellular base station Cellular mobile station PCS personal station PCS base station Speech CODEC

* TSB –74: Protocol between an IS-95A system and ANSI J-STD-008

Chapter1. System Introduction

1. CDMA Abstract

The CDMA mobile communication system has a channel hand-off function that is used for collecting the information on the locations and movements of mobile telephones from the cell site by automatically controlling several cell site through the setup of data transmission routes, and then enabling one switching system to carry out the automatic remote adjustment. This is to maintain continuously the call state through the automatic location confirmation and automatic radio channel conversion when the busy subscriber moves from the service area of one cell site to that of another by using automatic location confirmation and automatic radio channel conversion functions. The call state can be maintained continuously by the information exchange between switching systems when the busy subscriber moves from one Cellular system area to the other Cellular system area.

In the Cellular system, the cell site is a small-sized low output type and utilizes a frequency allocation system that considers mutual interference, in an effort to enable the re-use of corresponding frequency from a cell site separated more than a certain distance.

Unlike the time division multiple access (TDMA) or frequency division multiple access (FDMA) used in the band limited environment, the Code Division Multiple Access (CDMA) system which is one of digital Cellular systems is a multi-access technology under the interference limited environment. It can process more number of subscribers compared to other systems (TDMA system has the processing capacity three times greater than the existing FDMA system whereas CDMA system, about 12~15 times of that of the existing system).

CDMA system can be explained as follows; TDMA or CDMA can be used to enable each person to talk alternately or provide a separate room for each person when two persons desire to talk with each other at the same time, whereas FDMA can be used to enable one person to talk in soprano, whereas the other in bass (one of the two talkers can carry out synchronization for hearing in case there is a bandpass filter function in the area of the hearer). Another available method is to make two persons to sing in different languages at the same time, space, and frequency when wishing to let the audience hear the singing without being confused. This is the characteristic of CDMA.

On the other hand, when employing the CDMA technology, each signal has a different pseudo-random binary sequence used to spread the spectrum of carrier. A great number of CDMA signals share the same frequency spectrum. In the perspective of frequency area or time area, several CDMA signals are overlapped. Among these types of signals, only desired signal energy is selected and received through the use of pre-determined binary sequence; desired signals can be separated, and then received with the correlators used for recovering the spectrum into its original state. At this time, the spectrums of other signals that have different codes are not recovered into its original state, and appears as the self-interference of the system.

2. Features and Advantages of CDMA Mobile Phone

2.1 Various Types of Diversities

When employing the narrow band modulation (30kHz band) that is the same as the analog FM modulation system used in the existing Cellular system, the multi-paths of radio waves create a serious fading. However, in the CDMA broadband modulation (1.25MHz band), three types of diversities (time, frequency, and space) are used to reduce serious fading problems generated from radio channels in order to obtain high-quality calls.
Time diversity can be obtained through the use of code interleaving and error correction code whereas frequency diversity can be obtained by spreading signal energy to wider frequency band. The fading related to normal frequency can affect the normal 200~300KHz among signal bands and accordingly, serious effect can be avoided.
Moreover, space diversity (also called path diversity) can be realized with the following three types of methods. First, it can be obtained by the duplication of cell site receive antenna. Second, it can be obtained through the use of multi-signal processing device that receives a transmit signal having each different transmission delay time and then, combines them. Third, it can be obtained through the multiple cell site connection (Soft Handoff) that connects the mobile station with more than two cell sites at the same time.

2.2 Power Control

The CDMA system utilizes the forward (from a base station to mobile stations) and backward (from the mobile station to the base station) power control in order to increase the call processing capacity and obtain high-quality calls. In case the originating signals of mobile stations are received by the cell site in the minimum call quality level (signal to interference) through the use of transmit power control on all the mobile stations, the system capacity can be maximized. If the signal power of mobile station is received too strong, the performance of that mobile station is improved. However, because of this, the interference on other mobile stations using the same channel is increased and accordingly, the call quality of other subscribers is reduced unless the maximum accommodation capacity is reduced.
In the CDMA system, forward power control, backward open loop power control, and closed loop power control methods are used. The forward power control is carried out in the cell site to reduce the transmit power on mobile stations less affected by the multi-path fading and shadow phenomenon and the interference of other cell sites when the mobile station is not engaged in the call or is relatively nearer to the corresponding cell site. This is also used to provide additional power to mobile stations having high call error rates, located in bad reception areas or far away from the cell site.
The backward open loop power control is carried out in a corresponding mobile station; the mobile station measures power received from the cell site and then, reversely increases/decreases transmit power in order to compensate channel changes caused by the forward link path loss and terrain characteristics in relation to the mobile station in the cell site. By doing so, all the mobile transmit signals received by the base station have same strength.
Moreover, the backward closed loop power control used by the mobile station is performed to control power using the commands issued out by the cell site. The cell site receives the signal of each corresponding mobile station and compares this with the pre-set threshold value and then, issues out power increase/decrease commands to the corresponding mobile station every 1.25msec (800 times per second). By doing so, the gain tolerance and the different radio propagation loss on the forward/backward link are complemented.

2.3 Voice Encoder and Variable Data Speed

The bi-directional voice service having variable data speed provides voice communication which employs voice encoder algorithm having power variable data rate between the base station and the mobile station. On the other hand, the transmit voice encoder performs voice sampling and then, creates encoded voice packets to be sent out to the receive voice encoder, whereas the receive voice encoder demodulates the received voice packets into voice samples.
One of the two voice encoders described in the above is selected for use depending on inputted automatic conditions and message/data; both of them utilize four-stage frames of 9600, 4800, 2400, and 1200 bits per second for Cellular and 14400,7200,3600,1800 bits per second for PCS, so PCS provide relatively better voice quality (almost twice better than the existing cellular system). In addition, this type of variable voice encoder utilizes adaptive threshold values on selecting required data rate. It is adjusted in accordance with the size of background noise and the data rate is increased to high rate only when the voice of caller is inputted.
Therefore, background noise is suppressed and high-quality voice transmission is possible under the environment experiencing serious noise. In addition, in case the caller does not talk, data transmission rate is reduced so that the transmission is carried out in low energy. This will reduce the interference on other CDMA signals and as a result, improve system performance (capacity increased by about two times).

2.4 Protecting Call Confidentiality

Voice privacy is provided in the CDMA system by means of the private long code mask used for PN spreading. Voice privacy can be applied on the traffic channels only. All calls are initiated using the public long code mask for PN spreading. The mobile station user may request voice privacy during call setup using the origination message or page response message, and during traffic channel operation using the long code transition request order.
The Transition to private long code mask will not be performed if authentication is not performed. To initiate a transition to the private or public long code mask, either the base station or the mobile station sends a long code transition request order on the traffic channel.

2.5 Soft Handoff

A handoff in which the mobile station commences communications with a new base station without interrupting communications with the old base station. Soft handoff can only be used between CDMA channels having identical frequency assignments.

2.6 Frequency Re-Use and Sector Segmentation

Unlike the existing analog Cellular system, the CDMA system can reuse the same frequency at the adjacent cell. there is no need to prepare a separate frequency plan. Total interference generated on mobile station signals received from the cell site is the sum of interference generated from other mobile stations in the same cell site and interference generated from the mobile station of adjacent cell site. That is, each mobile station signal generates interference in relation to the signals of all the other mobile stations.

Total interference from all the adjacent cell sites is the ratio of interference from all the cell sites versus total interference from other mobile stations in the same cell site (about 65%). In the case of directional cell site, one cell normally uses a 120˚sector antenna in order to divide the sector into three. In this case, each antenna is used only for 1/3 of mobile stations in the cell site and accordingly, interference is reduced by 1/3 on the average and the capacity that can be supported by the entire system is increased by three times.

2.7 Soft Capacity

The subscriber capacity of the CDMA system is flexible depending on the relation between the number of users and service classes. For example, the system operator can increase the number of channels available for use during the busy hour despite the drop in call quality. This type of function requires 40% of normal call channels in the standby mode during the handoff, in an effort to avoid call disconnection resulting from the lack of channels.
In addition, in the CDMA system, services and service charges are classified further into different classes so that more transmit power can be allocated to high class service users for easier call set-up; they can also be given higher priority of using hand-off function than the general users.

3. Structure and Functions of tri-band CDMA Mobile Phone

The hardware structure of CDMA mobile phone is made up of radio frequency (RF) part and logic part. The RF part is composed of Receiver part (Rx), Transmitter part (Tx) and Local part (LO). For the purpose of operating on tri-band, It is necessary dual Tx path, tri Rx path, dual PLL and switching system for band selection. The mobile phone antenna is connected with the frequency separator which divide antenna input/output signals between Cellular frequency band (824~894 MHz) and PCS frequency band (1850~1990MHz). Each separated path is linked with the Cellular duplexer and PCS duplexer. Duplexer carries out separating Rx band and Tx band. The Rx signals from the antenna are converted into intermediate frequency (IF) band by the frequency synthesizer and frequency down converter. And then, pass SAW filter which is a band pass filter for removing out image frequency. The IF output signals that have been filtered is converted into digital signals via Analog-to-Digital Converter (ADC). In front of the ADC, switching system is required to choose which band path should be open. The digital signals send to 5 correlators in each CDMA de-modulator. Of these, one is called a searcher whereas the remaining 4 are called data receivers (fingers). Digitalized IF signals include a great number of call signals that have been sent out by the adjacent cells. These signals are detected with pseudo-noise sequence (PN Sequence). Signal to interference ratio (C/I) on signals that match the desired PN sequence are increased through this type of correlation detection process, but other signals obtain processing gain by not increasing the ratio. The carrier wave of pilot channel from the cell site most adjacently located is demodulated in order to obtain the sequence of encoded data symbols. During the operation with one cell site, the searcher searches out multi-paths in accordance with terrain and building reflections. On three data receivers, the most powerful 3 paths are allocated for the parallel tracing and receiving. Fading resistance can be improved a great deal by obtaining the diversity combined output for de-modulation. Moreover, the searcher can be used to determine the most powerful path from the cell sites even during the soft handoff between the two cell sites. Moreover, 3 data receivers are allocated in order to carry out the de-modulation of these paths. Output data that has been demodulated changes the data string in the combined data row as in the case of original signals(deinterleaving), and then, are demodulated by the forward error correction decoder which uses the Viterbi algorithm.

Mobile station user information send out from the mobile station to the cell site pass through the digital voice encoder via a mike. Then, they are encoded and forward errors are corrected through the use of convolution encoder. Then, the order of code rows is changed in accordance with a certain regulation in order to remove any errors in the interleaver. Symbols made through the above process are spread after being loaded onto PN carrier waves. At this time, PN sequence is selected by each address designated in each call.

Signals that have been code spread as above are digital modulated (QPSK) and then, power controlled at the automatic gain control amplifier (AGC Amp). Then, they are converted into RF band by the frequency synthesizer synchronizing these signals to proper output frequencies.

Transmit signals obtained pass through the duplexer filter and then, are sent out to the cell site via the antenna.

4. Specification

4.1 General Specification

4.1.1 Transmit/Receive Frequency Interval :

1)CELLULAR : 45 MHz
2)PCS : 80 MHz

4.1.2 Number of Channels (Channel Bandwidth)

1)CELLULAR : 20 Channels
2) PCS : 48 Channels

4.1.3 Operating Voltage : DC 3.3~4.2V

4.1.4 Battery Power Consumption : DC 3.7V

	SLEEP	IDLE	MAX POWER
CELLULAR	1.5 mA	80~90mA	600 mA (25.0dBm)
PCS	1.5 mA	80~100mA	700 mA (24.0dBm)

4.1.5 Operating Temperature : -0°C ~ +60°C

4.1.6 Frequency Stability

1) CDMA : ±0.5PPM
2) PCS : ±0.1PPM

4.1.7 Antenna : Press Type (PIFA), 50

4.1.8 Size and Weight

1) Size : DOP (108.4(H) * 55.4(W) * 11.95(D) mm)
2) Weight : DOP (120 g) (Approximately with standard battery)

4.1.9 Channel Spacing

1) CELLULAR : 1.25MHz
2) PCS: 1.25 MHz

4.1.10 Battery Type, Capacity and Operating Time. Unit = Hours : Minutes

	Standard (1000mAh)	
Standby Time	CELLULAR	About 530.7 Hours (SCI=2)
	PCS	About 546 Hours (SCI=2)
Talk time	CELLULAR	362 Minutes (-92dBm input)
	PCS	351 Minutes (-92dBm input)

4.3.4 CDMA TX Frequency Deviation :

1) CELLULAR: ±300Hz or less

2) PCS: ± 150Hz

4.3.5 CDMA TX Conducted Spurious Emissions

1) CELLULAR: 885kHz : - 42 dBc/30kHz below
1.98MHz : - 54 dBc/30kHz below

2) PCS: 1.25MHz: - 42 dBc/30kHz below
1.98MHz : - 50 dBc/30kHz below

4.3.6 CDMA Minimum TX Power Control

1) CELLULAR: - 50dBm below

2) PCS: -50dBm below

4.4 MS (Mobile Station) Transmitter Frequency

4.4.1 CELLULAR mode

Ch #	Center Freq. (MHz)	Ch #	Center Freq. (MHz)
1011	824.640	404	837.120
29	825.870	445	838.350
70	827.100	486	839.580
111	828.330	527	840.810
152	829.560	568	842.040
193	830.790	609	843.270
234	832.020	650	844.500
275	833.250	697	845.910
316	834.480	738	847.140
363	835.890	779	848.370

4.4.2 PCS mode

Ch #	Center Freq (MHz)	Ch #	Center Freq (MHz)	Ch #	Center Freq (MHz)
25	1851.25	425	1871.25	825	1891.25
50	1852.50	450	1872.50	850	1892.50
75	1853.75	475	1873.75	875	1893.75
100	1855.00	500	1875.00	900	1895.00
125	1856.25	525	1876.25	925	1896.25
150	1857.50	550	1877.50	950	1897.50
175	1858.75	575	1878.75	975	1898.75

200	1860.00	600	1880.00	1000	1900.00
225	1861.25	625	1881.25	1025	1901.25
250	1862.50	650	1882.50	1050	1902.50
275	1863.75	675	1883.75	1075	1903.75
300	1865.00	700	1885.00	1100	1905.00
325	1866.25	725	1886.25	1125	1906.25
350	1867.50	750	1887.50	1150	1907.50
375	1868.75	775	1888.75	1175	1908.75

4.5 MS (Mobile Station) Receiver Frequency

4.5.1 CELLULAR mode

Ch. #	Center Freq. (MHz)	Ch. #	Center Freq. (MHz)
1011	869.640	404	882.120
29	870.870	445	883.350
70	872.100	486	884.580
111	873.330	527	885.810
152	874.560	568	887.040
193	875.790	609	888.270
234	877.020	650	889.500
275	878.250	697	890.910
316	879.480	738	892.140
363	880.890	779	893.370

4.5.2 PCS mode

Ch #	Center Freq (MHz)	Ch #	Center Freq (MHz)	Ch #	Center Freq (MHz)
25	1931.25	425	1951.25	825	1971.25
50	1932.50	450	1952.50	850	1972.50
75	1933.75	475	1953.75	875	1973.75
100	1935.00	500	1955.00	900	1975.00
125	1936.25	525	1956.25	925	1976.25
150	1937.50	550	1957.50	950	1977.50
175	1938.75	575	1958.75	975	1978.75
200	1940.00	600	1960.00	1000	1980.00
225	1941.25	625	1961.25	1025	1981.25

250	1942.50	650	1962.50	1050	1982.50
275	1943.75	675	1963.75	1075	1983.75
300	1945.00	700	1965.00	1100	1985.00
325	1946.25	725	1966.25	1125	1986.25
350	1947.50	750	1967.50	1150	1987.50
375	1948.75	775	1968.75	1175	1988.75

4.5.3 GPS mode : 1575.42 MHz

4.5.4 Bluetooth mode : 2400 MHz ~ 2483.5 MHz

4.5.5. FM Radio mode : 87.5MHz ~ 108 MHz

5. Installation

5.1 Installing a Battery Pack

1) The Battery pack is keyed so it can only fit one way. Align the groove in the battery pack with the rail on the back of the phone until the battery pack rests flush with the back of the phone.
2) Slide the battery pack forward until you hear a “click”, which locks the battery in place.

5.2 For Adapter Use

1) Plug the adapter into a wall outlet. The adapter can be operated from a 110V source. When AC power is connected to the adapter.
2) Insert the adapter IO plug into the phone with the installed battery pack.
Red light indicates battery is being charged.. Green light indicates battery is fully charged.

5.3 For Mobile Mount

5.3.1 Installation Position

In order to reduce echo sound when using the Hands-Free Kit, make sure that the speaker and microphone are not facing each other and keep microphone a generous distance from the speaker.

5.3.2 Cradle Installation

Choose an appropriate flat surface where the unit will not interface with driver’s movement or passenger’s comfort. The driver/user should be able to access the phone with ease. Using the four self-tapping screws provided, mount the supplied bracket on the selected area. Then with the four machine screws provided, mount the counterpart on the reverse side of the reverse side of the cradle. Secure the two brackets firmly together by using the two bracket joint screws provide. The distance between the cradle and the interface box must not exceed the length of the main cable.

5.3.3 Interface Box

Choose an appropriate flat surface (somewhere under the dash on the passenger side is preferred) and mount the IB bracket with the four self-tapping screws provided. Clip the IB into the IB bracket.

5.3.4. Microphone Installation

Install the microphone either by clipping I onto the sunvisor (driver’s side) or by attaching it to door post (driver’s side), using a velcro adhesive tape (not included).

5.3.5 Cable Connections

5.3.5.1 Power and Ignition Cables

Connect the red wire to the car battery positive terminal and the black wire to the car ground. Connect the green wire to the car ignition sensor terminal. (In order to operate HFK please make sure to connect green wire to ignition sensor terminal.) Connect the kit's power cable connector to the interface box power receptacle.

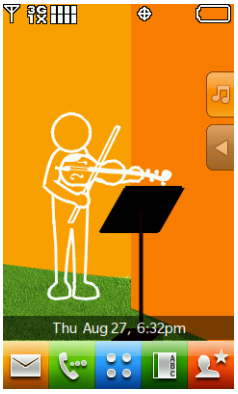
5.3.5.2 Antenna Cable Connection

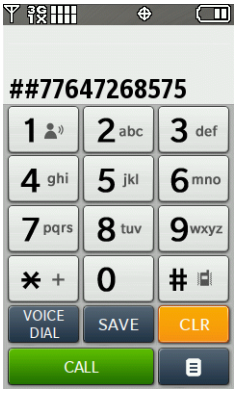
Connect the antenna coupler cable connector from the cradle to the external antenna connector. (Antenna is not included.)

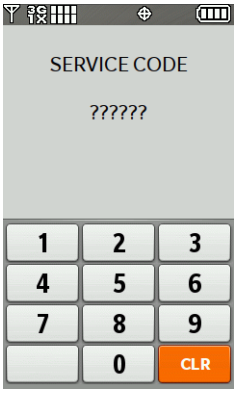
CHAPTER 2. NAM Input Method (Inputting of telephone numbers included)

1. NAM Programming Method

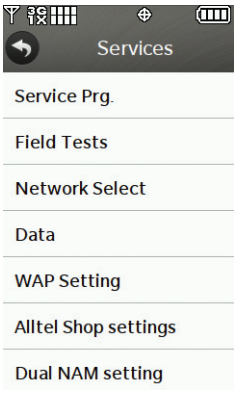
1) Press "##77647268575"+CALL" and then, press "000000"







2) Press "Service Prg" for entering "Service Prg.".



Usually pressing soft key will save the change.

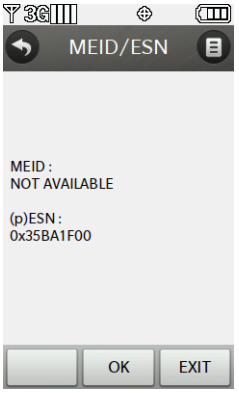
To exit service program, press "END" key.

3) MEID/ESN

You can see the MEID/ESN number.

Press "OK" to edit more NAM1 items.

Press "Exit" to exit Service Programming.



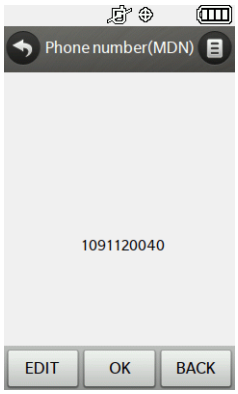
4) NAM1 Phone Number (MDN)

You can edit the NAM1 Phone Number (MDN).

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit MDN Phone Number.



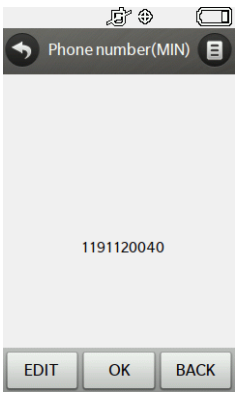
5) NAM1 Phone Number (MIN)

You can edit the NAM1 Phone Number (MIN).

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit MIN Phone Number.



6) NAM1 Home SID

You can edit the NAM1 Home SID.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Home SID.

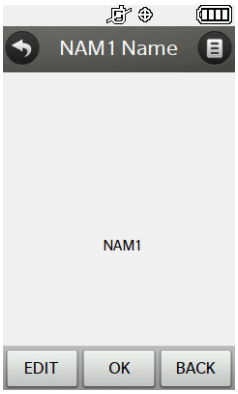
7) NAM1 Name

You can edit the NAM1 Name.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit NAM1 Name.

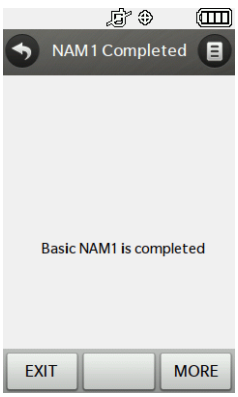


8) More NAM1 Programming

You can decide to edit more NAM1 Name.

Press “Exit” to exit Service Programming.

Press “More” to edit more advanced NAM1 items.



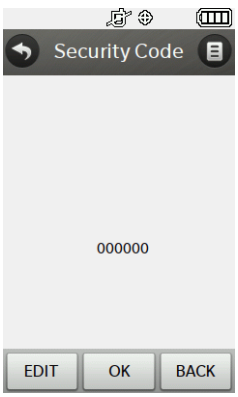
9) Security Code

You can decide to edit Security Code.

Press “OK” to edit more advanced NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT’ to edit security code.



10) NAM1 MCC

You can edit NAM1 Mobile Country Code.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit NAM1 MCC.

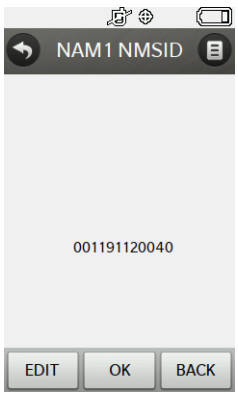
11) NAM1 NMSID

You can edit NAM1 NMSID.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit NAM1 NMSID.



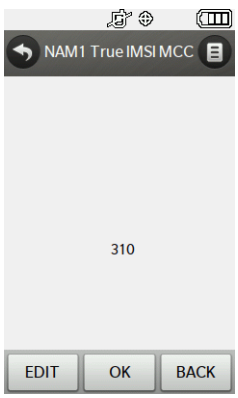
12) NAM1 True IMSI MCC

You can edit NAM1 True IMSI MCC.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit NAM1 True IMSI MCC.



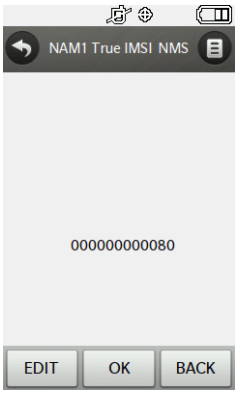
13) NAM1 True IMSI NMSID

You can edit NAM1 True IMSI NMSID.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit True IMSI NMSID.

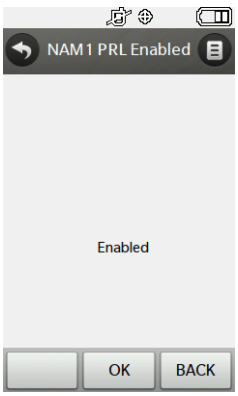


14) NAM1 PRL Enabled

You can see NAM1 PRL Enabled.

Press “OK” to edit more NAM1 items.

Press “ BACK” to edit previous NAM1 items.

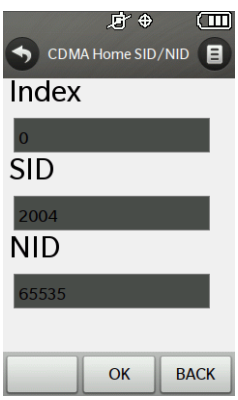


15) CDMA Home SID/NID

You can edit NAM1 Home SID/NID pair.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.



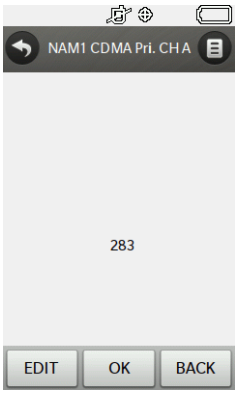
16) NAM1 CDMA Pri. CH A

You can edit NAM1 CDMA Pri. Channel A.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Primary CH A.



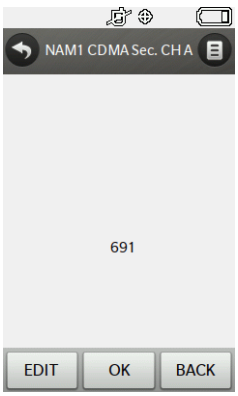
17) NAM1 CDMA Sec. CH A

You can edit NAM1 CDMA Secondary Channel A.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Secondary CH A.



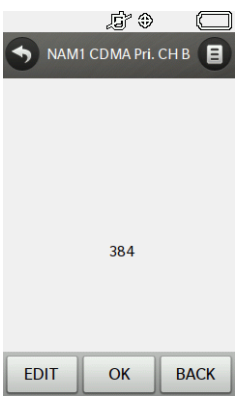
18) NAM1 CDMA Pri. CH B

You can edit NAM1 CDMA Primary Channel B.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit



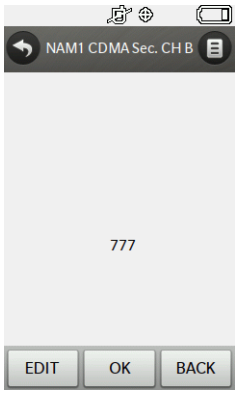
19) NAM1 CDMA Sec. CH B

You can edit NAM1 CDMA Secondary Channel B.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Secondary CH B.

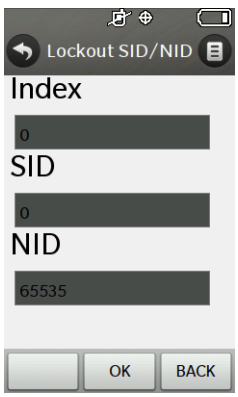


20) Lockout SID/NID

You can edit Lockout SID/NID pair.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.



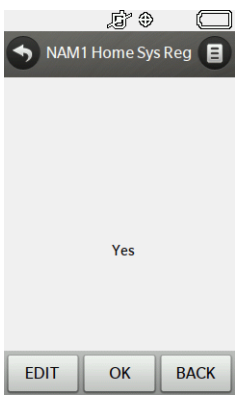
21) NAM1 Home Sys. Reg.

You can edit NAM1 Home System Registration.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Home System Registration.



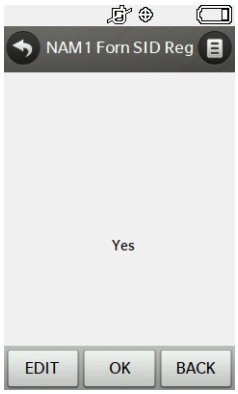
22) NAM1 Forn SID Reg

You can edit NAM1 Foreign SID Registration.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Foreign SID Reg.



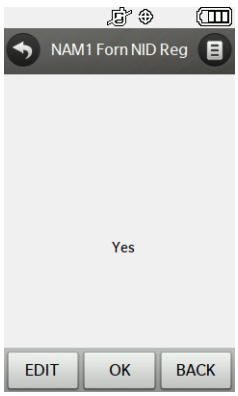
23) NAM1 Forn NID Reg

You can edit NAM1 Foreign NID Registration.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Foreign NID Reg.

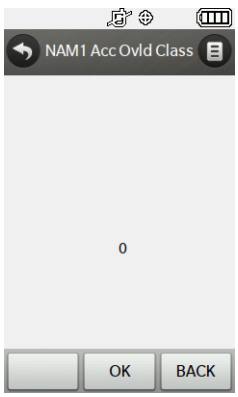


24) NAM1 ACC Ovld Class

You can edit NAM1 Access Overload Class.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

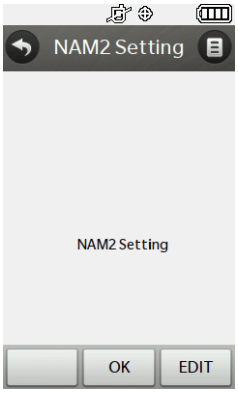


25) NAM2 Setting

You can decide to edit NAM2 items.

Press “OK” to skip NAM2 items setting.

Press “Edit” to edit NAM2 related items.

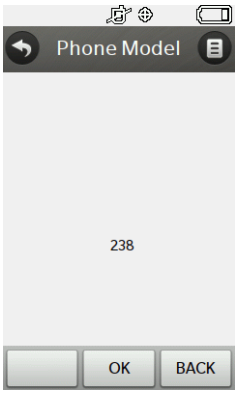


26) Phone Model

You can see the Phone Model Number.

Press “OK” to edit more items.

Press “BACK” to edit previous items.



27) Slot Cycle Index

You can edit Slot Cycle Index.

Press “OK” to edit more NAM1 items.

Press “BACK” to edit previous NAM1 items.

Press “EDIT” to edit Slot Cycle Index.

28) Powering Down

Restart.

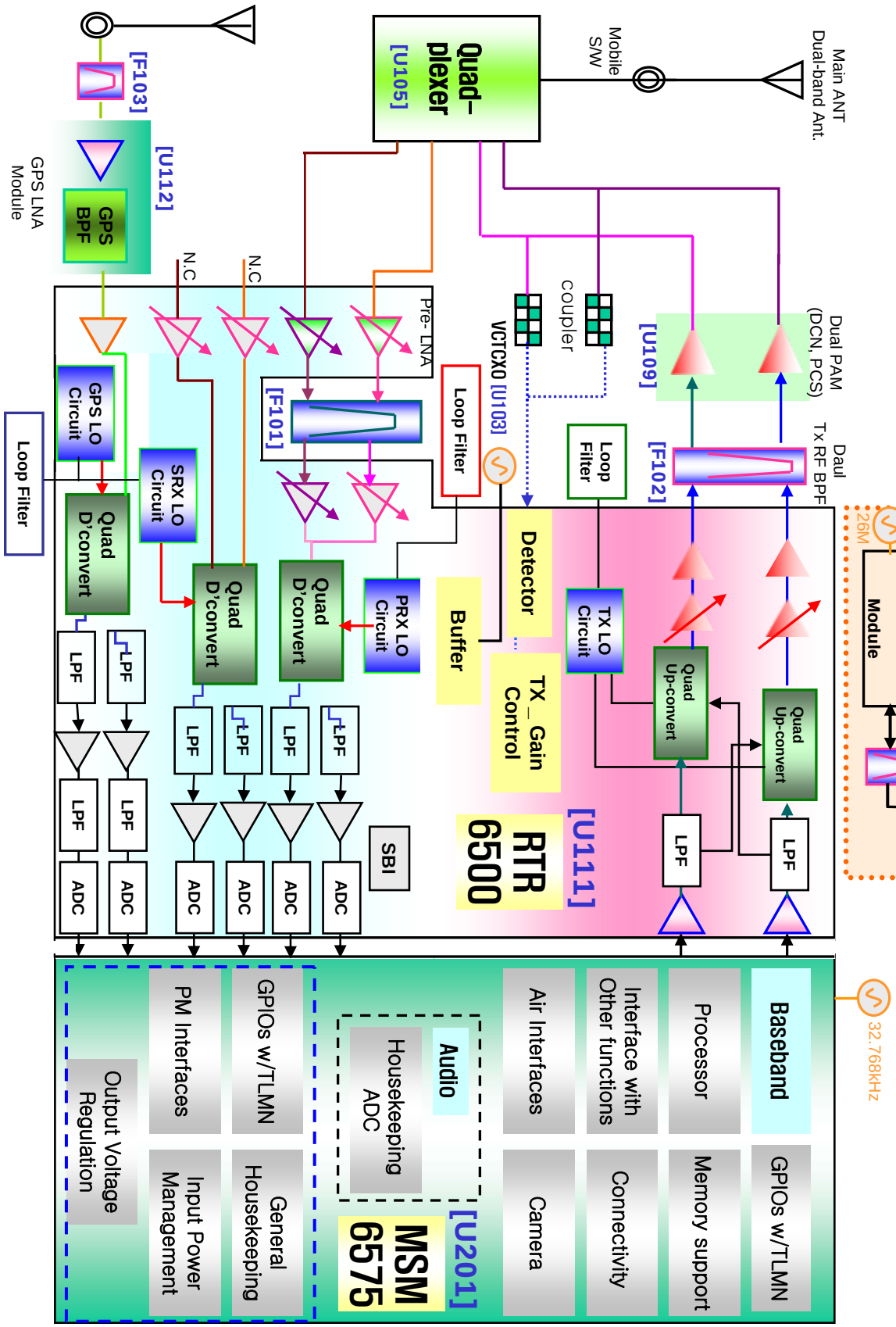
CHAPTER 3. Circuit Description

1. RF Transmit/Receive Part

1.1 Overview

The TX and RX part employs the Direct-Conversion system. The TX and RX frequencies are respectively 824.04~848.97 and 869.04~893.97 for cellular and 1850~1910 and 1930~1990 for PCS. The block diagram is shown in [Figure 1-1]. CDMA RF signals received through the antenna are separated by the Quadplexer.
RF Signal fed into the low noise amplifier in RTR6500(LNA) through the quadplexer. Then, they are fed into Mixer in RTR6500. In RTR6500, the RF signal is changed into baseband signal directly. Then, this signal is changed into digital signal by the analog to digital converter (ADC, A/D Converter), and the digital circuit part of the MSM(Mobile Station Modem) 6575 processes the data from ADC. The digital processing part is a demodulator.
In the case of transmission, RTR6500 receives OQPSK-modulated analog signal from the MSM6575.
The RTR6500 connects directly with MSM6575 using an analog baseband interface. In RTR6500, the baseband quadrature signals are upconverted to the Cellular or PCS frequency bands and amplified to provide signal drive capability to the 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 quadplexer.

[Figure 1-1] RF Block Diagram of AX8575



1.2 Description of RX Part Circuit

1.2.1 Quadplexer (U105)

The ACFM-7107 is a quadplexer that combines a US PCS & cellular band duplexer into a single, miniature package with a single antenna port.
The main function of quadplexer is to prohibit the other band signals from flowing into the one band circuit and vice versa. The specification of AX8575 quadplexer is described below:

ACFM-7107 Electrical Specifications, Z_0=50 Ω, T_c [1] [2] [4] as indicated

Symbol	Parameter	Units	−30°C			+25°C			+85°C		
			Min	Typ [3]	Max	Min	Typ [3]	Max	Min	Typ [3]	Max
Cellular Duplexer Performance											
	Antenna Port to Cellular Receive Port										
S41	Insertion Loss in Rx band (869–894 MHz)	dB			3.6		1.5	3.6			3.6
S41	Insertion Loss Ripple (p-p) in Rx Band	dB						1.5			
S41	Attenuation in Tx band (824–849 MHz)	dB	55			55	66		50		
S41	Attenuation 0–804 MHz	dB	25			25	36		25		
S41	Attenuation in Tx 2nd harmonic band (1648–1698 MHz)	dB	30			30	54		30		
S41	Attenuation in Tx 3rd harmonic band (2472–2547 MHz)	dB	19			19	44		19		
S44	Return Loss of Rx Port in Rx Band (869–894 MHz)	dB	9			9	17		9		
S11	Return Loss of Antenna Port in Rx Band (869–894 MHz)	dB	9			9	17		9		
	Cellular Transmit Port to Antenna Port										
S15	Insertion Loss in Tx band (824–849 MHz)	dB			2.9		1.4	2.9			2.9
S15	Insertion Loss Ripple (p-p) in Tx Band	dB						1.5			
S15	Attenuation in Rx band (869–894 MHz)	dB	39			40	58		37		
S15	Attenuation, 0–804 MHz	dB	20			20	39		20		
S15	Attenuation in GPS band (1574.4–1576.4 MHz)	dB	37			37	48		37		
S15	Attenuation in Tx 2nd harmonic band (1648–1698 MHz)	dB	20			20	46		20		
S15	Attenuation in Tx 3rd harmonic band (2472–2547 MHz)	dB	8			8	25		8		
S55	Return Loss of Tx Port in Tx band (824–849 MHz)	dB	9			9	14		9		
S11	Return Loss of Antenna port in Tx Band (824–849 MHz)	dB	9			9	14		9		
	Isolation, Cellular Transmit Port to Cellular Receive Port										
S45	Isolation, Tx to Rx port in Rx Band (869–894 MHz)	dB	40			40	56		40		
S45	Isolation, Tx to Rx port in Tx Band (824–849 MHz)	dB	55			55	67		55		

ACFM-7107 Electrical Specifications, Z_0=50 Ω, T_c [1] [2] [4] as indicated

Symbol	Parameter	Units	–30°C			+25°C			+85°C		
			Min	Typ [3]	Max	Min	Typ [3]	Max	Min	Typ [3]	Max
PCS Duplexer Performance											
	Antenna Port to PCS Receive Port										
S31	Insertion Loss in Rx Band (1930.5–1989.5 MHz)	dB			3.6		1.6	3.6			3.6
S31	Insertion Loss Ripple (p-p) in Rx Band	dB						1.5			
S31	Attenuation in Tx Band (1850.5–1909.5 MHz)	dB	50			50	61		50		
S31	Attenuation 0.03–1770 MHz	dB	20			20	41		20		
S31	Attenuation 2025–3500 MHz	dB	30			30	56		30		
S31	Attenuation 3500–3700 MHz	dB	27			27	56		27		
S31	Attenuation 3820–4000 MHz	dB	23			23	34		23		
S33	Return Loss of Rx Port in Rx Band (1930.5–1989.5 MHz)	dB	9			9	15		9		
S11	Return Loss of Antenna Port in Rx Band (1930.5–1989.5 MHz)	dB	9			9	17		9		
	PCS Transmit Port to Antenna Port										
S12	Insertion Loss in Tx Band (1850.5–1909.5 MHz)	dB			3.1		1.5	3.1			3.1
S12	Insertion Loss Ripple (p-p) in Tx Band	dB						1.5			
S12	Attenuation in Rx Band (1930.5–1989.5 MHz)	dB	39			39	46		39		
S12	Attenuation 0.03–1570 MHz	dB	15			15	43		15		
S12	Attenuation in GPS Band (1574.4–1576.4 MHz)	dB	27			27	30		27		
S12	Attenuation 1580 – 1700 MHz	dB	25			25	39		25		
S12	Attenuation in Tx 2nd harmonic band (3701–3819 MHz)	dB	10			10	21		10		
S12	Attenuation in Tx 3rd harmonic band (5551.5–5728.5 MHz)	dB	8			8	32		8		
S22	Return Loss of Tx Port in Tx band (1850.5–1909.5 MHz)	dB	9.5			9.5	15		9.5		
S11	Return Loss of Antenna port in Tx Band (1850.5–1909.5 MHz)	dB	9			9	14		9		
	Isolation, PCS Transmit Port to PCS Receive Port										
S32	Isolation, Tx to Rx port in Rx Band (1930.5–1989.5 MHz)	dB	40			40	51		40		
S32	Isolation, Tx to Rx port in Tx Band (1850.5–1855 MHz) (1855–1909.5 MHz)	dB	53 54			53 54	64 64		53 54		

1.2.2 RTR6500 – LNA part (U111)

The RTR6500 has cellular, and PCS LNA, respectively. The characteristics of Low Noise Amplifier (LNA) are low noise Fig., high gain, high intercept point and high reverse isolation. The frequency selectivity characteristic of mobile phone is mostly determined by LNA.
The specification of AX8575 LNA is described below:

Parameter	Low gain		Middle gain		High gain		Units
	Cellular	PCS	Cellular	PCS	Cellular	PCS	
Gain	-19	-20	3	-3	14	15	dB
Noise Fig.	20	20	4.5	6	1.3	1.1	dB
Input IP3	10	10	5	10	7	3	dBm

1.2.3 GPS LNA(U112)

The characteristics of Low Noise Amplifier (LNA) are low noise Fig., high gain, high intercept point and high reverse isolation. The frequency selectivity characteristic of mobile phone is mostly determined by LNA.
The specification of AX8575 GPS LNA is described below

Parameter	GPS Band	Units
Gain	13.1	dB
Noise Fig.	0.77	dB
1dB compression point	3.4	dBm
IIP3	+7	dBm

1.2.4 RX Dual RF SAW FILTER(F101)

The main function of RX RF SAW filter is to attenuate mobile phone spurious frequency, attenuate noise amplified by the LNA and suppress second harmonic originating in the LNA.

1.2.5 RTR6500 - Down-converter Mixers part (U111)

The RTR6500 device performs signal down-conversion for Cellular, PCS and GPS tri-band applications. It contains all the circuitry (with the exception of external filters) needed to support conversion of received RF signals to Base-band signals. The three down-converting Mixers (Cellular, PCS and GPS), and a programmable PLL for generating RX LO frequency and an RX LO Buffer Amplifier and RX Voltage Controlled Oscillator. The GPS LNA & mixers offer the most advanced and integrated CDMA RX solution designed to meet cascaded Noise Fig. (NF) and Third-order Intercept Point (IIP3) requirements of IS-98D and J-STD-018 specifications for Sensitivity, Two-Tone Inter-modulation, and Single-tone Desensitization.
Operation modes and band selection are specially controlled from the Mobile Station Modem MSM6575.
The specification of AX8575 Mixers is described below:

Parameter	Low gain		High gain		Units
	Cellular	PCS	Cellular	PCS	
Noise Fig.	25	27	7.9	12	dB
Input IP3	−5	−11	4	4	dBm
Input IP2	30	30	56	56	dBm

1.3 Description of Transmit Part Circuit

1.3.1 RTR6500 (U111)

The RTR6500 Base-band to RF Transmit Processor performs all TX signal-processing functions required between digital Base-band and the Power Amplifier Modulator (PAM). The Base-band quadrate signals are up-converted to the Cellular or PCS frequency bands and amplified to provide signal drive capability to the PAM. The RTR6500 includes mixers for up-converting analog Base-band to RF, a programmable PLL for generating TX LO frequency a TX LO Buffer Amplifier and TX Voltage Controlled Oscillator, cellular and PCS driver amplifiers and TX power control through an 85 dB VGA. As added benefit, the single sideband up-conversion eliminates the need for a band pass filter normally required between the up-converter and driver amplifier.
I, I/, Q and Q/ signals proceed from the MSM6575 to RTR6500 are analog signal. In CDMA mode, These signals are modulated by Offset Quadrature Phase Shift King (OQPSK). I and Q are 90 deg. out of phase, and I and I/ are 180 deg. The mixers in RTR6500 converts baseband signals into RF signals. After passing through the upconverters, RF signal is inputted into the Power AMP.

●RTR6500 Cellular and PCS CDMA RF Specifications

Parameter	Condition	Min.	Type.	Max.	Units
Rated Output Power	Average CDMA Cellular Average CDMA PCS		7 9		dBm dBm
Min Output Power	Average CDMA Cellular Average CDMA PCS		-75 -75		dBm dBm
RX band noise power	CDMA Cellular CDMA PCS		-136 -133		dBm/Hz
ACPR	Cellular: Fc±885kHz PCS : Fc±1.25MHz		-56 -57		dBc/30kHz

1.3.2 Power Amplifier(U109)

The Dual power amplifier that can be used in the PCS and CDMA mode has linear amplification capability and high efficiency. For higher efficiency, it is made up of one MMIC (Monolithic Microwave Integrated Circuit) for which RF input terminal and internal interface circuit are integrated onto one IC after going through the AlGaAs/GaAs HBT (heterojunction bipolar transistor) process. The module of power amplifier is made up of an output end interface circuit including this MMIC. The maximum power that can be inputted through the input terminal is +10dBm and conversion gain is about 26.5dB. RF transmit signals that have been amplified through the power amplifier are sent to the duplexer.

.

1.4 Description of Frequency Synthesizer Circuit

1.4.1 Voltage Control Temperature Compensation Crystal Oscillator (VCTCXO, U103)

The temperature variation of mobile phone can be compensated by VCTCXO. The reference frequency of a mobile phone is 19.2 MHz. The receiver frequency tuning signals called TRK_LO_ADJ from MSM as 0.5 V~2.5 V DC via R and C filter in order to generate the reference frequency of 19.2 MHz and input it into the frequency synthesizer. Frequency stability depending on temperature is ±2.0 ppm.

2. Digital/Voice Processing Part

2.1 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 main keypad/touch keypad/LCD, receptacle part, voice processing part, mobile station modem part, memory part, and power supply part.

2.2 Configuration

2.2.1 Keypad/LCD and Receptacle Part

This is used to transmit keypad signals to MSM6575. It is made up of a keypad backlight part that illuminates the keypad, LCD part that displays the operation status onto the screen, and a receptacle that receives and sends out voice and data with external sources.

2.2.2 Voice Processing Part

The voice processing part is made up of an audio codec used to convert MIC signals into digital voice signals and digital voice signals into analog voice signals, amplifying part for amplifying the voice signals and sending them to the ear piece, amplifying part that amplifies ringer signals coming out from MSM6575, and amplifying part that amplifies signals coming out from MIC and transferring them to the audio processor.

2.2.3 MSM (Mobile Station Modem) 6575 NSP Part

MSM is the core elements of CDMA terminal and carries out the functions of CPU, encoder, interleaver, deinterleaver, Viterbi decoder, Mod/Demod, and vocoder.

2.2.4 Memory Part

The memory part is made up of a NAND Flash memory and a SDRAM for storing data.

2.2.5 Power Supply Part

The power supply part is made up of circuits for generating various types of power, used for the digital/voice processing part.

2.3 Circuit Description

2.3.1 Keypad/LCD and Receptacle Part

Once the main keypad is pressed, the key signals are sent out to MSM6575 for processing. Touch keypad is pressed, Ack signals are sent out to MSM6575 for processing. In addition, when the key is pressed, the keypad/LCD lights up through the use of 19 LEDs. The terminal status and operation are displayed on the screen for the user with the characters and icons on the LCD.
Moreover, it exchanges audio signals and data with external sources through the receptacle, and then receives power from the battery or external batteries.

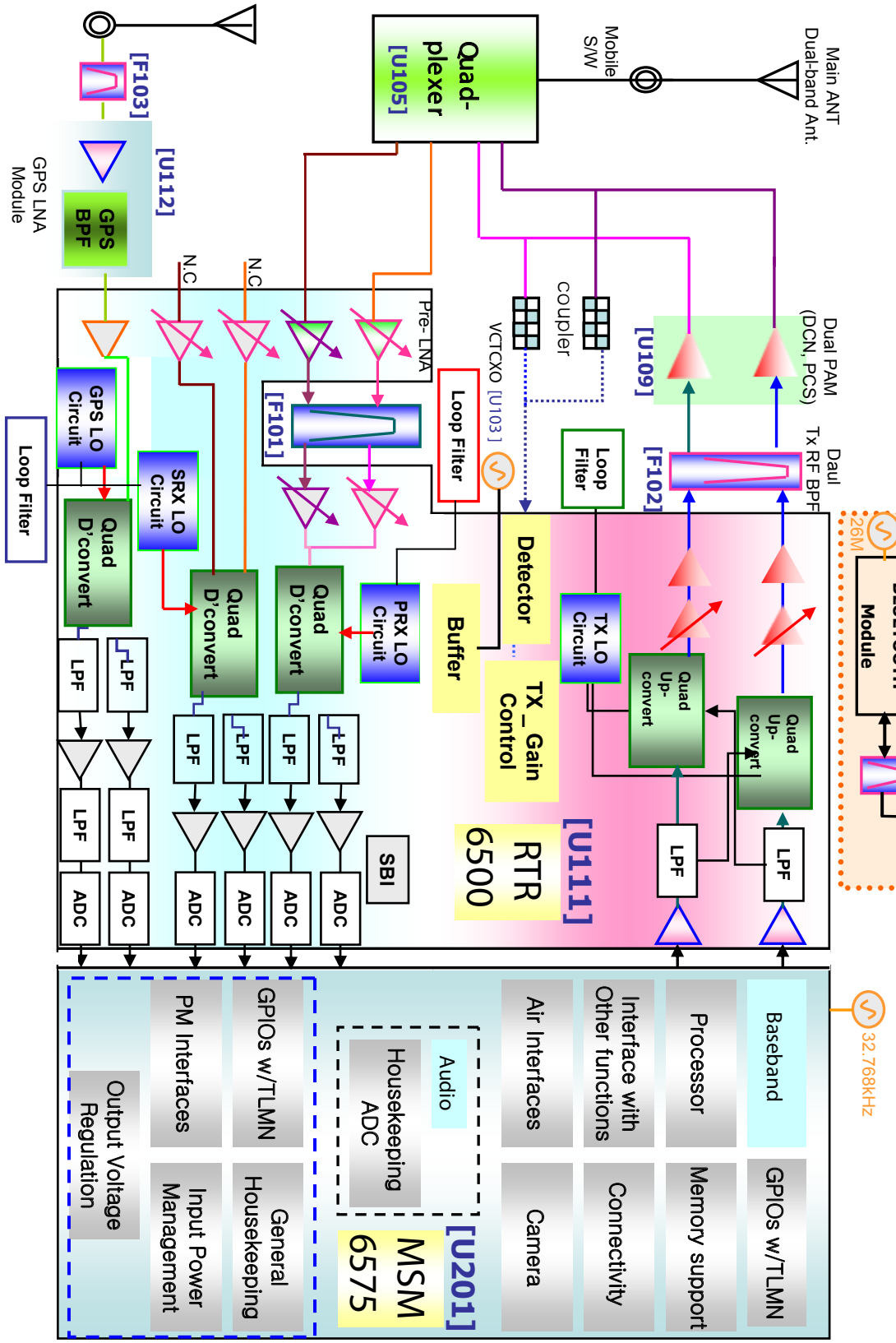
2.3.2 Audio Processing Part

MIC signals are amplified through OP AMP, inputted into the audio codec (included in MSM6575) and converted into digital signals. Oppositely, digital audio signals are converted into analog signals after going through the audio codec. These signals are amplified at the audio amplifier and transmitted to the ear-piece. The signals from MSM6575 activate the ringer by using signals generated in the timer in MSM6575.

2.3.3 MSM Part

The MSM6575 device integrates the ARM1136-J™ and ARM926EJ-S™ processor cores, offering the ARM® Jazelle™ Java® hardware accelerator: one low-power, high-performance QDSP5000™ application digital signal processor (aDSP) and one QDSP4000™ modem digital signal processor (mDSP) core, hardware acceleration for video, imaging, and graphics, and a wideband stereo codec to support enhanced digital audio applications. The hardware acceleration eliminates the need for the multimedia companion processors normally required for video and audio-based applications that support MP3 music files, a MIDI synthesizer, video and still image record and playback, and 2D/3D graphics functions. By removing the need for costly applications coprocessors and memory subsystems, the MSM6575 solution reduces BOM costs and increases standby and talk times. QUALCOMM provides a complete software suite and advance mobile subscriber software (AMSS) for building handsets based on the MSM6575 chipset. AMSS software is designed to run on a SURF phone platform, an optional development platform optimized to assist in evaluating, testing, and debugging AMSS software.

[Figure 2-2] Block Diagram of Digital/Voice Processing Part



2.3.4 Memory Part

MCP contents 2Gbits OneNAND FLASH memory and 1Gbits SDRAM. In the OneNAND Flash Memory part of MCP are programs used for terminal operation. The programs can be changed through downloading after the assembling of terminals. On the SDRAM data generated during the terminal operation are stored temporarily.

2.3.5 Power Supply Part

When the battery voltage (+4.0V) is fed and the PWR key of keypad is pressed, U400(PMIC) is activated by the PWR_ON_SW signal, and The PWRON signal is held high, Buck and LDO1,2 are turned on; when LDO1 reaches 87% of its final value a 60ms reset timer is started at after which RESET\ is asserted high. Now the BB Processor is initialized and will assert PWRHOLD high. PWRHOLD maintains the power on.

The Buck1,2/LDO1,2,3 are generating the +1.2V_MSMC1, +2.6V_MSMP2, +1.8V_MSMP1,+2.6V_MSMA, +2 .8V_LCD respectively.

The Rx part +2.1V_RX0, +2.1V_RX1 and Tx Part +2.1V_TX is operated by the I2C control signal from MSM6575.

The TCXO part TCXO_EN is operated by the control signal TCXO_EN from MSM6575.

2.3.6 Logic Part

The logic part consists of internal CPU of MSM, RAM, MCP. The MSM6575 receives TCXO (=19.2MHz) from the U103 and controls the phone in CDMA modes. The major components are as follows:

CPU

The ARM926J-S microprocessor includes a 3 stage pipelined RISC architecture, both 32-bit ARM and 16-bit THUMB instruction sets, a 32-bit address bus, and a 32-bit internal data bus. It has a high performance and low power consumption.

MCP

OneNAND Flash is used to store the terminal's program. Using the down-loading program, the program can be changed even after the terminal is fully assembled.

SDRAM is used to store the internal flag information, call processing data, and timer data.

External KEYPAD

For external key recognition, key matrix is setup using KEY_SENSE[7][9], KEY_DRIVE[7][11] signal from MSM6575. 3 LEDs and backlight circuitry are included in the external keypad for easy operation in the dark.

TOUCH WINDOW

For key recognition, the Touch Controller, TSC2007 MSM6575 by using TOUCH_Y-, TOUCH_Y+, TOUCH_X- ,TOUCH_X+. Touch window also supports vibe-touch function when pressing is recognized.

LCD

LCD Module contains MD DI Controller Which are received MD DI signal from MSM6575

LCD Module is supplied stable +2.8V_LCD by LDO [F401] .

6 LEDs is used to display each LCD backlight.

2.3.7 DSP (Multimedia processor) Part

DSP is a specialized integrated circuit that encompasses efficient camera functions, MPEG4 simple profile level 3 compliant codec functions. The host's register setting by executed with 2-bit address bus, 1-bit chip select signal, 1-bit write enable signal, 1-bit read enable signal and 16-bit data bus from the host(MSM6575). High-performance QDSP5000™ application digital signal processor (aDSP) and one QDSP4000™ modem digital signal processor (mDSP) core, hardware acceleration for video, imaging, and graphics, and a wideband stereo codec to support enhanced digital audio applications.

LCD

In the bypass mode, MSM has complete control over all LCD operations, excluding camera processing function. In other words, it indicates when LCD is initialized and GUI of system is displayed on the LCD.

CAMERA

DSP provides clock to operate sensor and controls internal register of sensor through the I2C master embedded in DSP to make sensor operate normally. After completion of internal register setting, sensor supplies YUV422 image data, synchronous signal and pixel clock synchronized with pixel of image data to DSP. VSYNC is a synchronized signal to differentiate frames and HREF is a synchronized signal to differentiate lines. These signals are synchronized with the pixel clock. Input image data through the sensor interface is previewed on the LCD up to 30fps through the IMAGE ENHANCER.

EXTERNAL CODEC

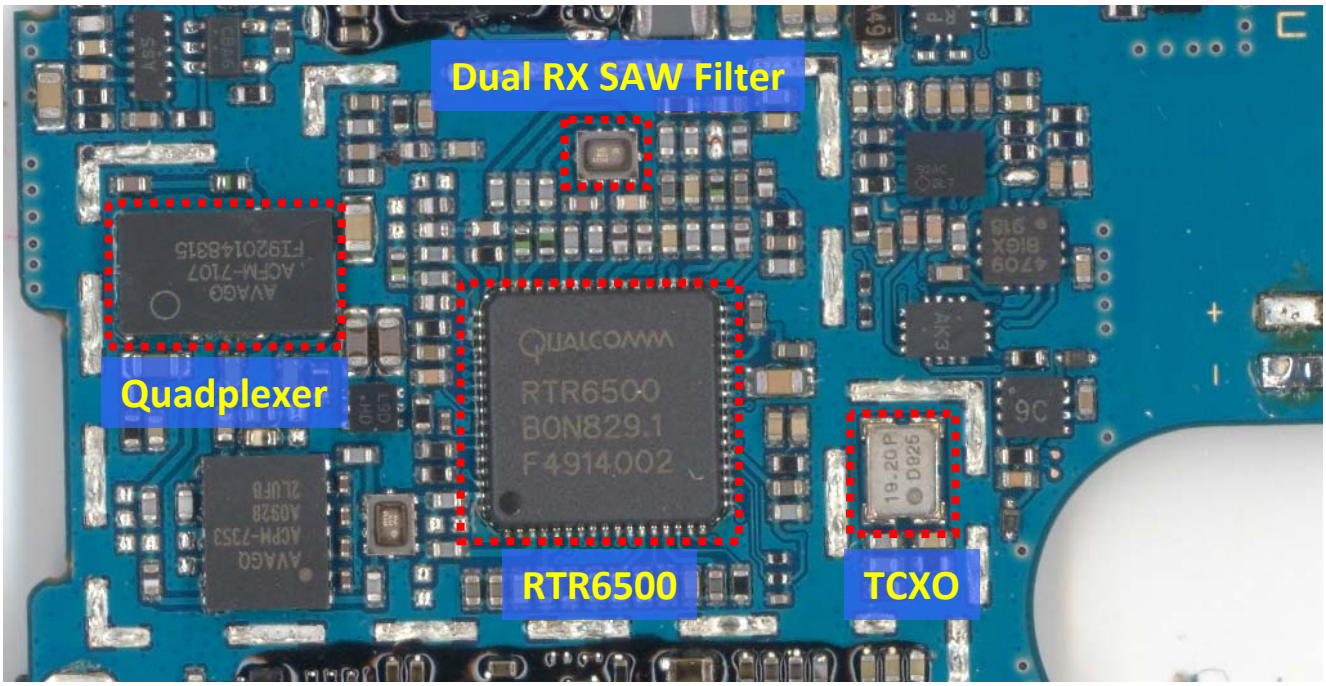
Normally codec bypass signal from MSM6575 to Speaker, Receiver or Headset. However, when we listen to the music in "My Music" folder codec performs 3-D sound enhancement and automatic level control for microphone or line input. The on-chip ADC and DAC are of a high quality using a multi-bit, low-order oversampling architecture to deliver optimum performance with low power consumption. It supports I2S audio data format between DSP and codec. A speaker amplifier, using digital amplifier system, realizes low power consumption than that of linear amplifier. In addition, power-down mode is available to minimize the current consumption when used.

CHAPTER 4. Trouble Shooting

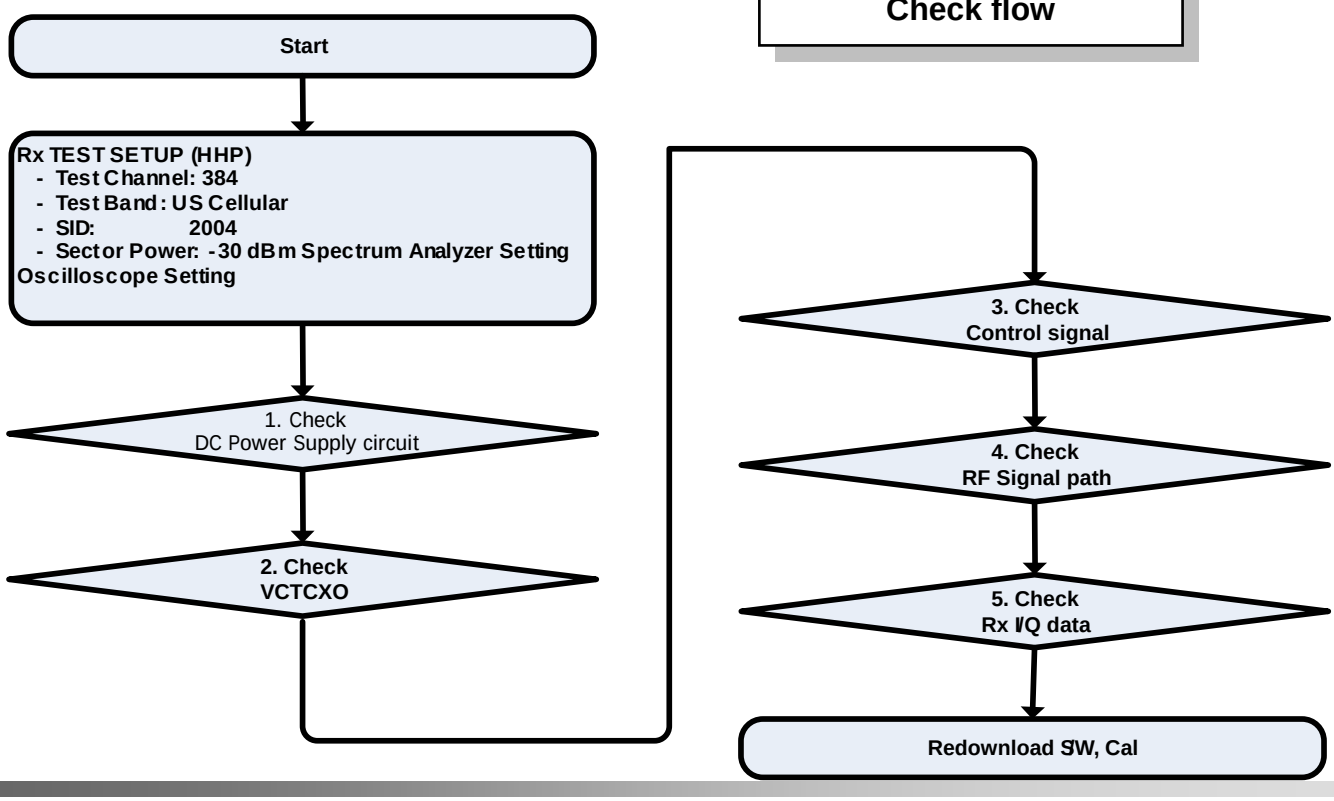
4.1 Rx Part Trouble

4.1.1 DCN Rx

Test Point

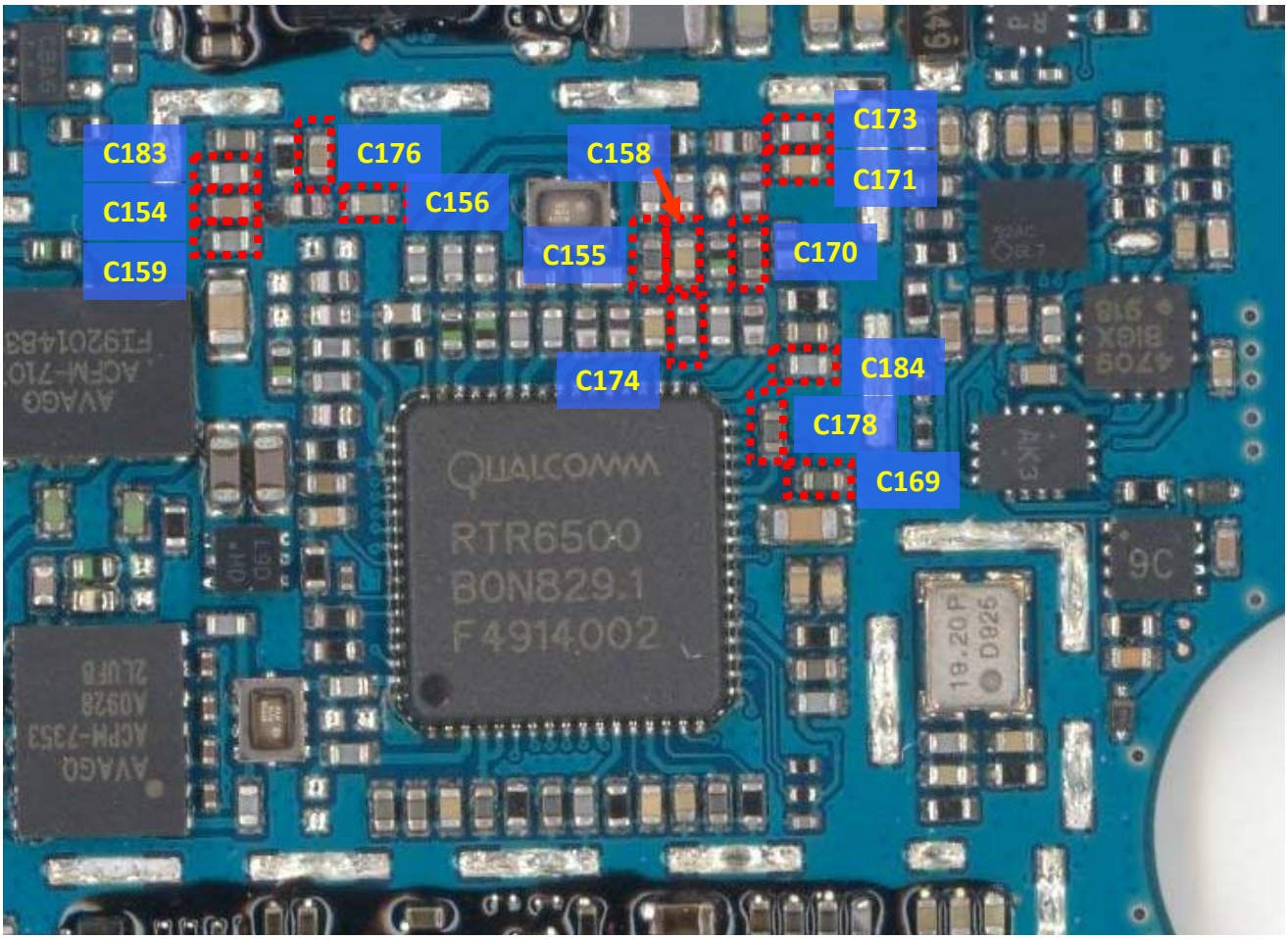


Check flow



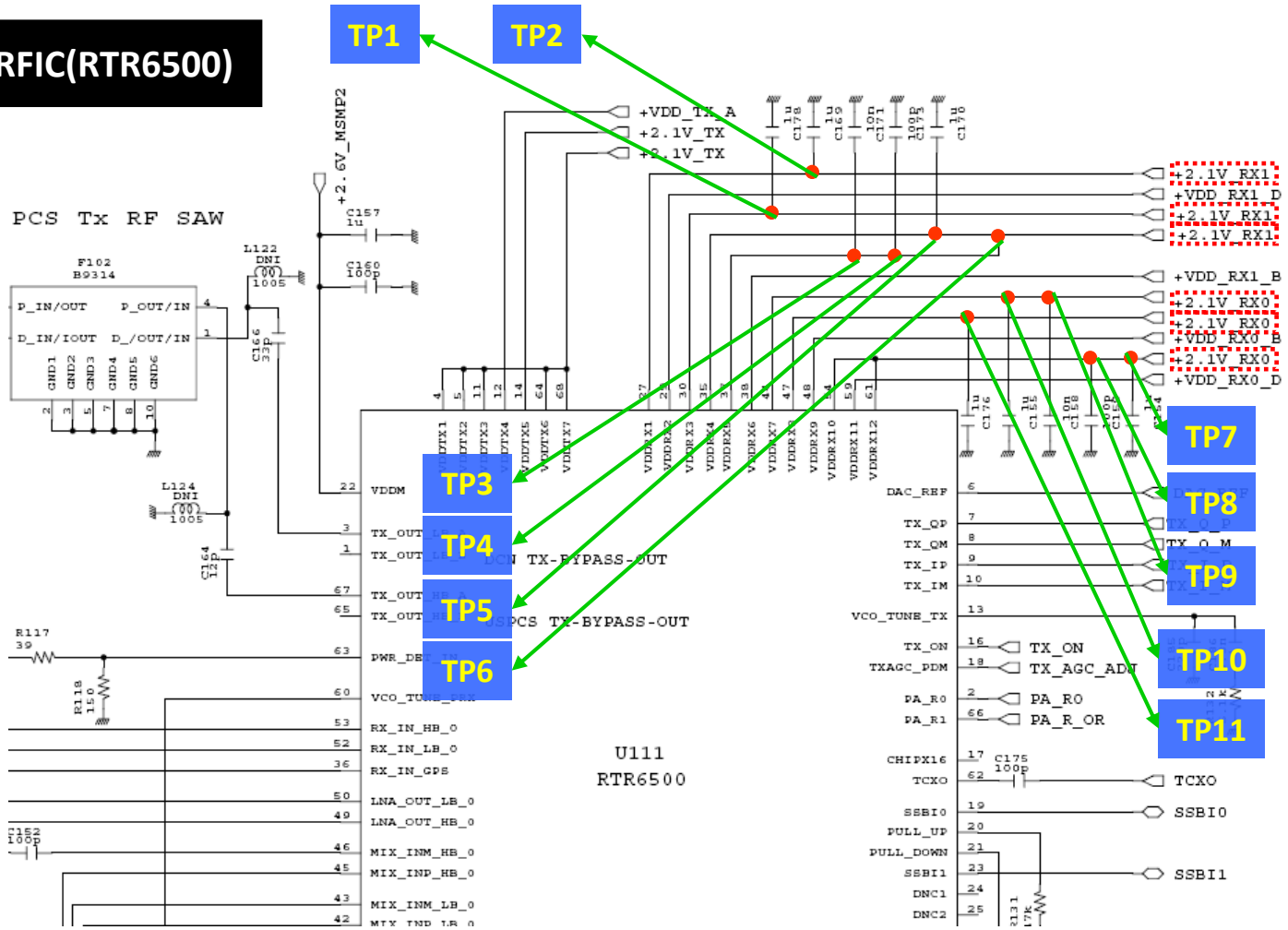
4.1.1.1 Checking DC Power supply circuit (PMIC)

Test Point

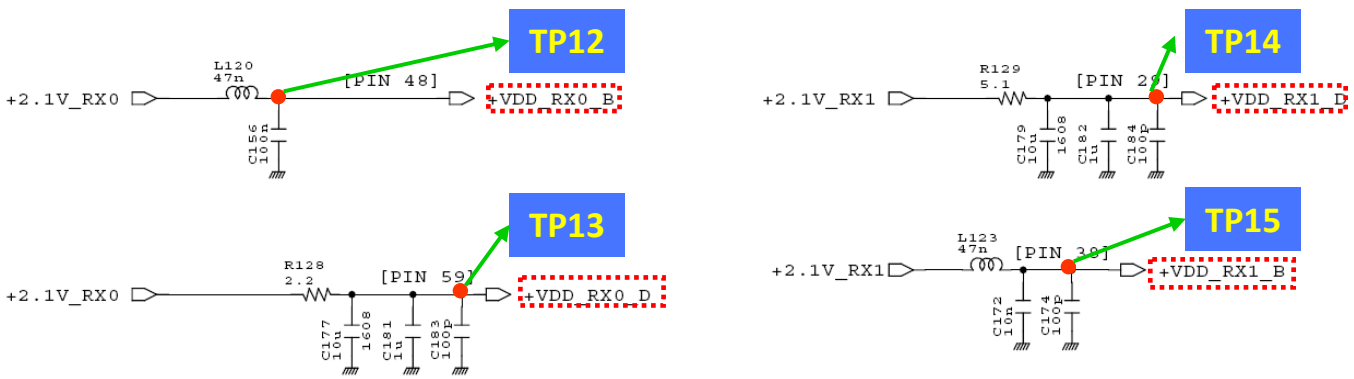


Circuit Diagram

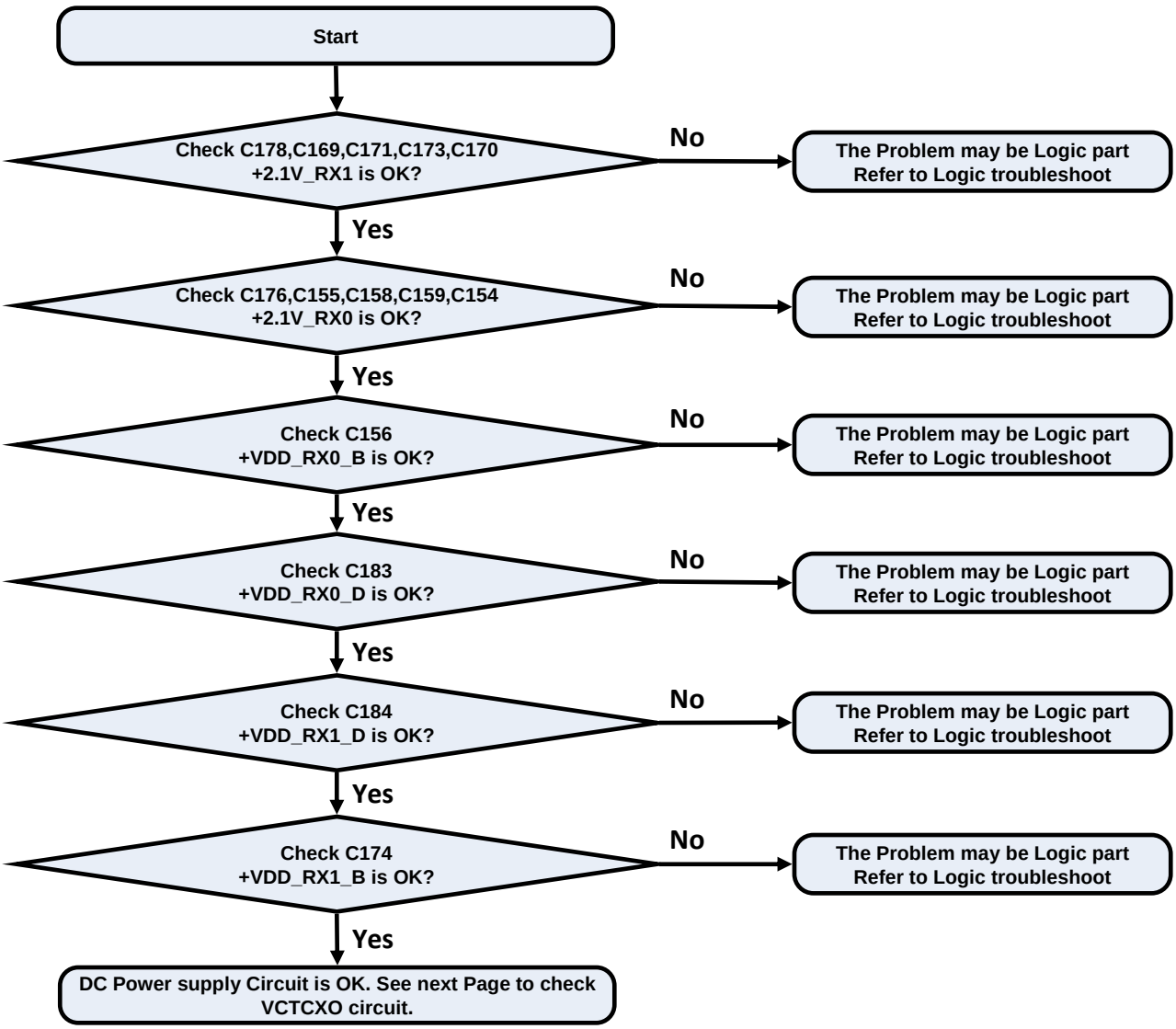
RFIC(RTR6500)



Power Distributes in RTR6500



Checking Flow

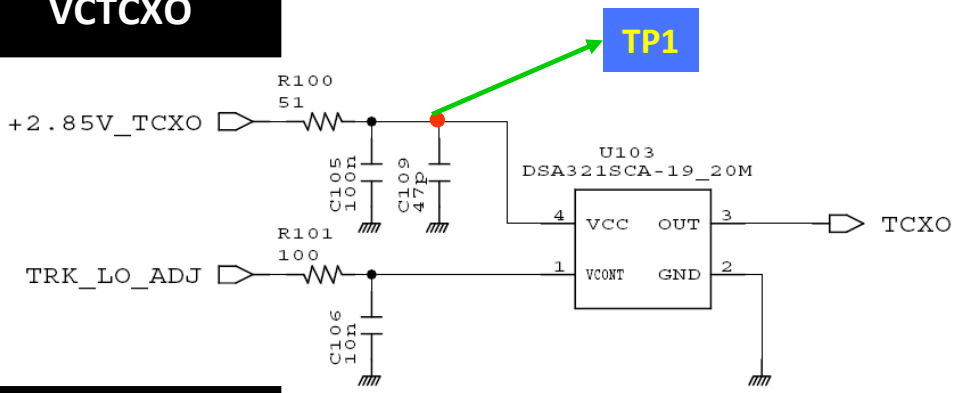


4.1.1.2 Checking VCTCXO circuit

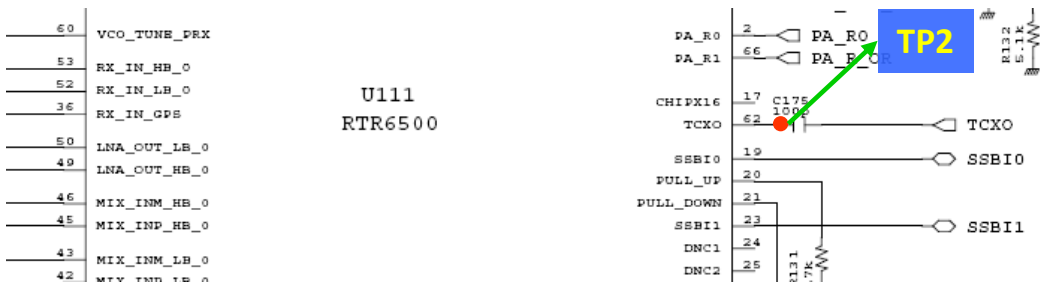
Test Point

Circuit Diagram

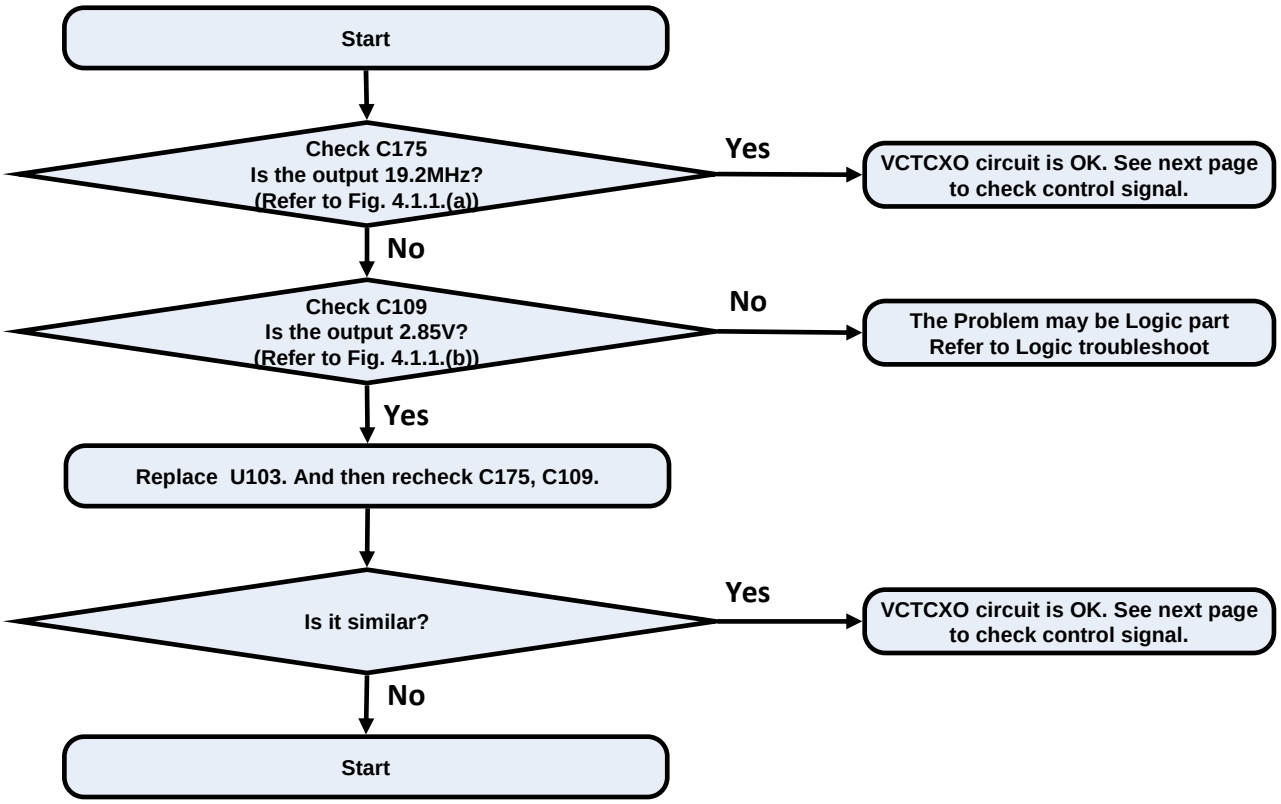
VCTCXO



RFIC(RTR6500)



Checking Flow



Waveform

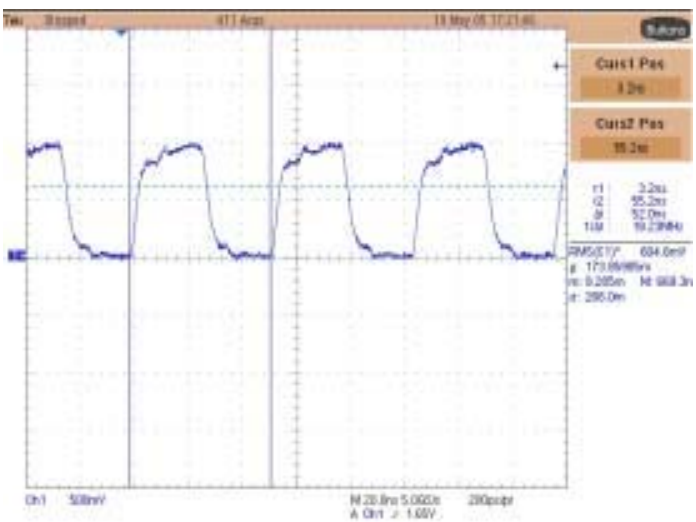


Fig. 4.1.1 (a)

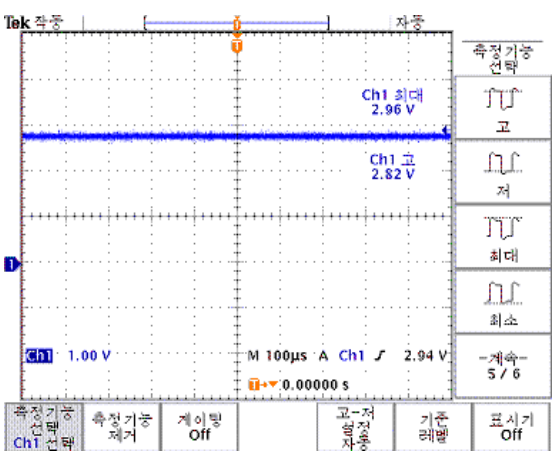
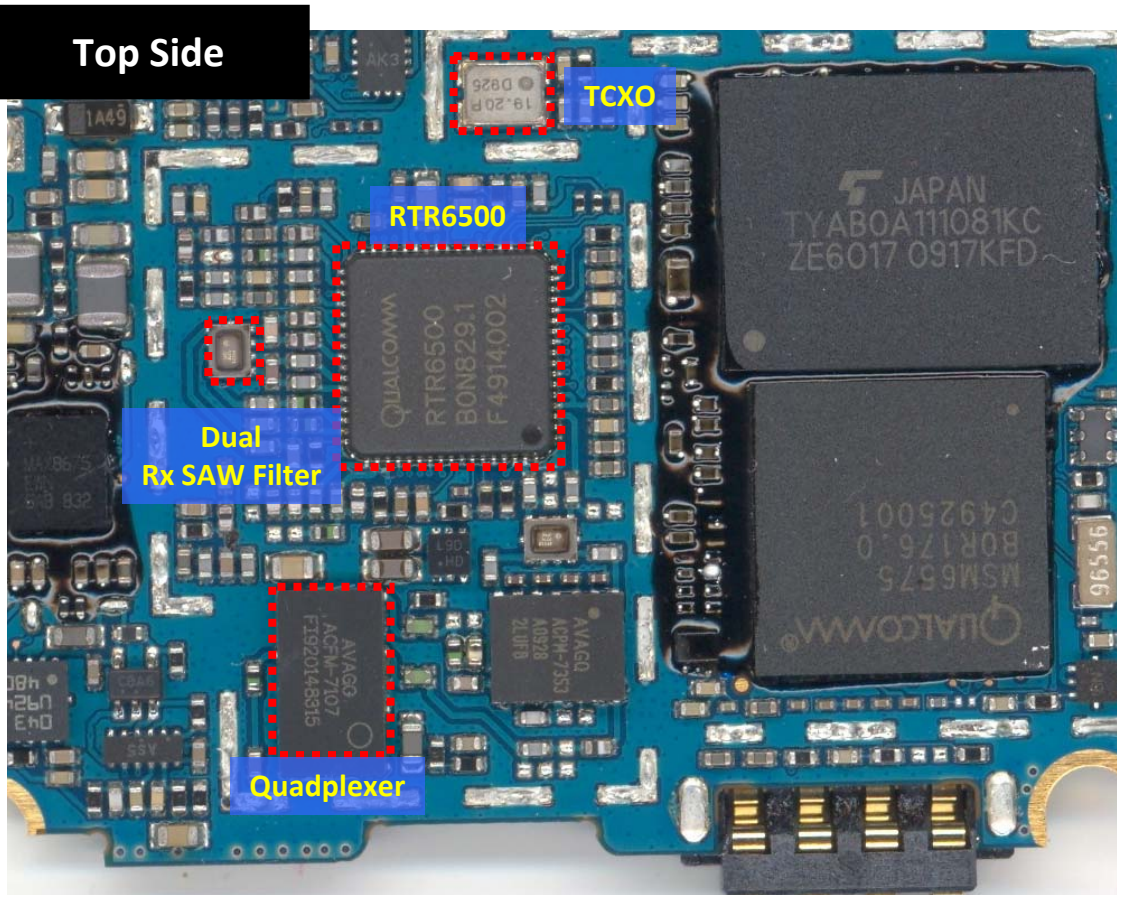


Fig. 4.1.1 (b)

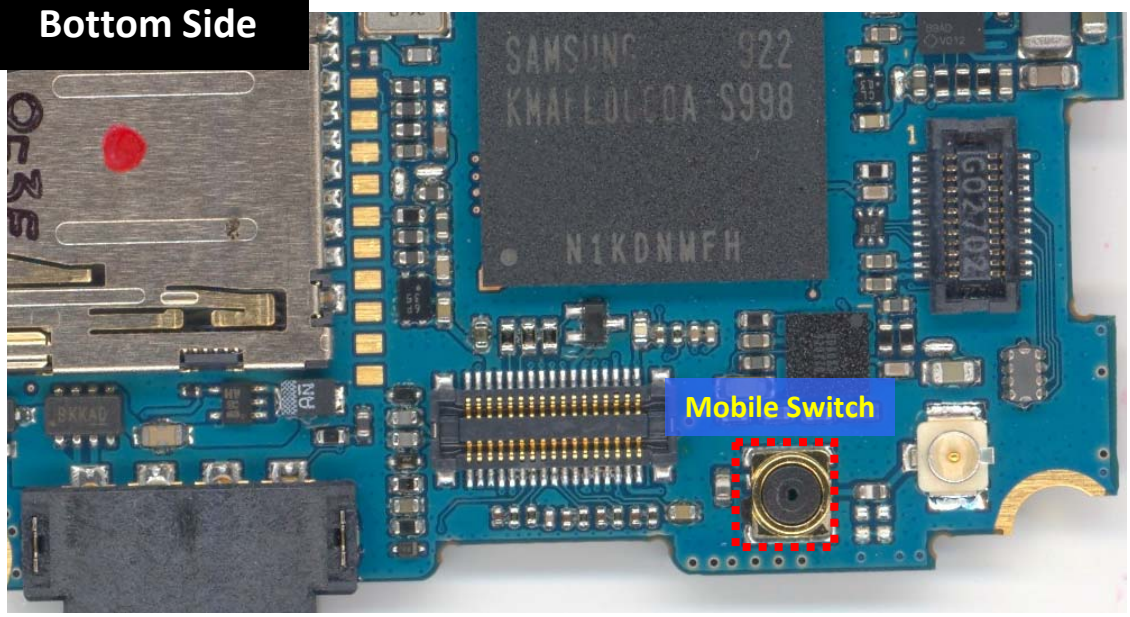
4.1.1.3 Checking RF signal path (Mobile S/W, Diplexer, Duplexer)

Test Point

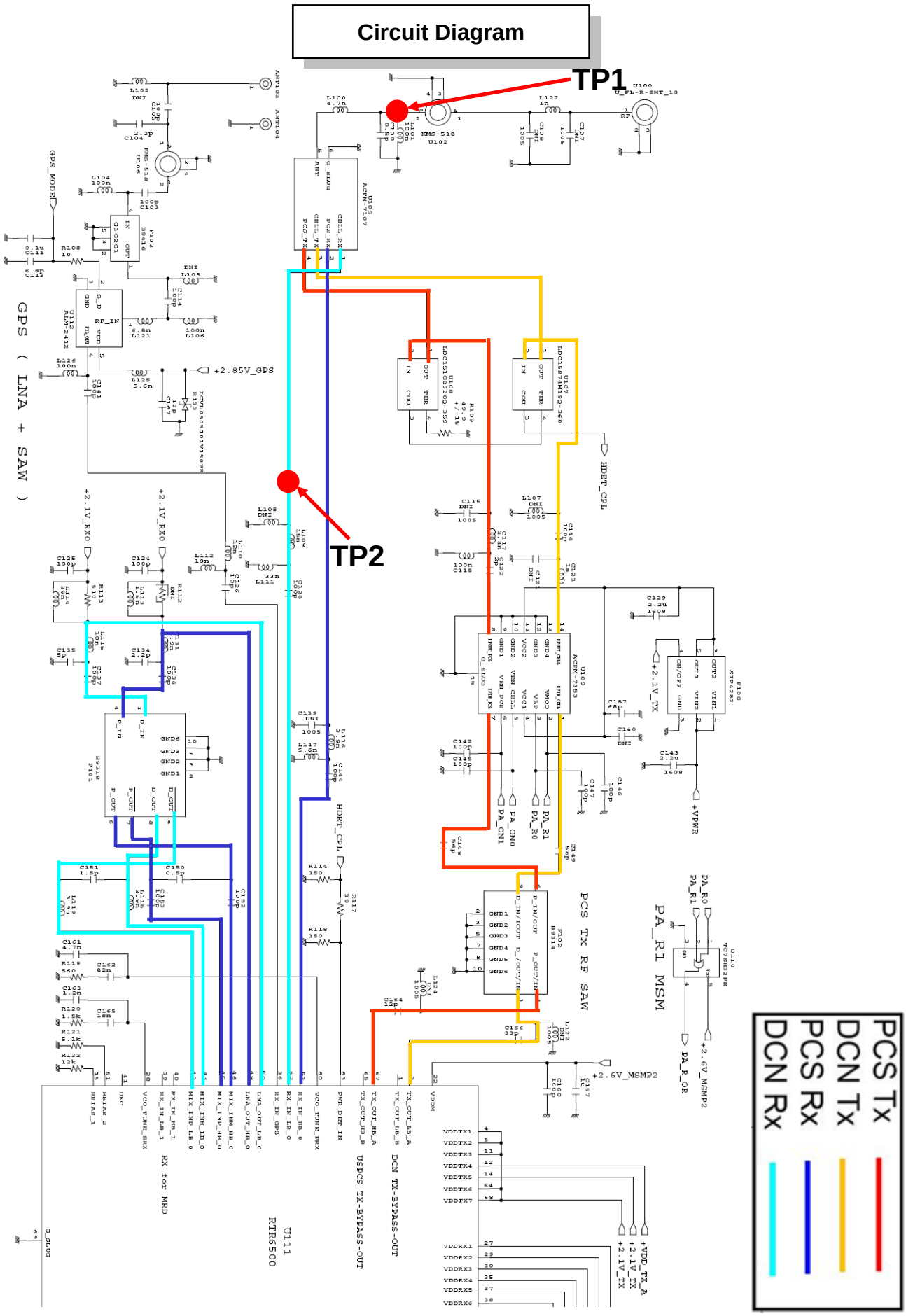
Top Side



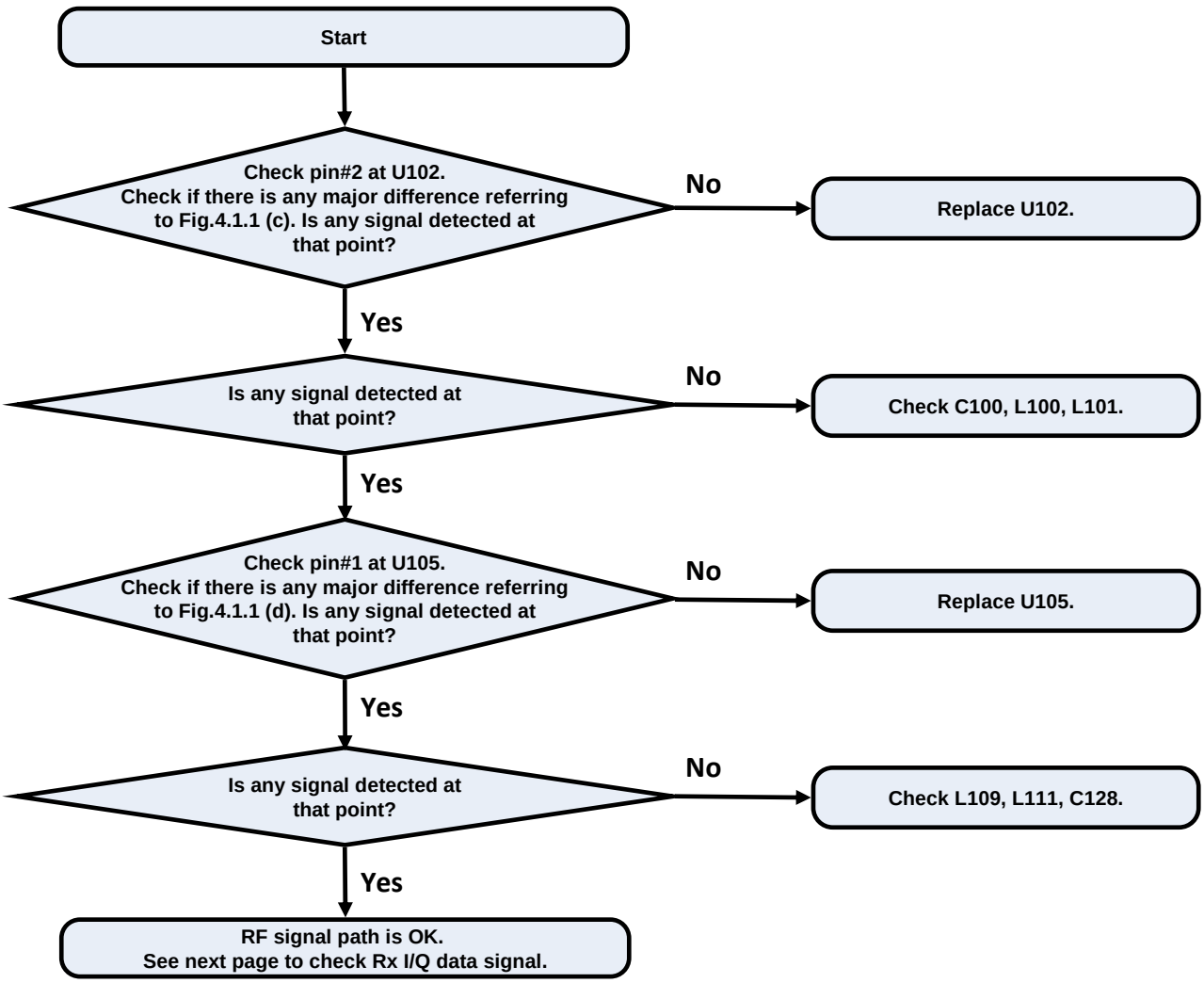
Bottom Side



Circuit Diagram



Checking Flow



Waveform

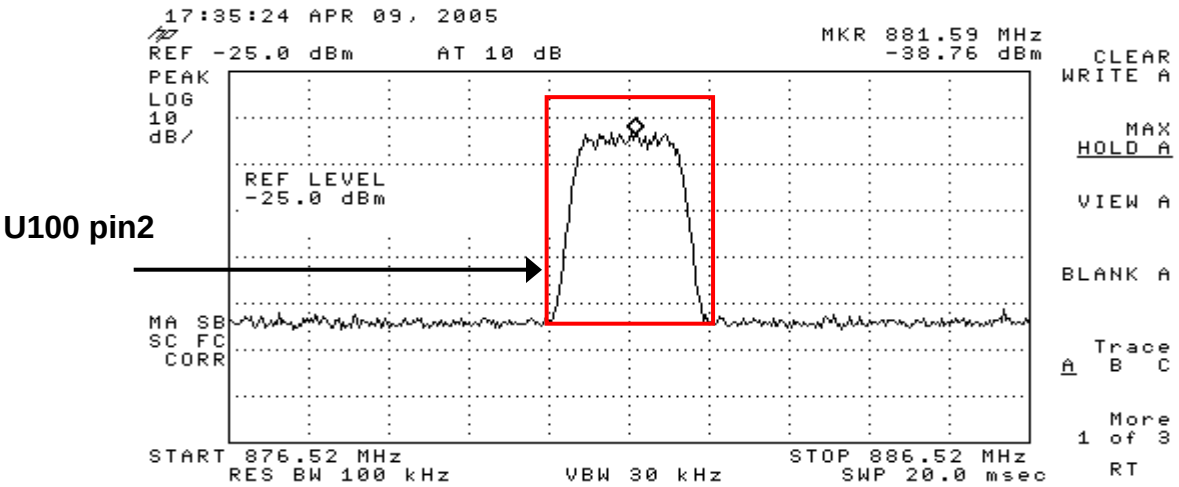


Fig. 4.1.1 (c)

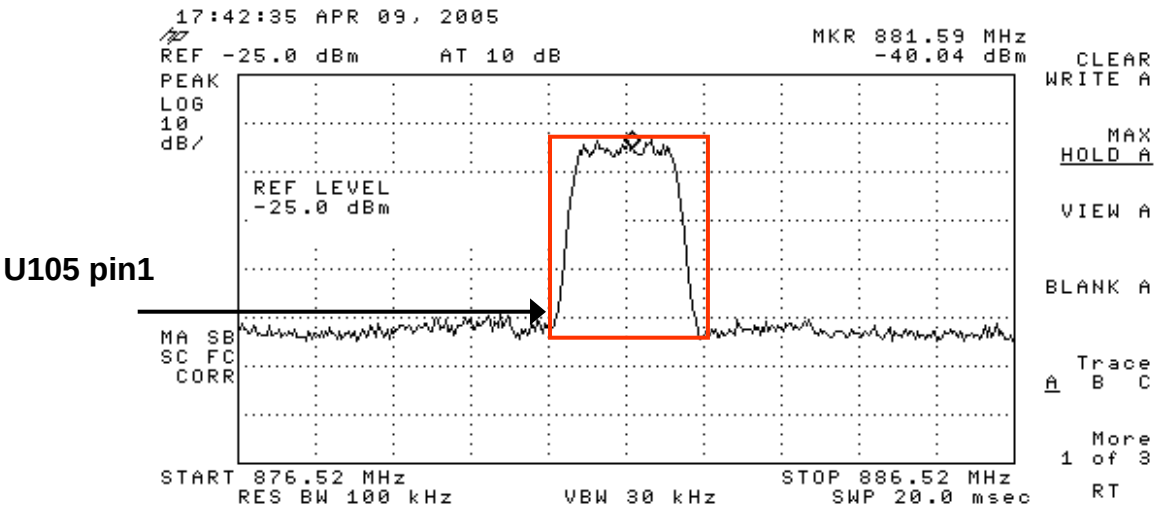
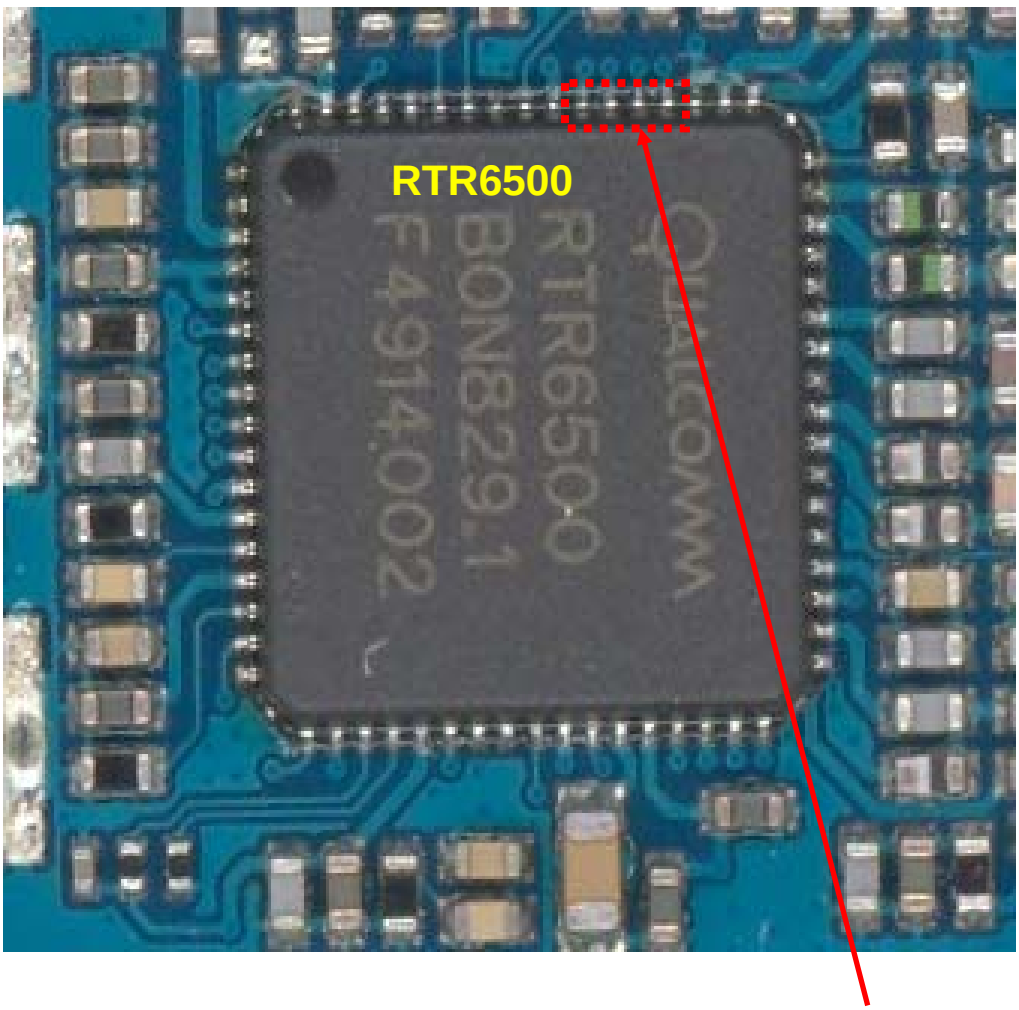


Fig. 4.1.1 (d)

4.1.1.4 Checking Rx I/Q data

Test Point



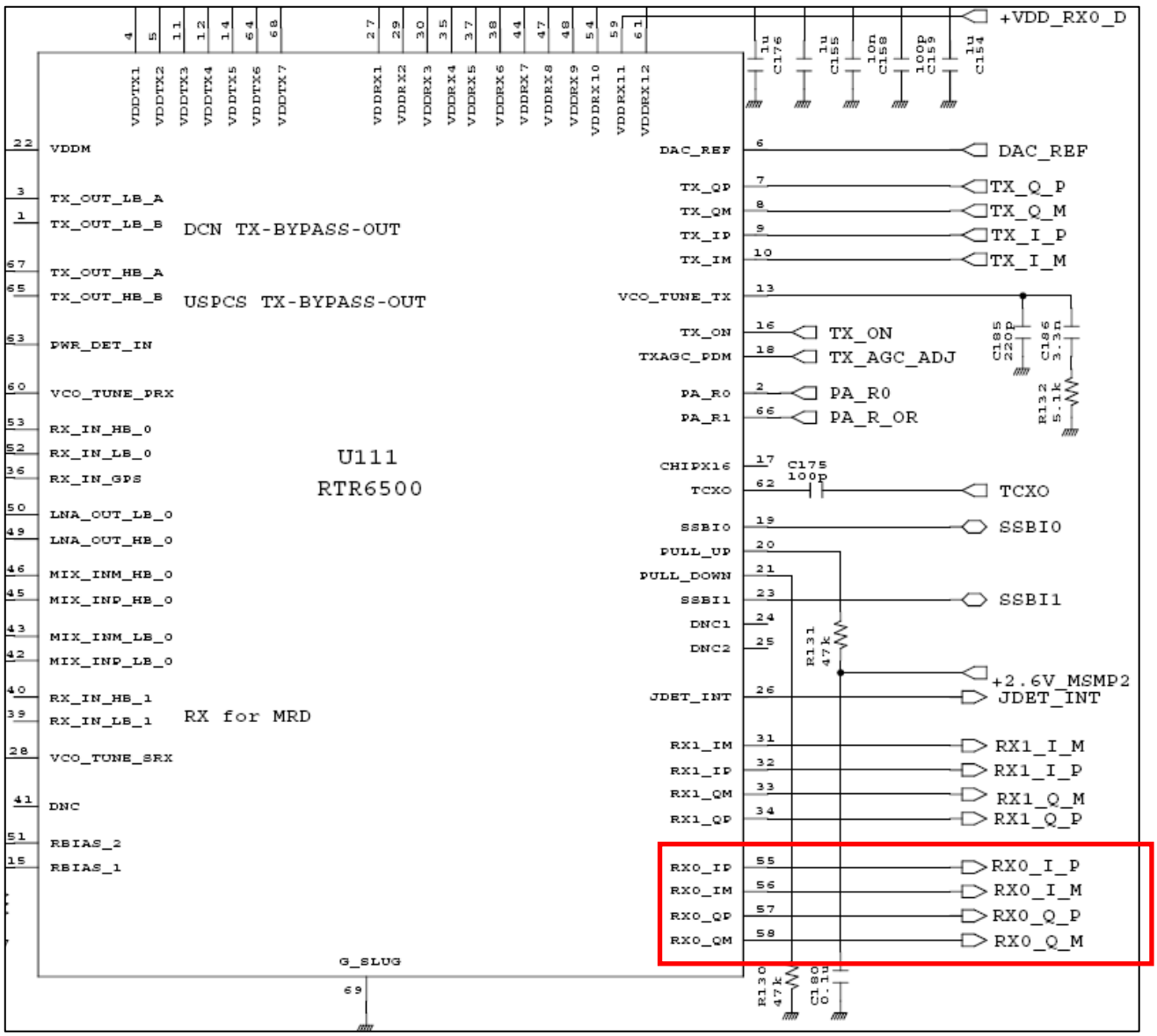
U111 Pin55(RX0_IP)

Pin56(RX0_IM)

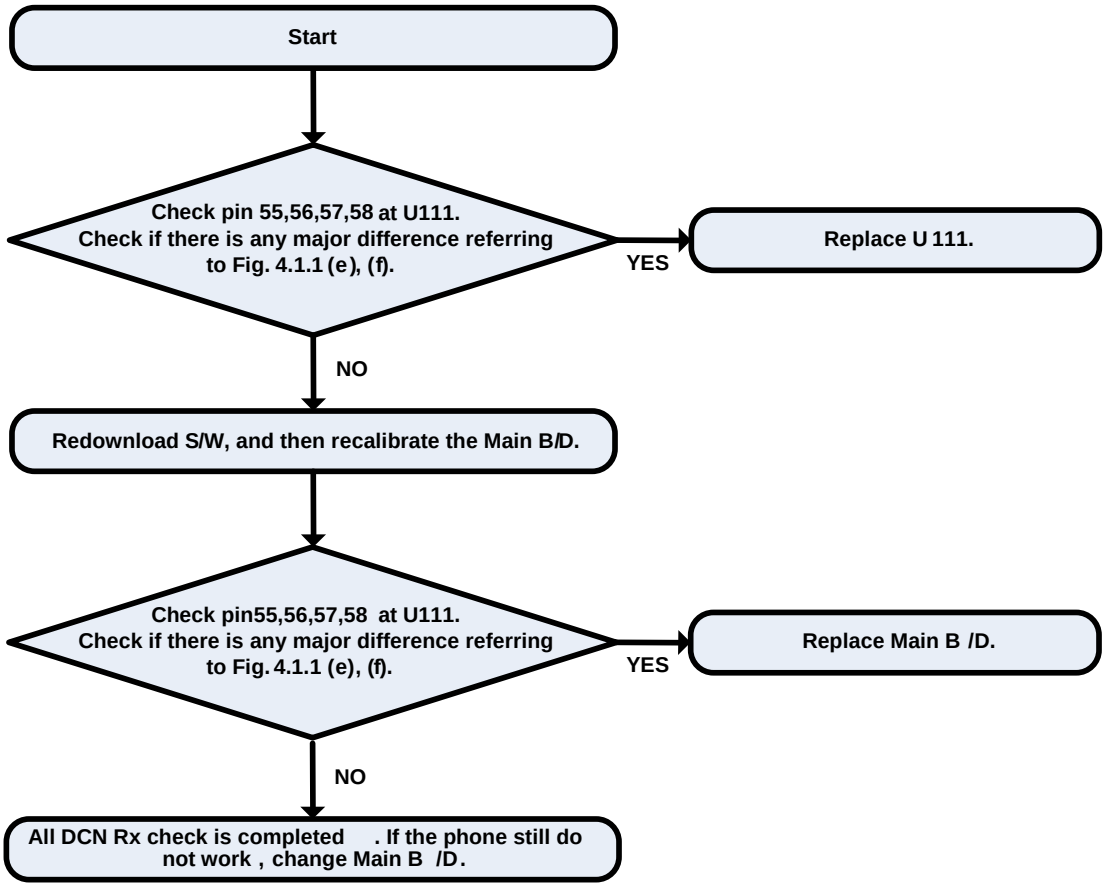
Pin57(RX0_QP)

Pin58(RX0_QM)

Circuit Diagram



Checking Flow



Waveform

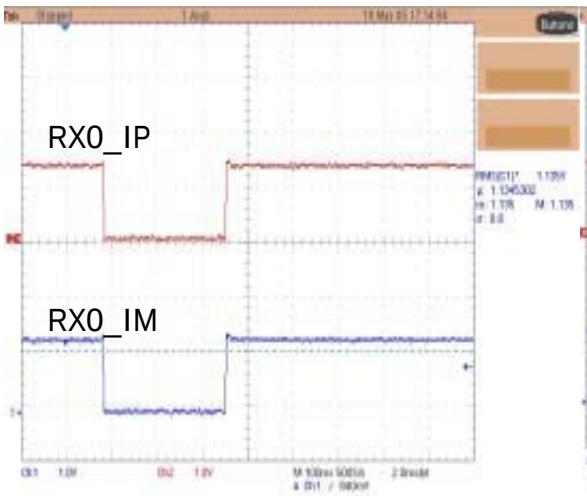


Fig. 4.1.1(e)

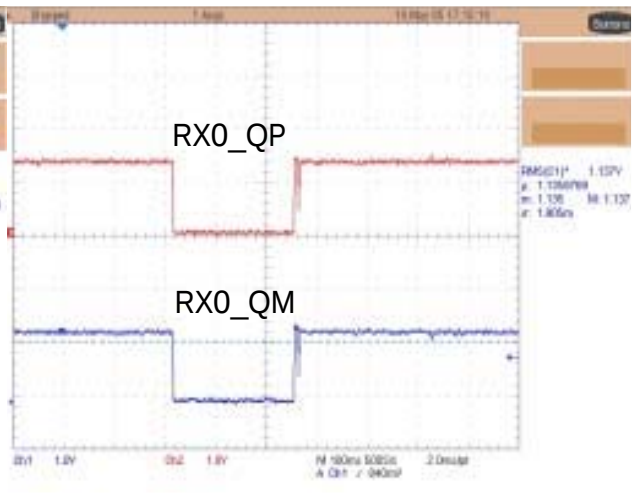
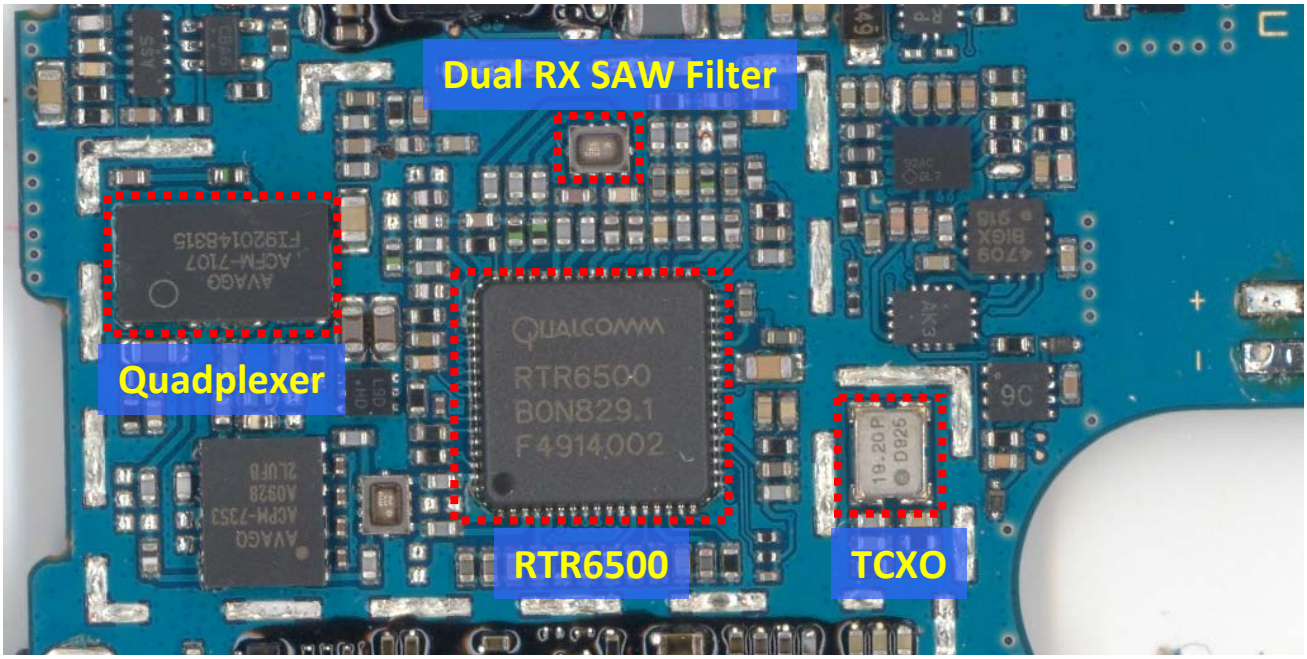


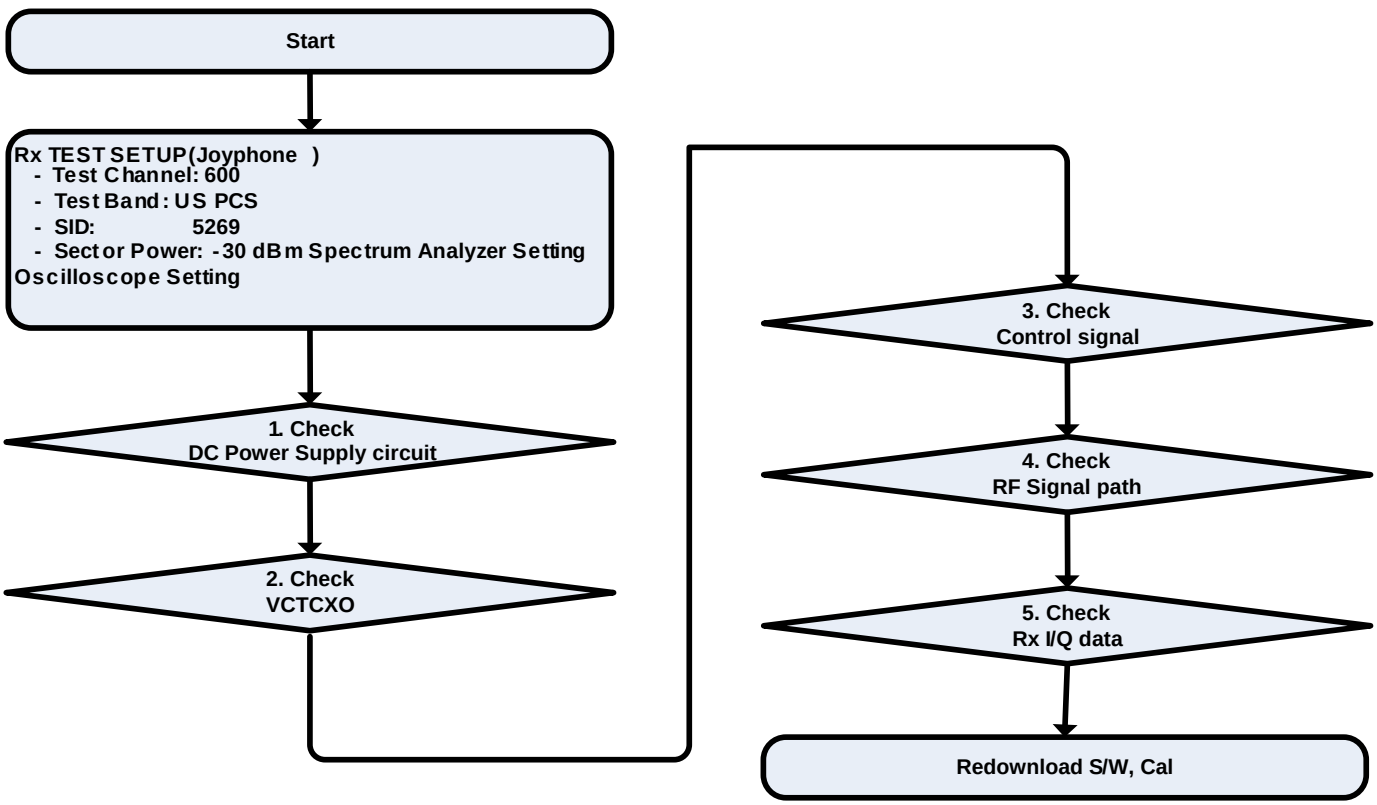
Fig. 4.1.1 (f)

4.1.2 PCS Rx

Test Point

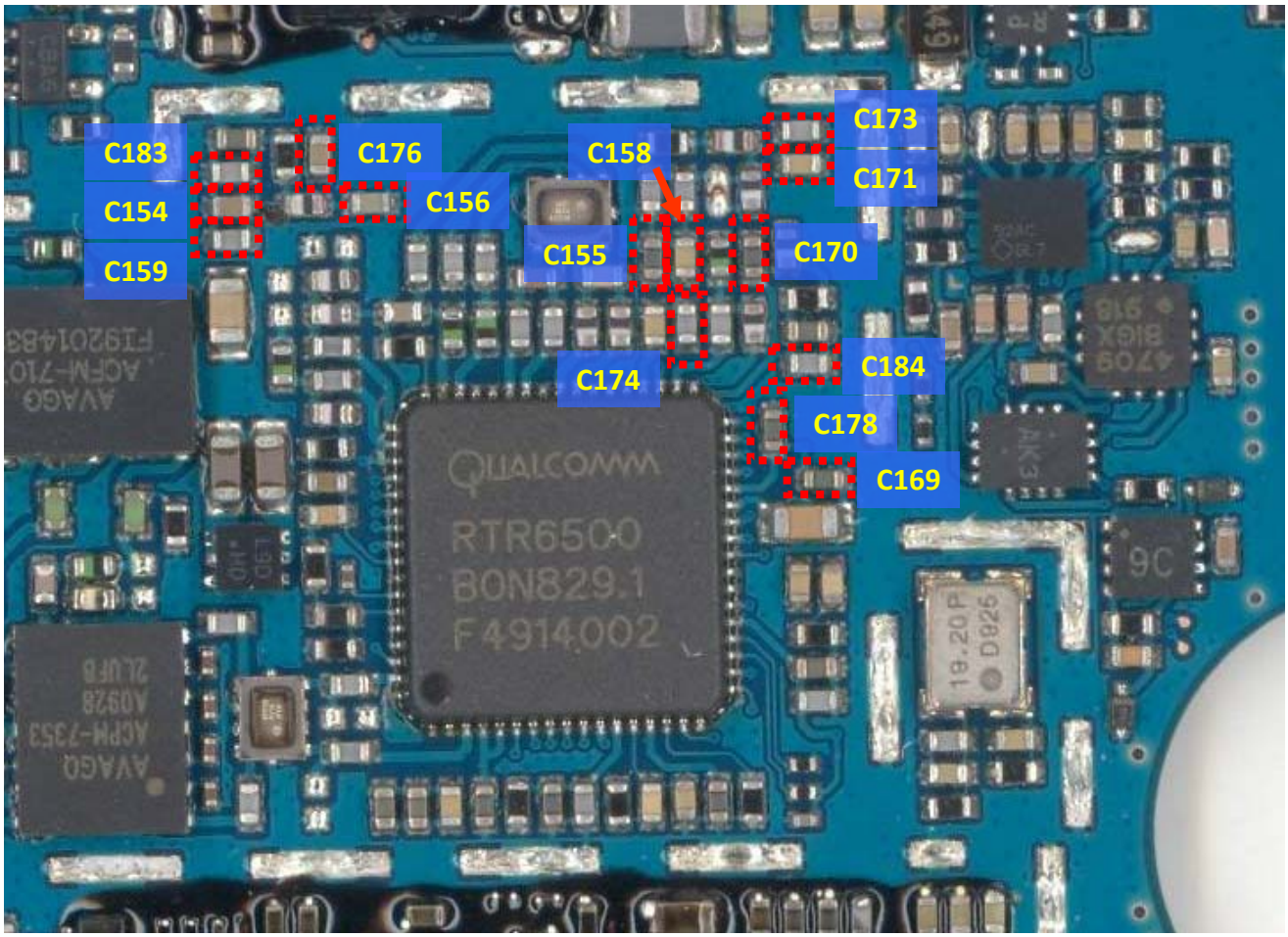


Checking Flow



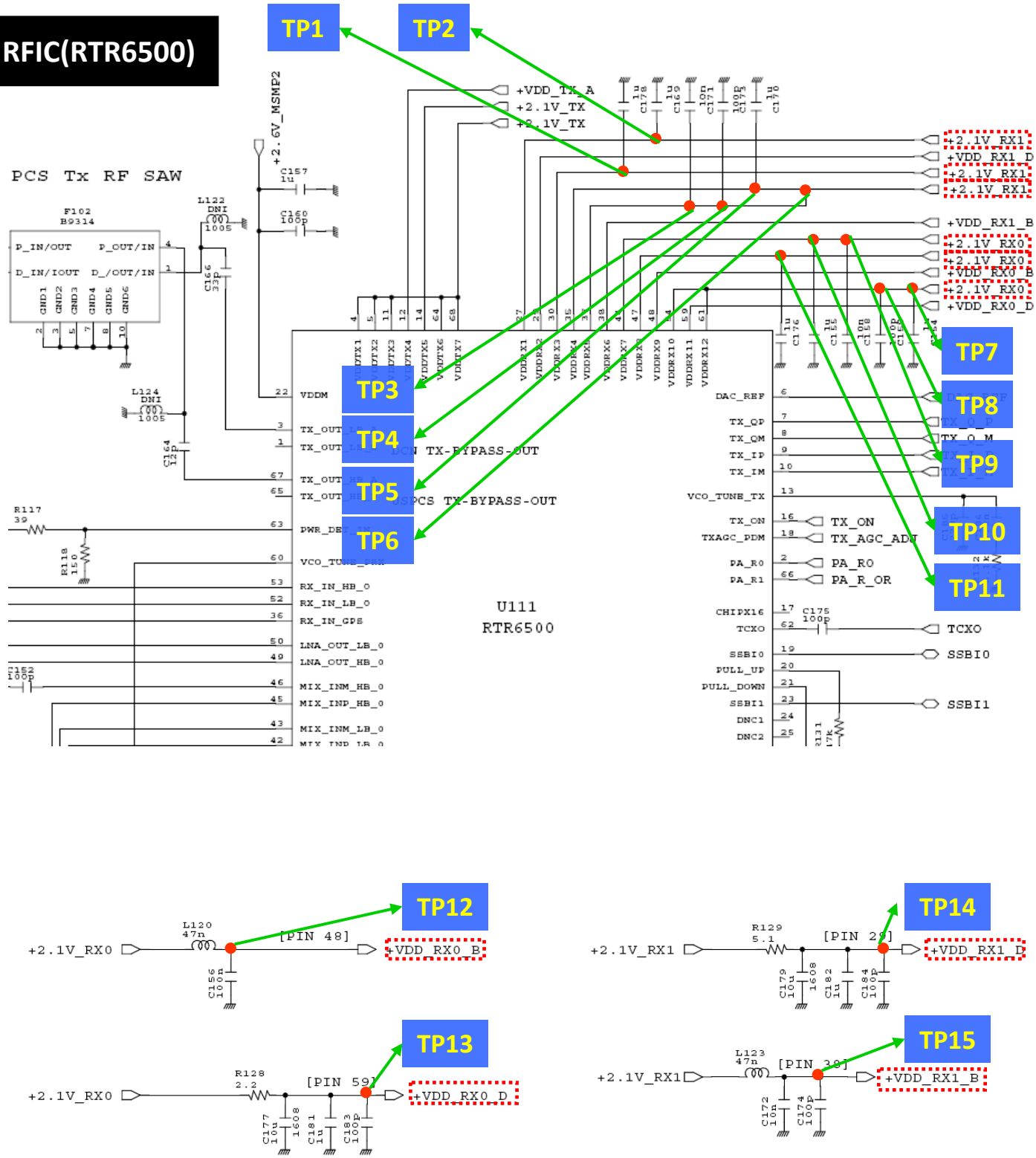
4.1.2.1 Checking DC Power supply circuit (PMIC)

Test Point

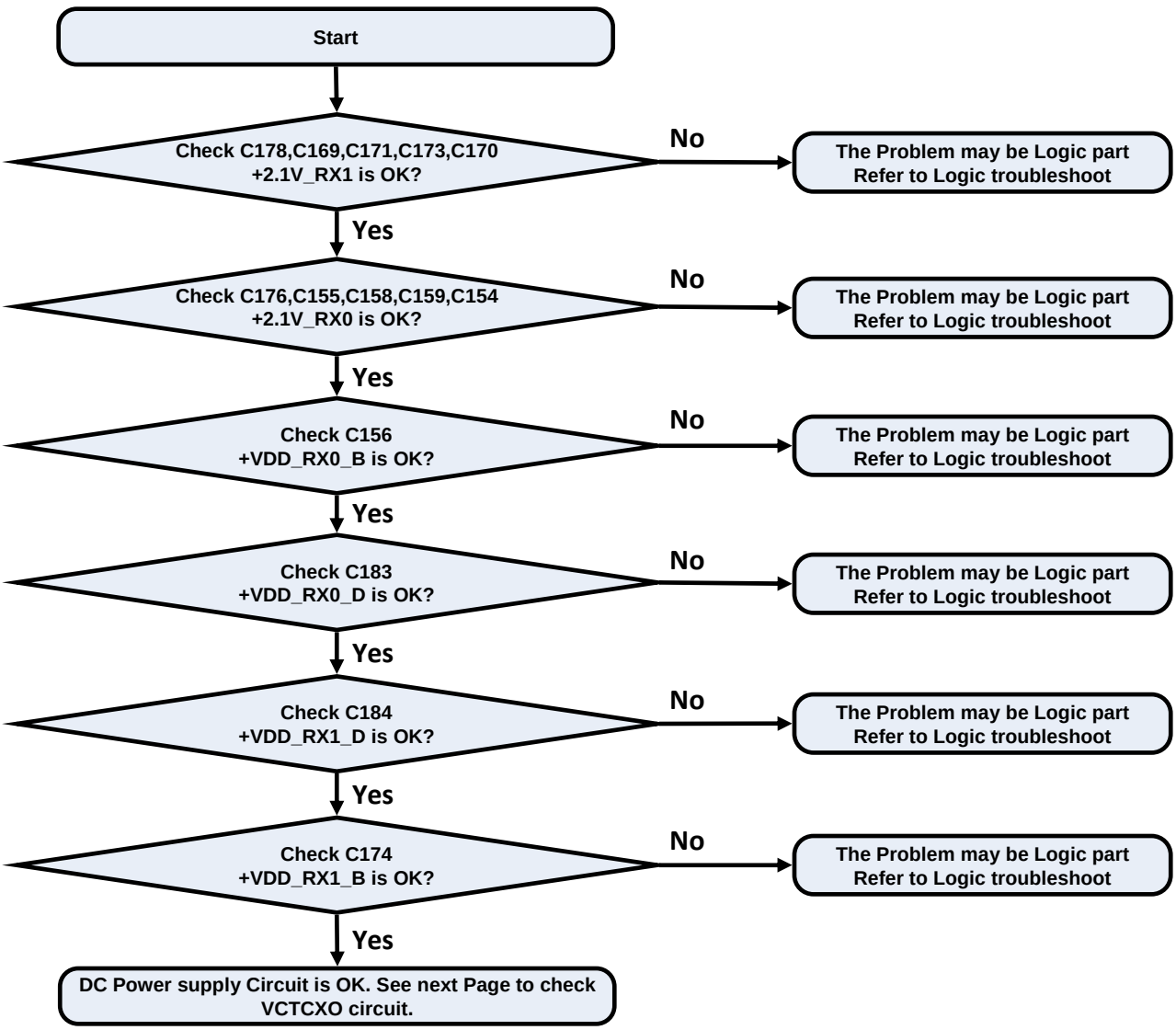


Circuit Diagram

RFIC(RTR6500)



Checking Flow

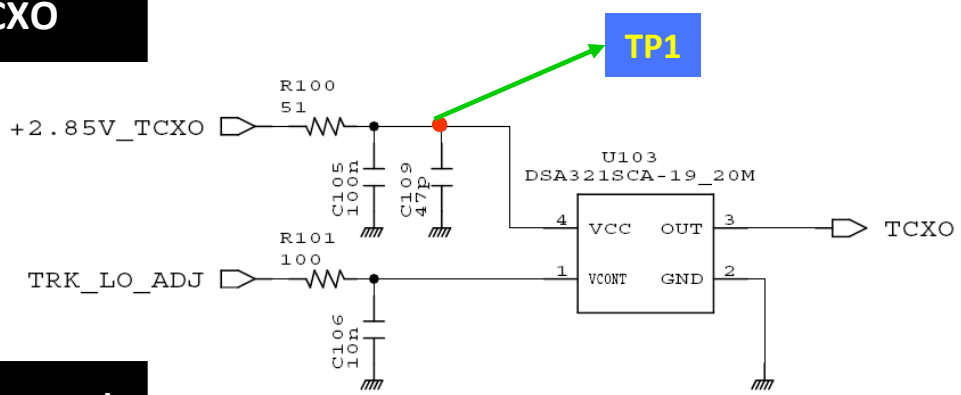


4.1.2.2 Checking VCTCXO circuit

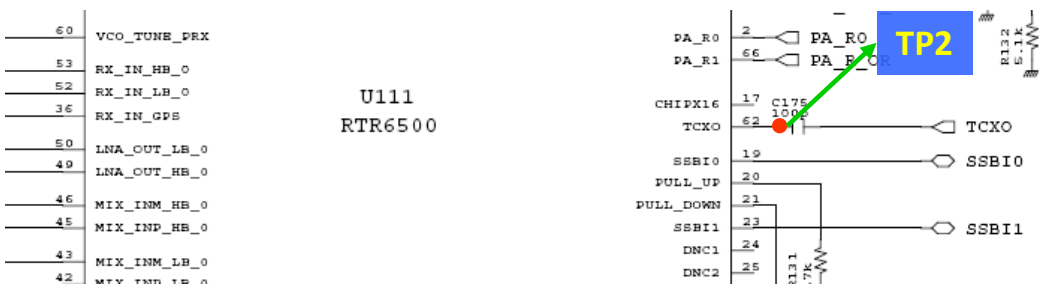
Test Point

Circuit Diagram

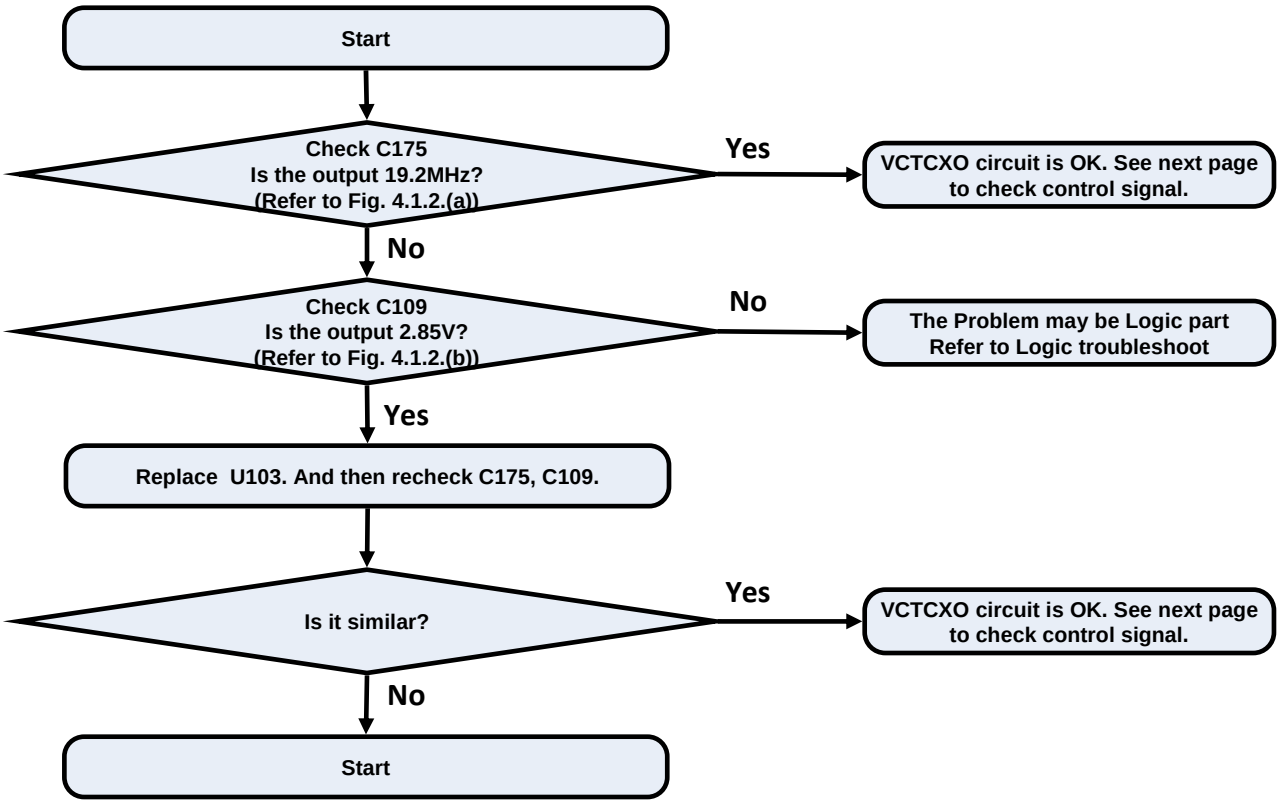
VCTCXO



RFIC(RTR6500)



Checking Flow



Waveform

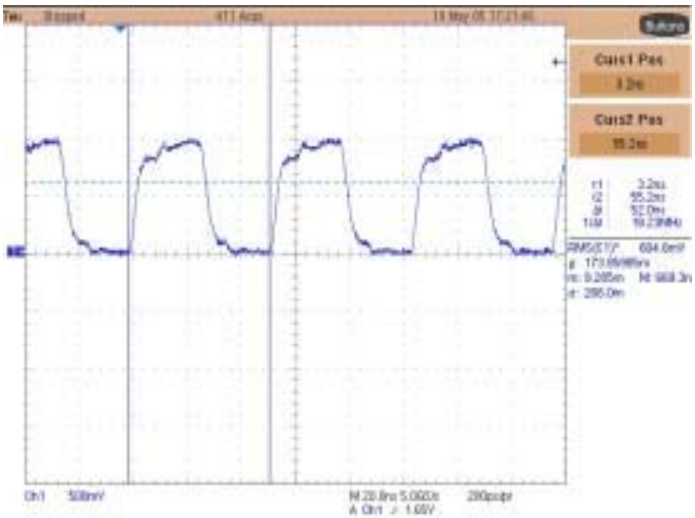


Fig. 4.1.2 (a)

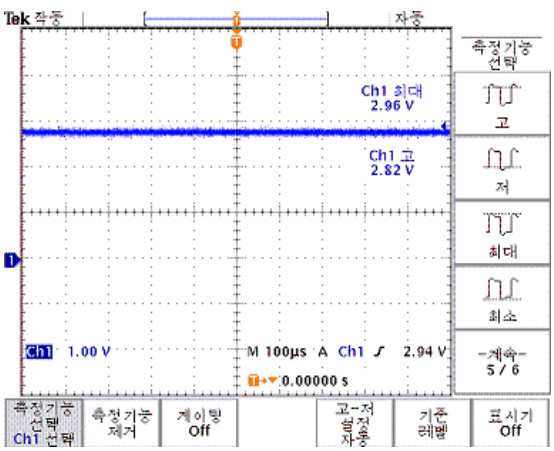
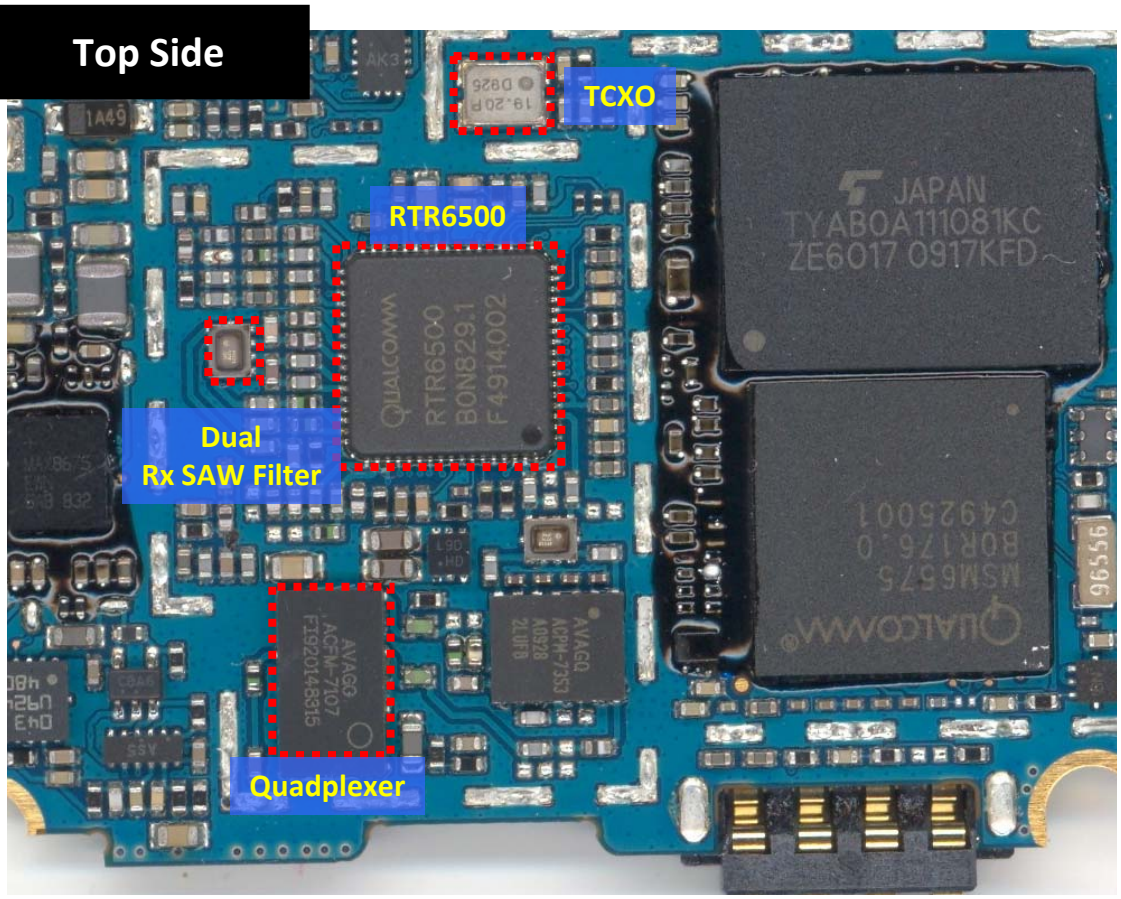


Fig. 4.1.1 (b)

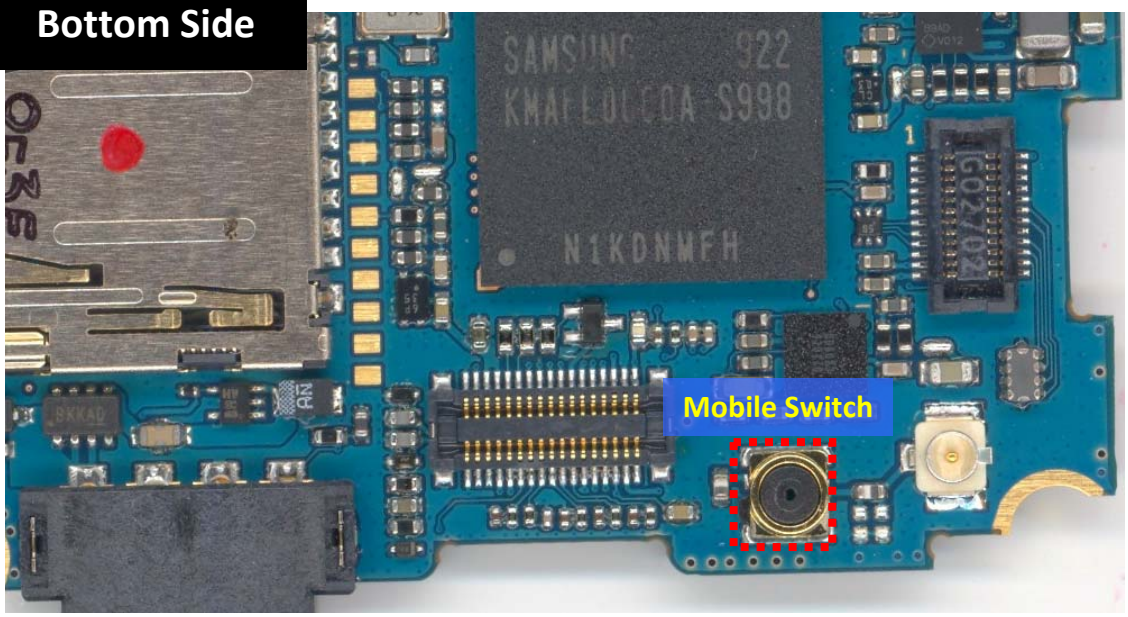
4.1.2.3 Checking RF signal path (Mobile S/W, quadplexer)

Test Point

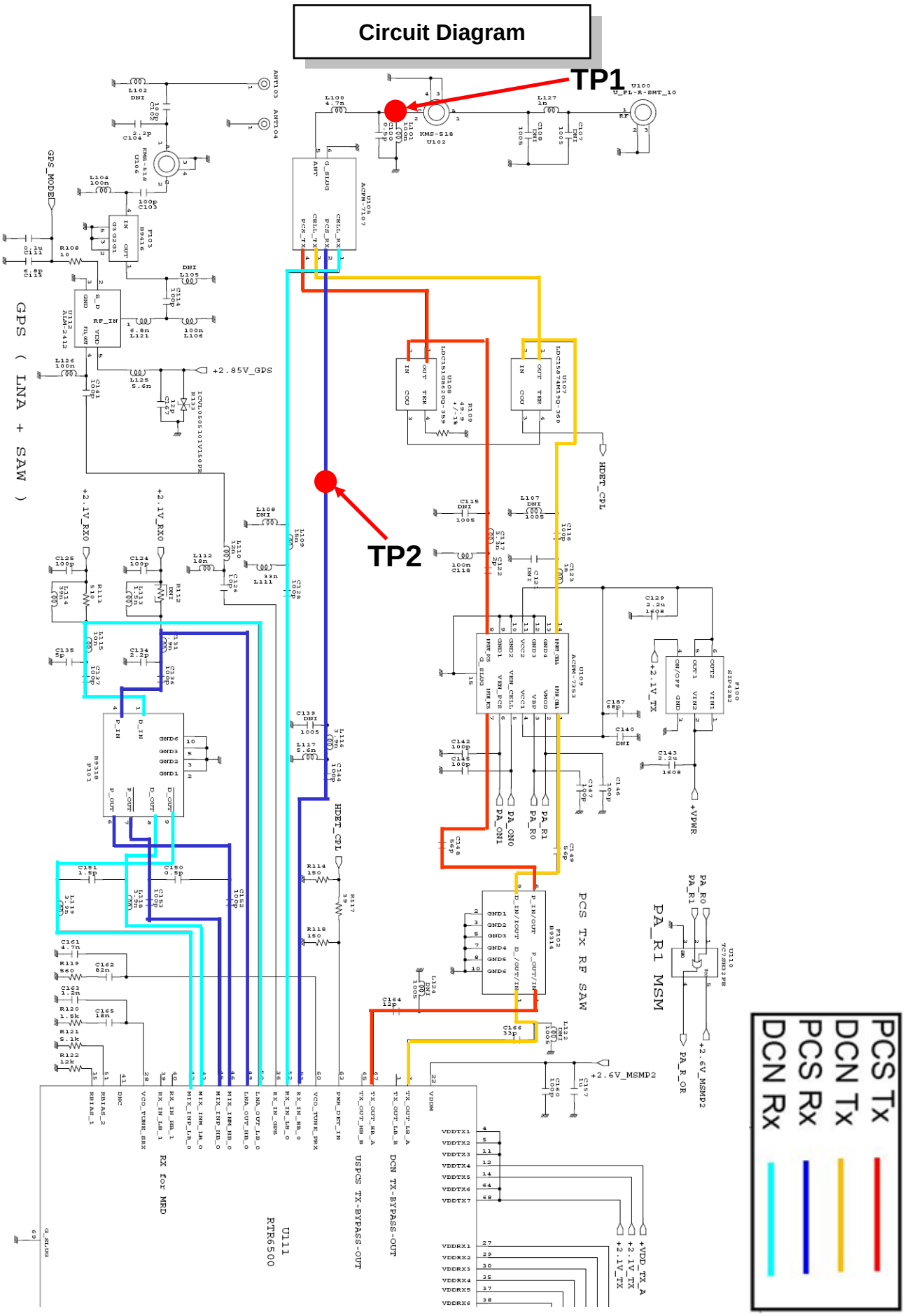
Top Side



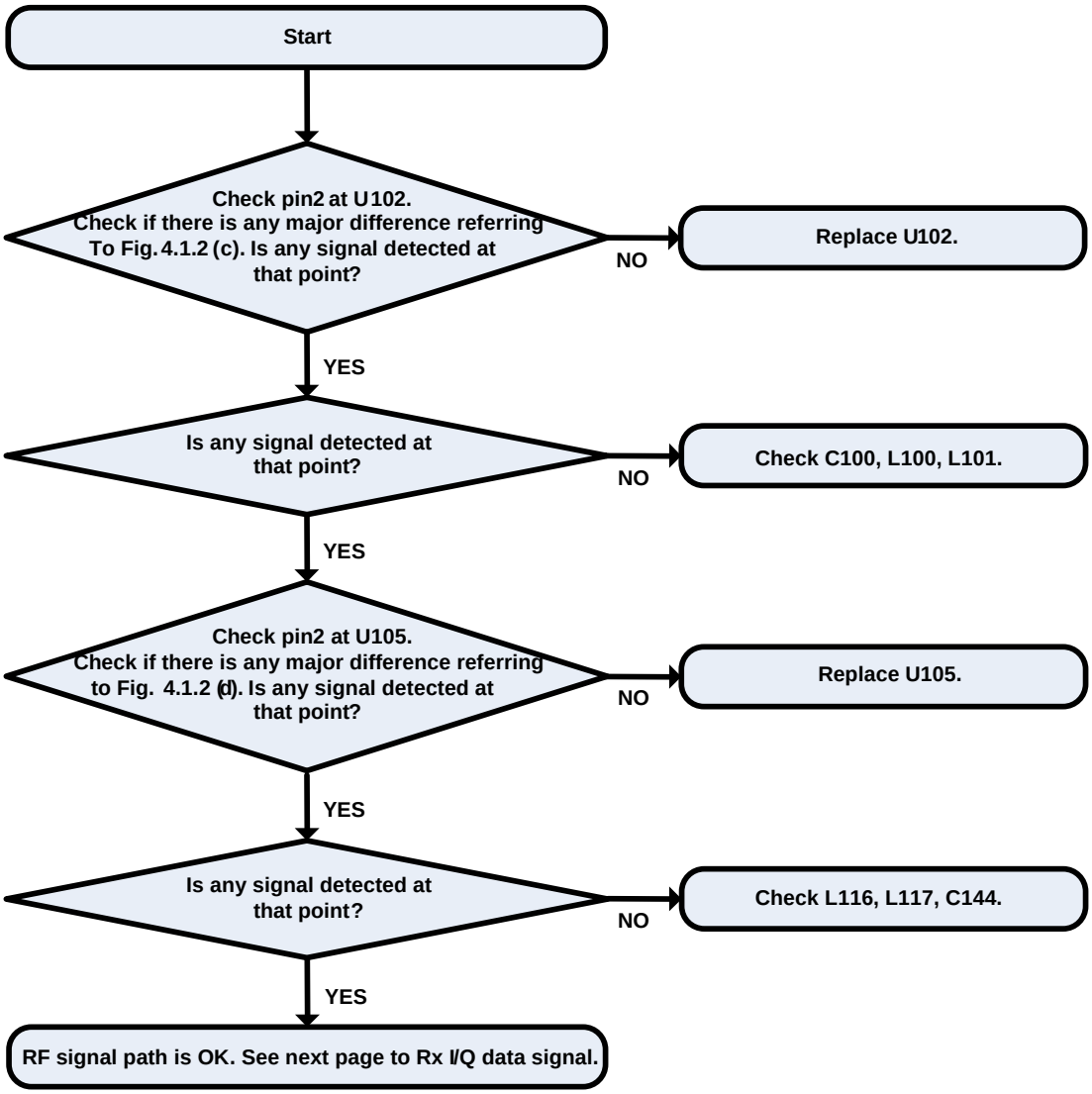
Bottom Side



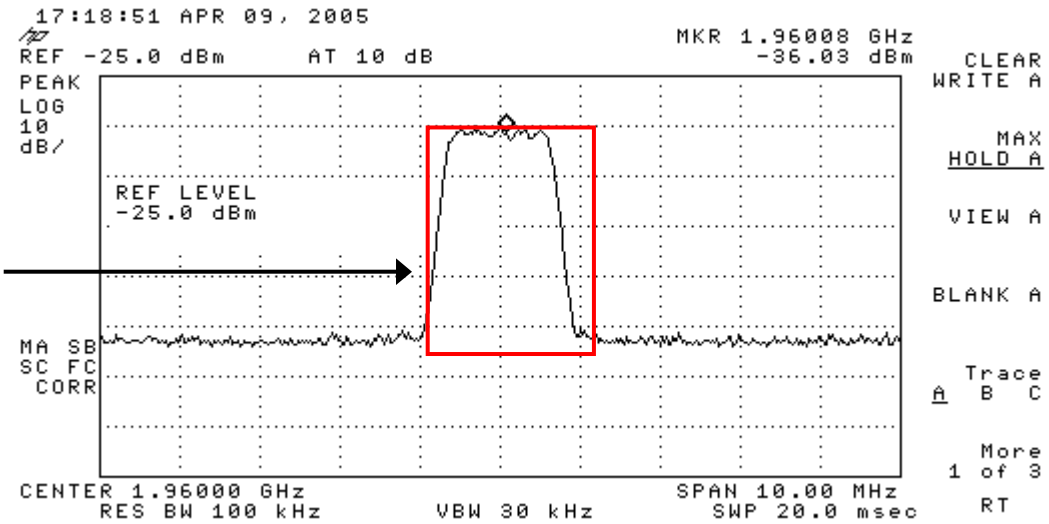
Circuit Diagram



Checking Flow

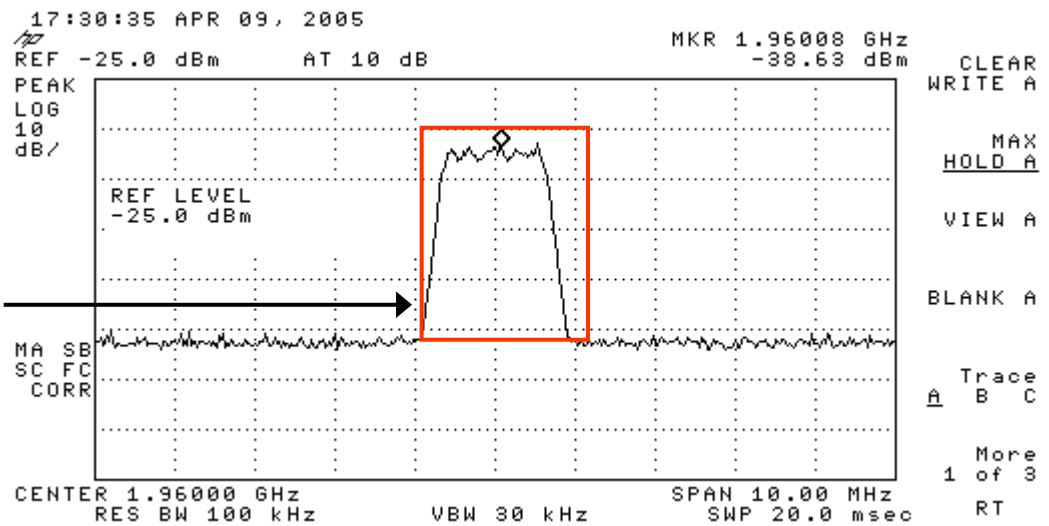


Waveform



U100 pin2

Fig. 4.1.2 (c)

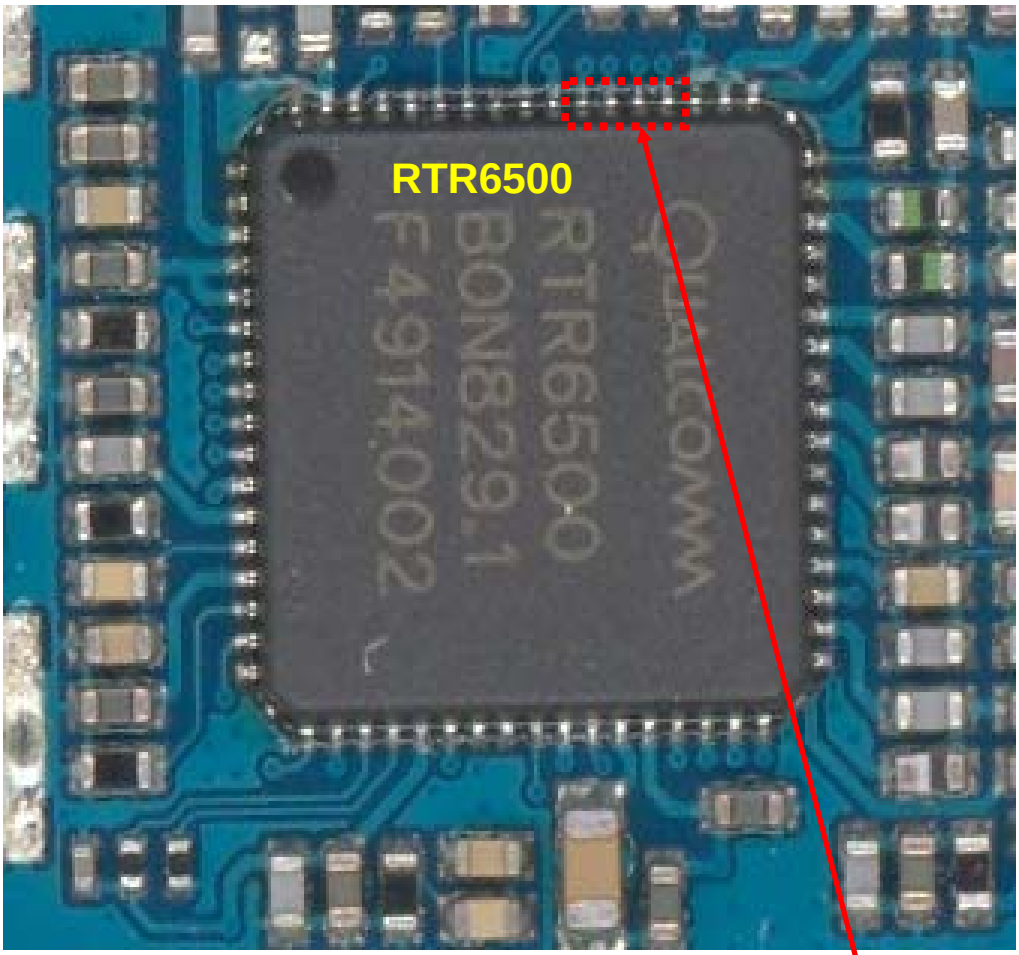


U105 pin2

Fig. 4.1.2 (d)

4.1.2.4 Checking Rx I/Q data

Test Point



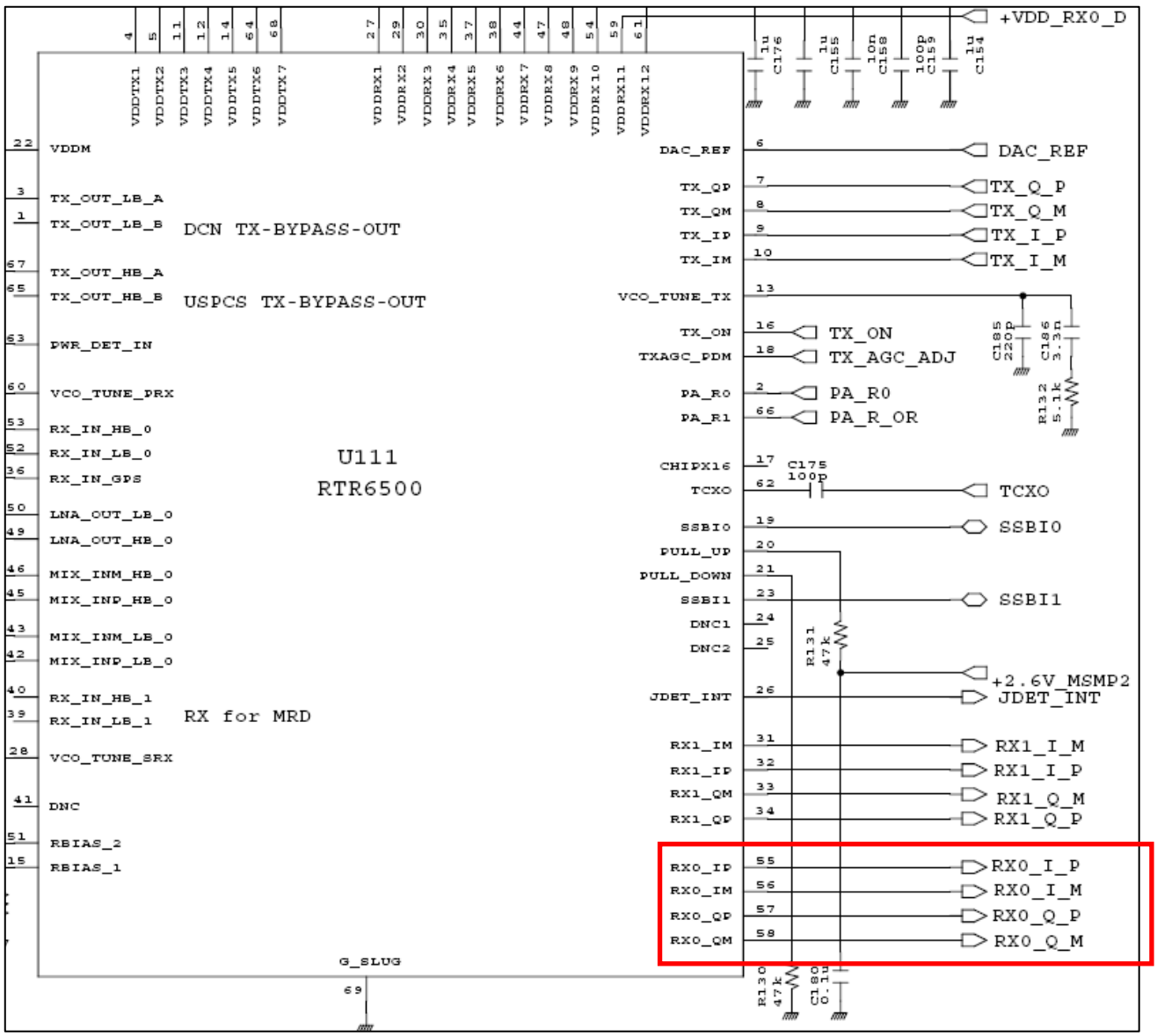
U111 Pin55(RX0_IP)

Pin56(RX0_IM)

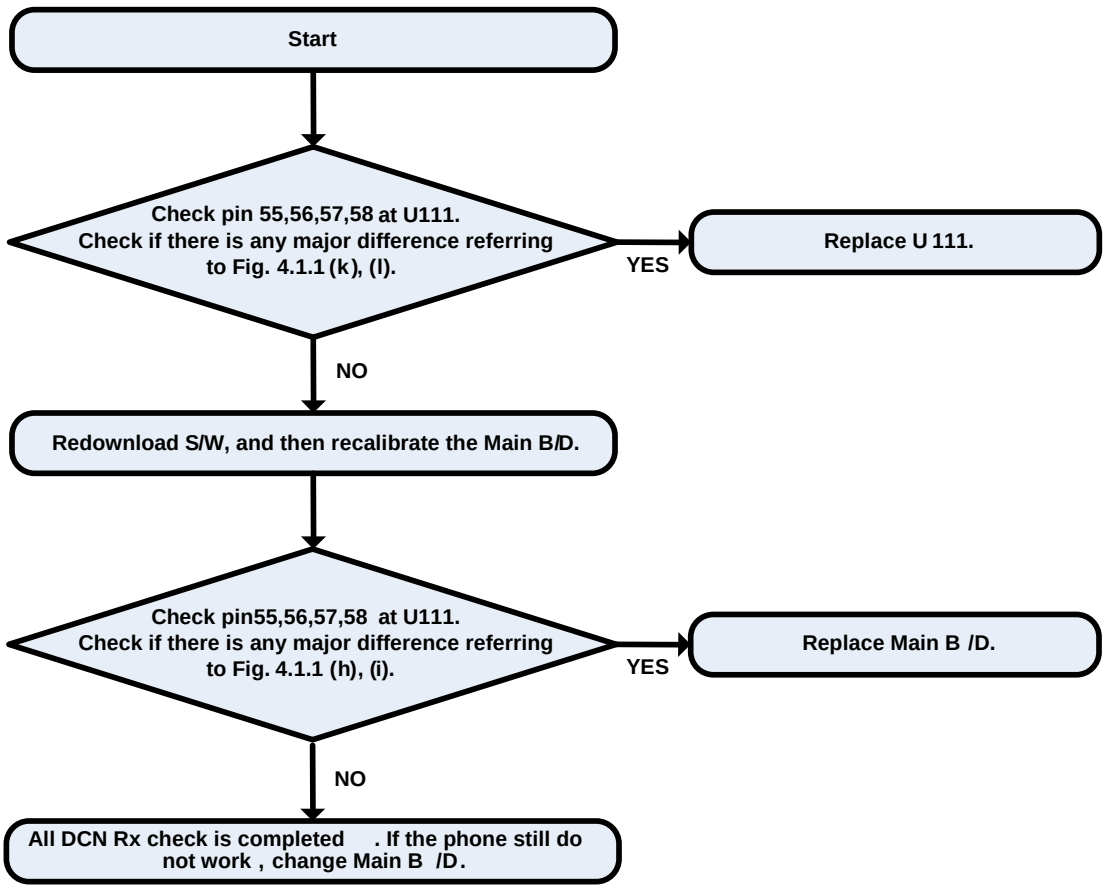
Pin57(RX0_QP)

Pin58(RX0_QM)

Circuit Diagram



Checking Flow



Waveform

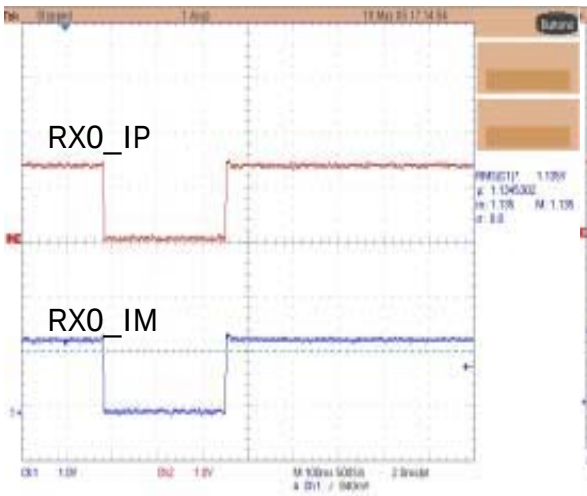


Fig. 4.1.2 (e)

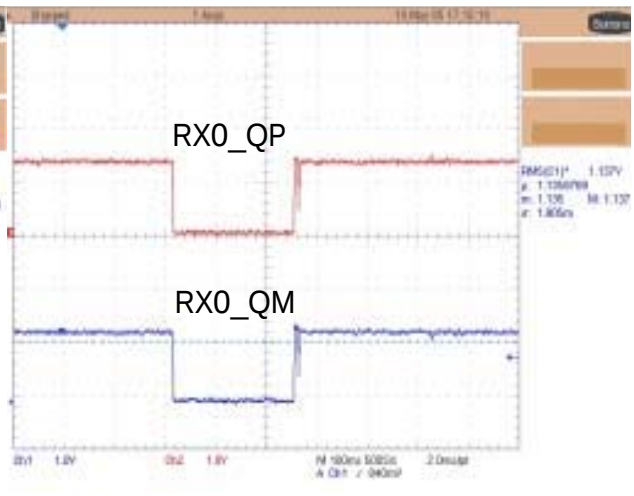


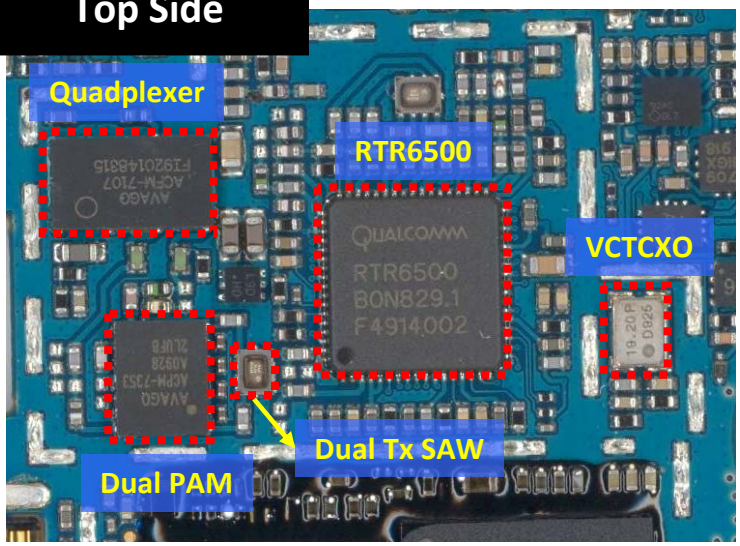
Fig. 4.1.2 (f)

4.2 Tx Part Trouble

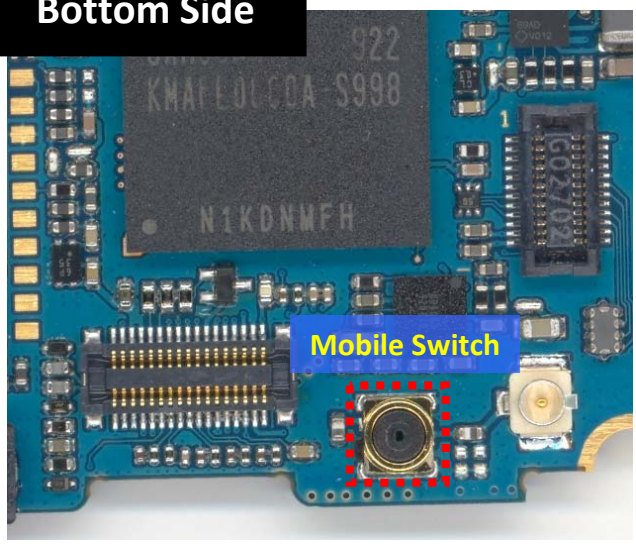
4.2.1 DCN Tx

Test Point

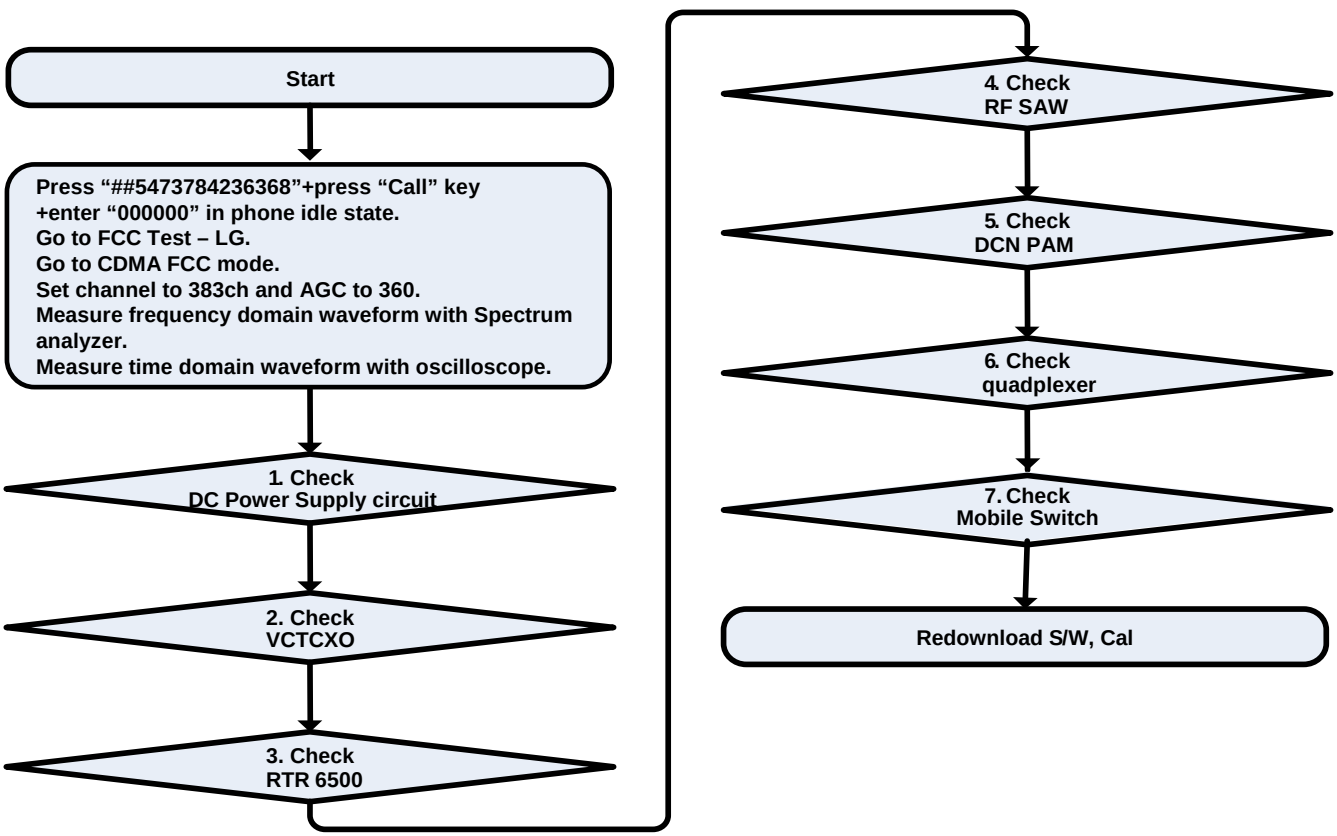
Top Side



Bottom Side

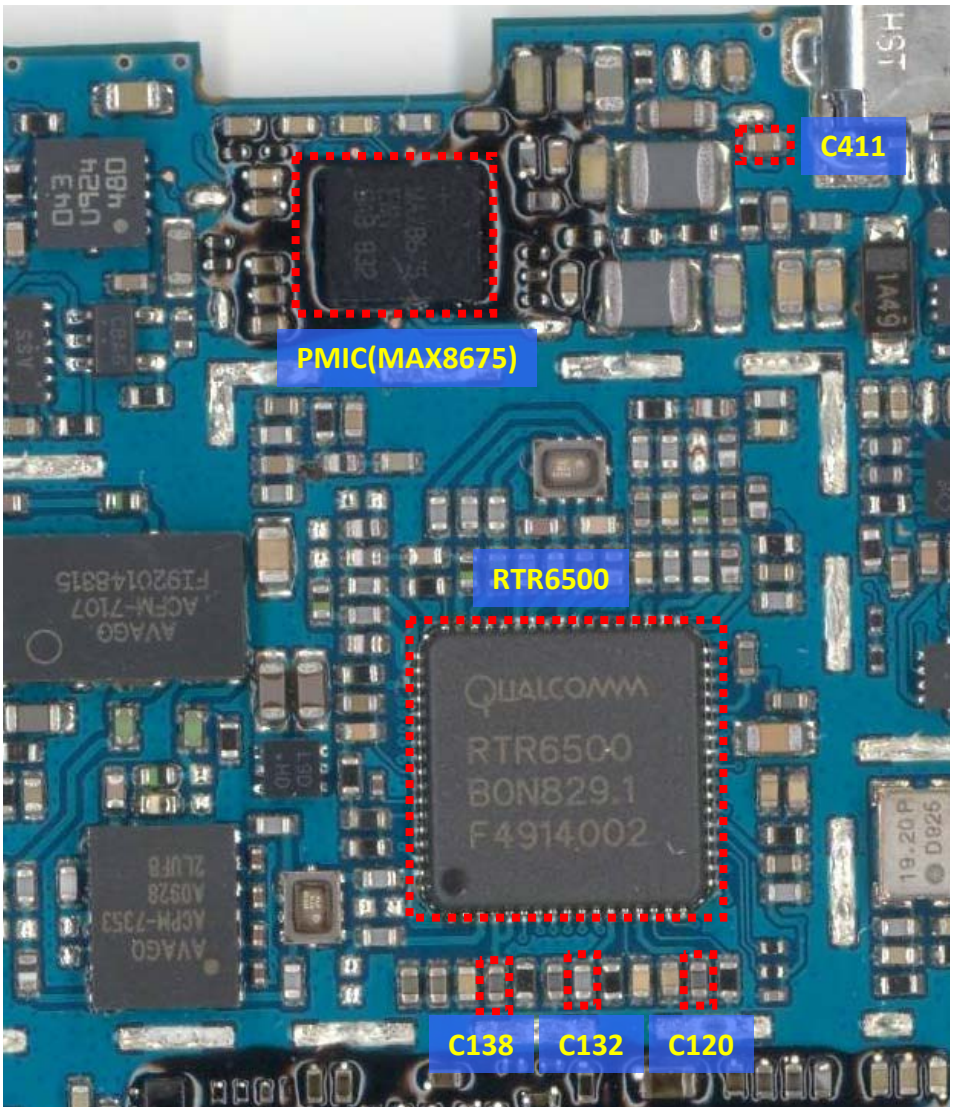


Checking Flow



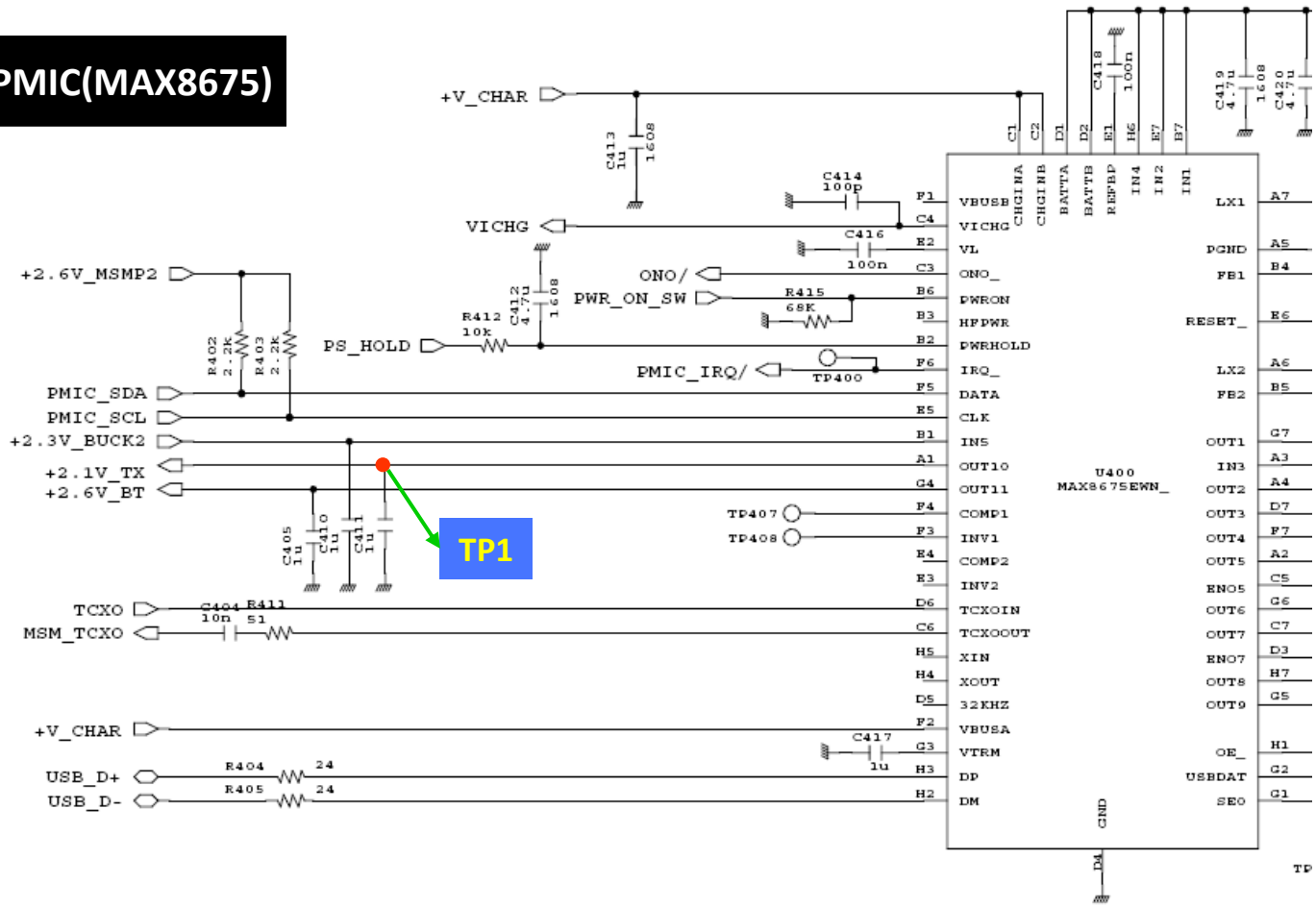
4.2.1.1 Checking DC Power supply circuit (PMIC)

Test Point

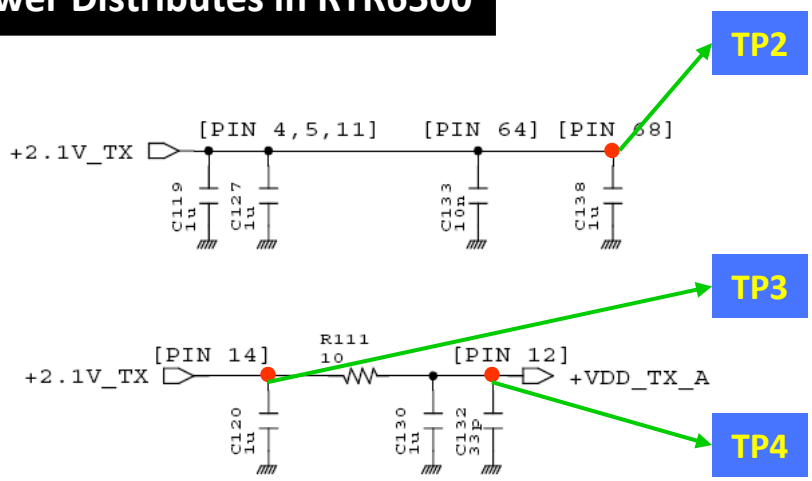


Circuit Diagram

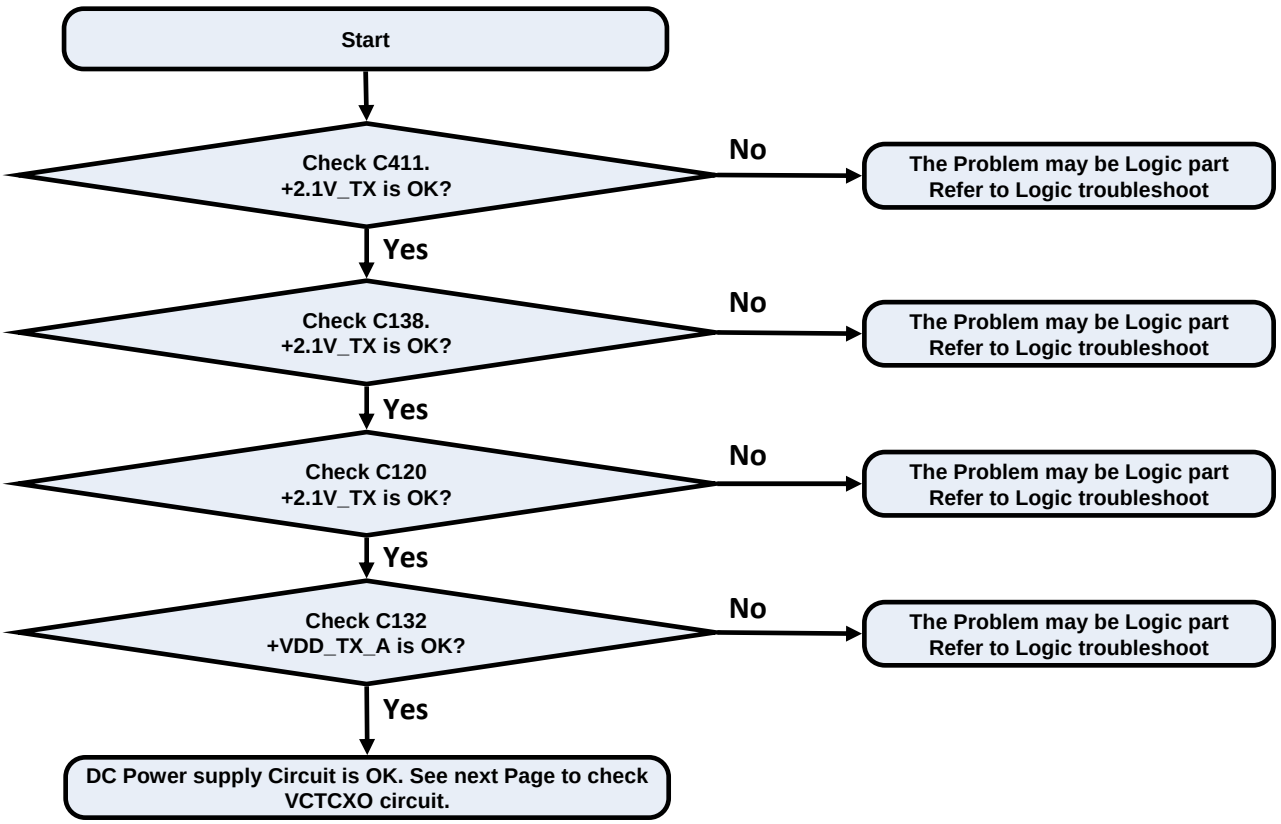
PMIC(MAX8675)



Power Distributes in RTR6500



Checking Flow

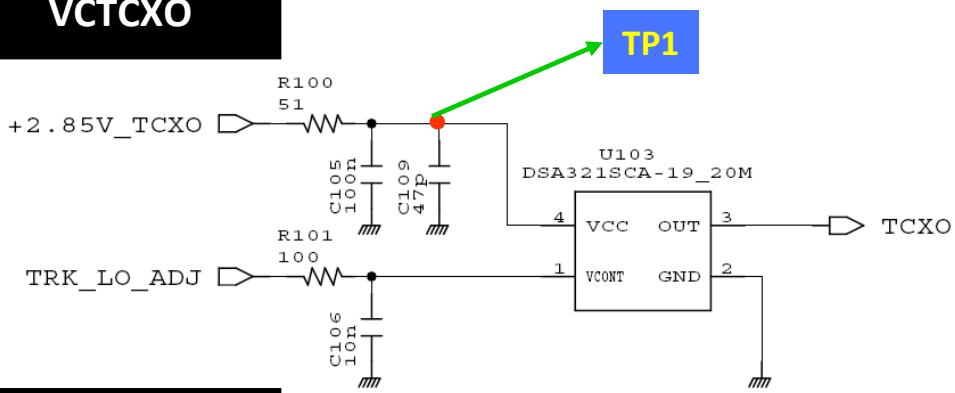


4.2.1.2 Checking VCTCXO circuit

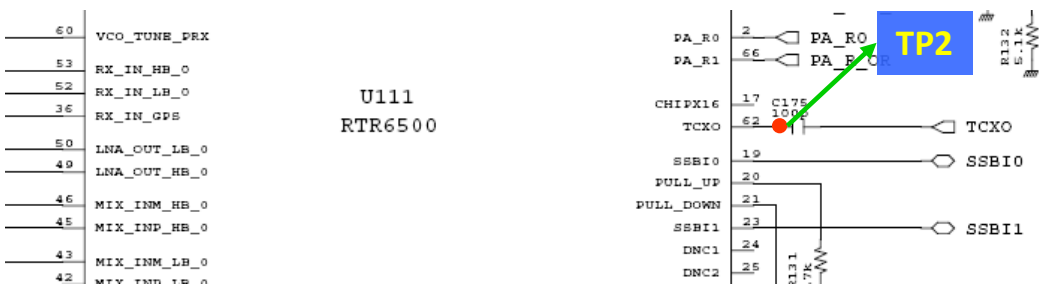
Test Point

Circuit Diagram

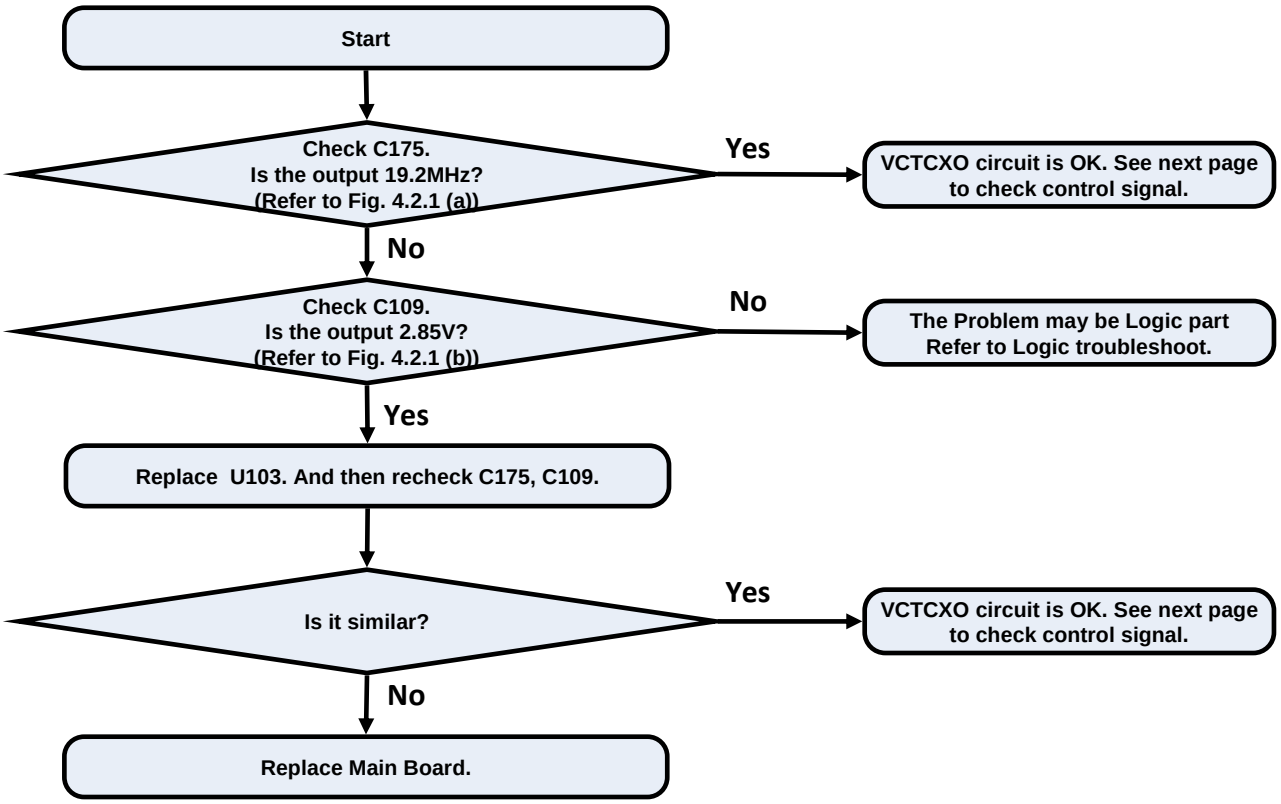
VCTCXO



RFIC(RTR6500)



Checking Flow



Waveform

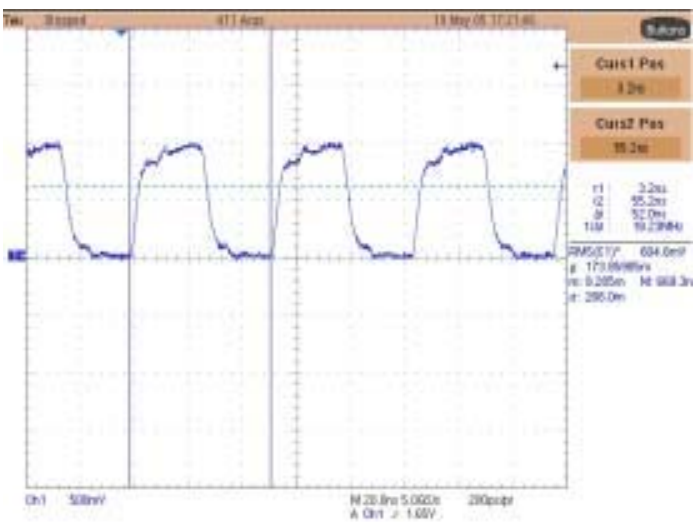


Fig. 4.2.1 (a)

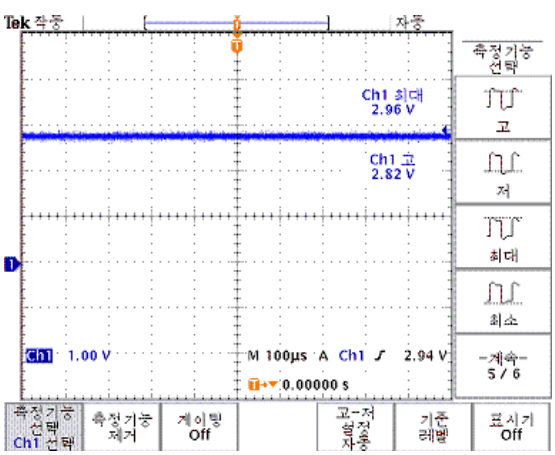
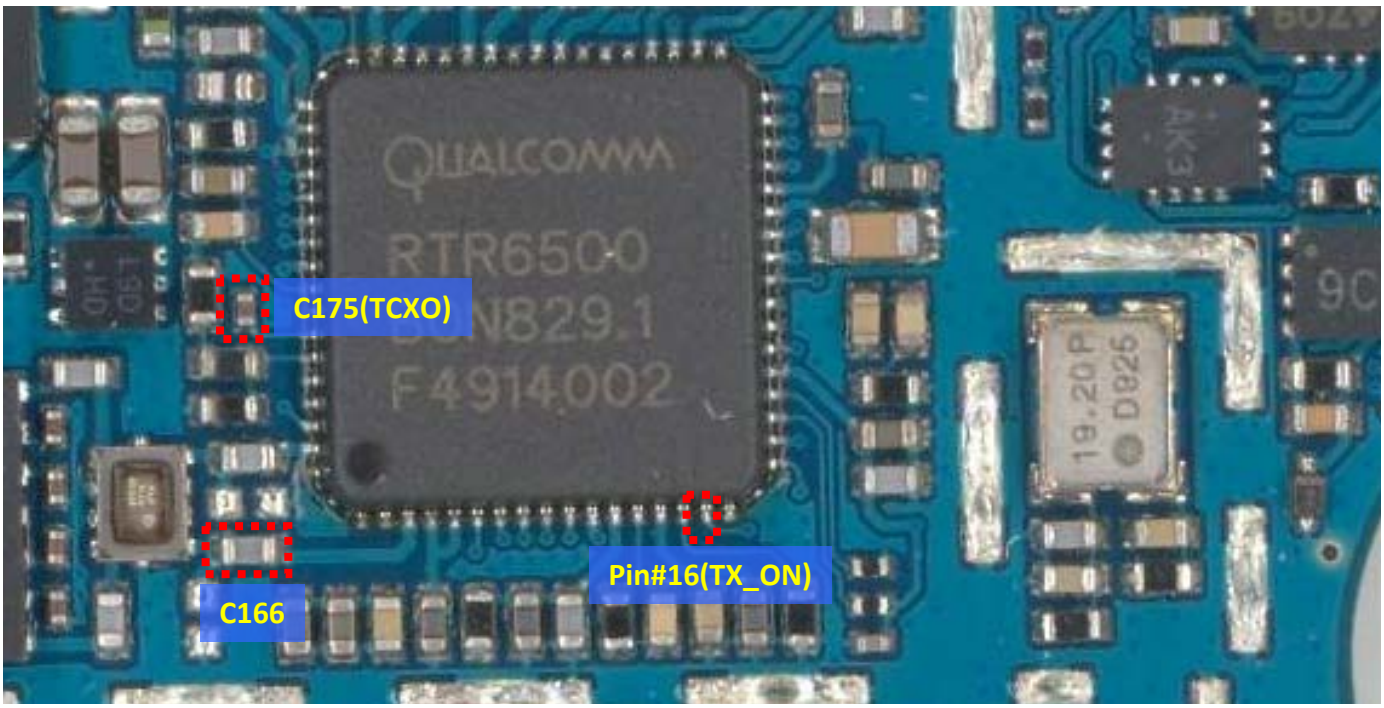


Fig. 4.2.1 (b)

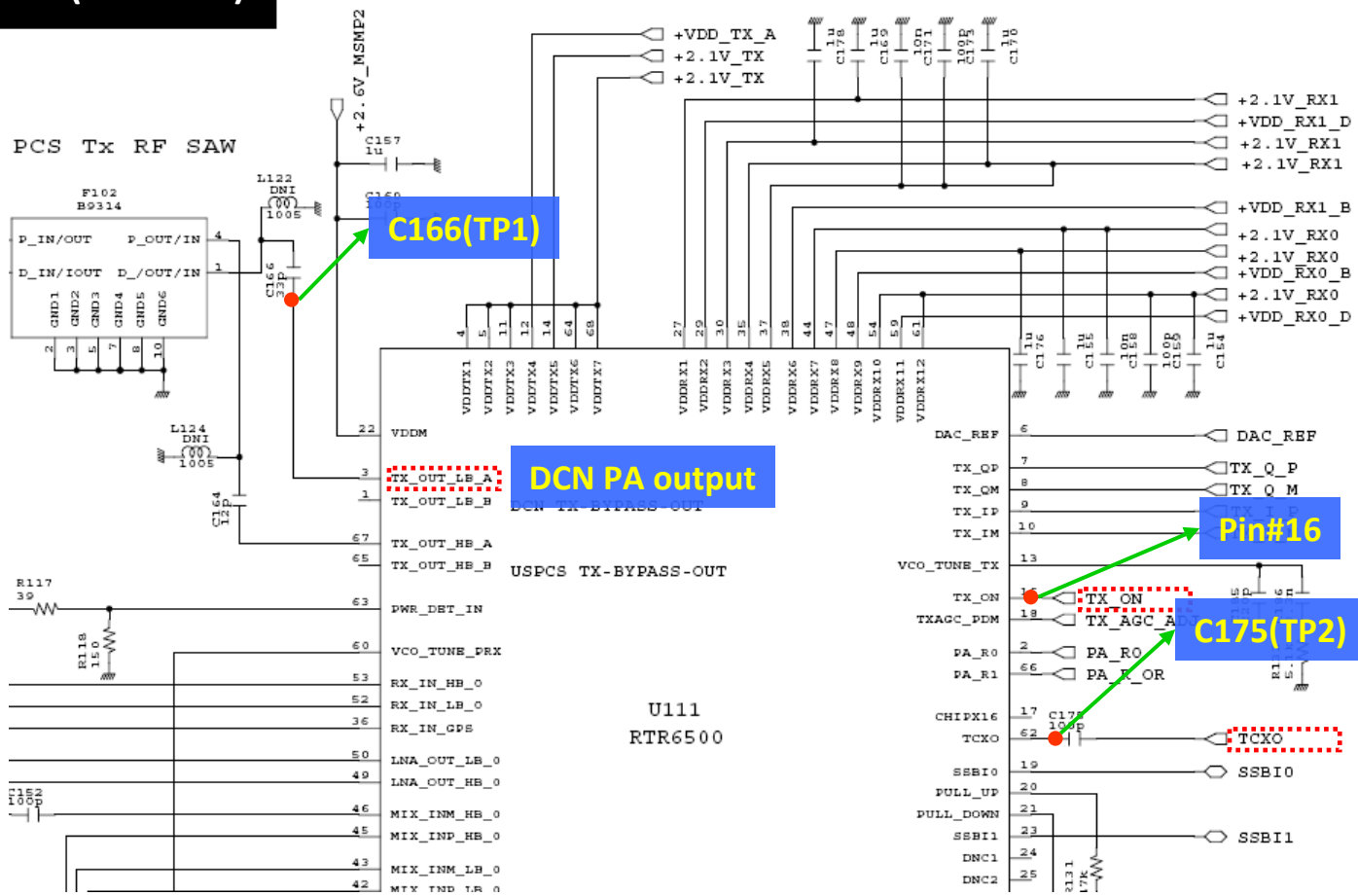
4.2.1.3 Checking RTR6500 circuit

Test Point

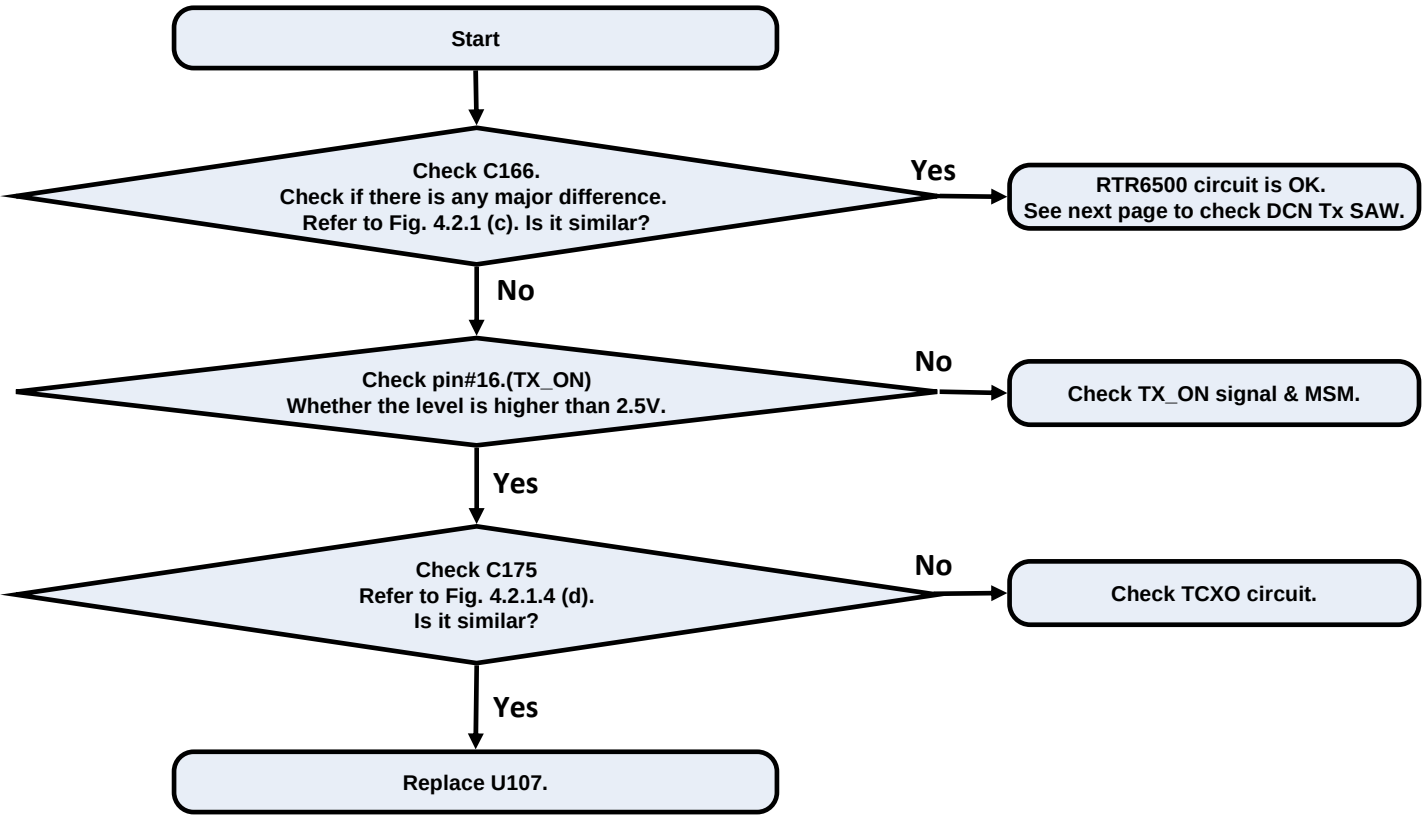


Circuit Diagram

RFIC(RTR6500)



Checking Flow



Waveform

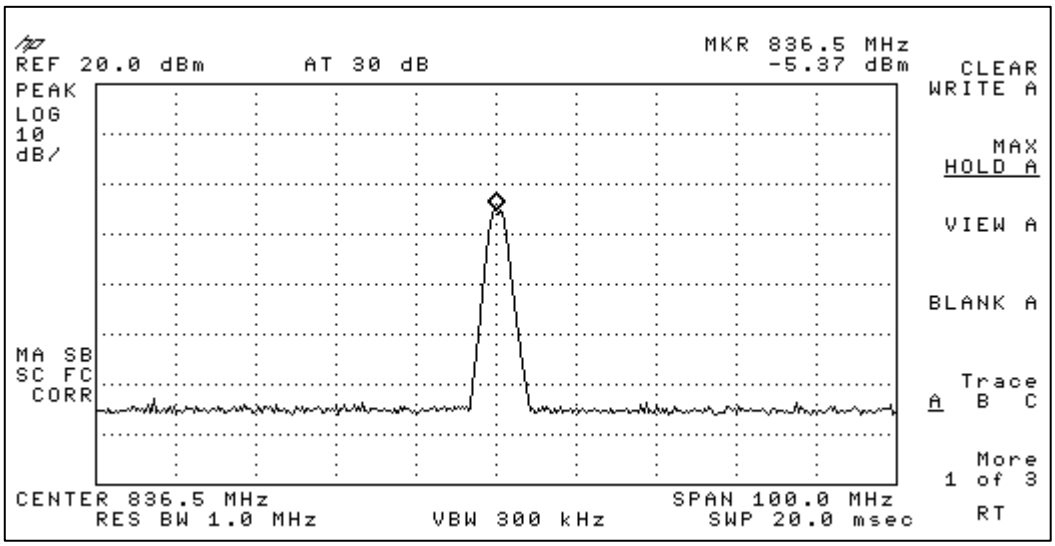


Fig. 4.2.1 (c)

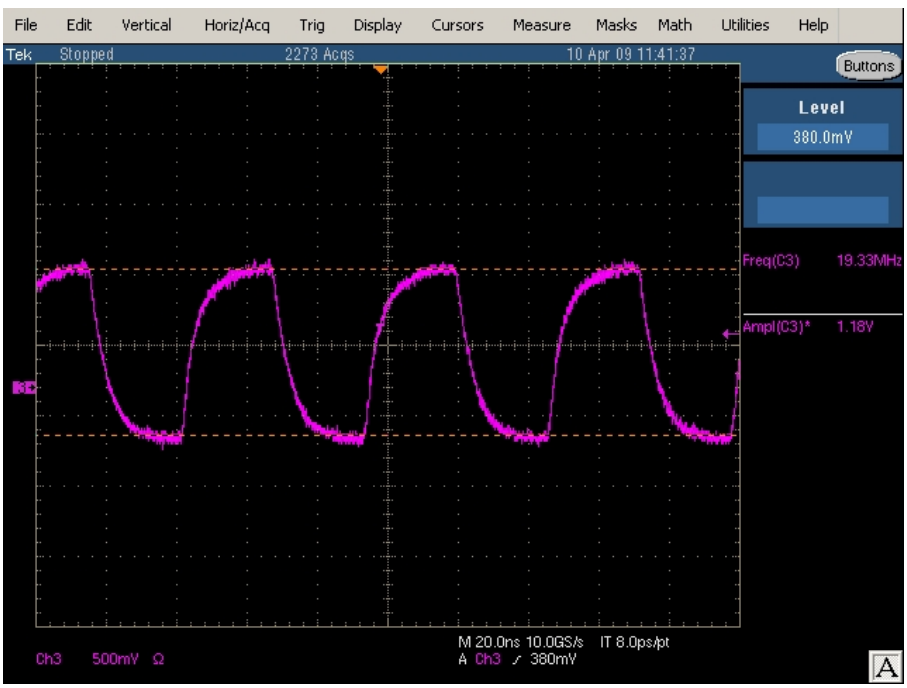
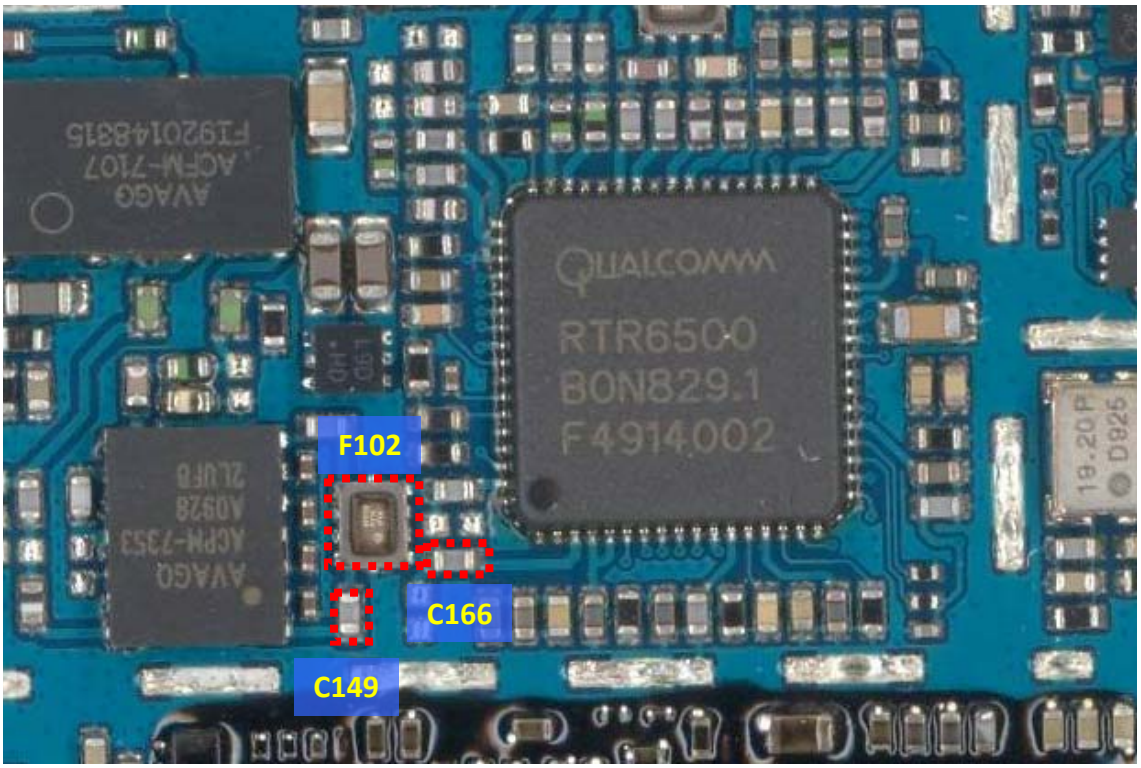


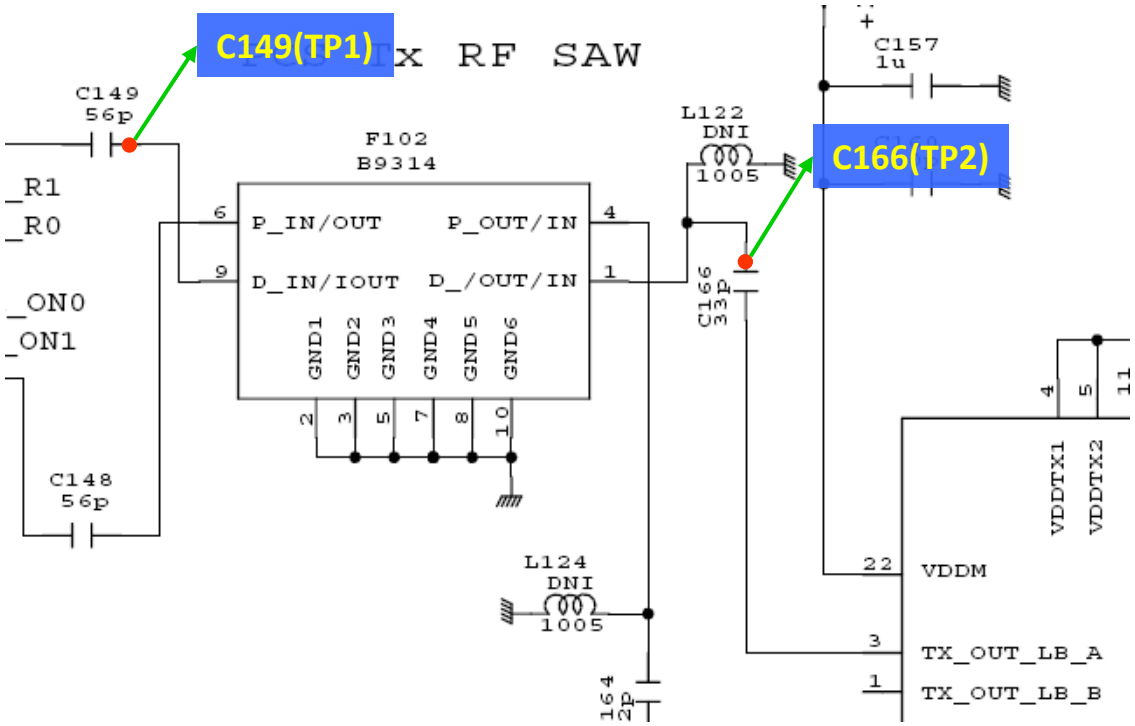
Fig. 4.2.1 (d)

4.2.1.4 Check DCN RF Tx SAW

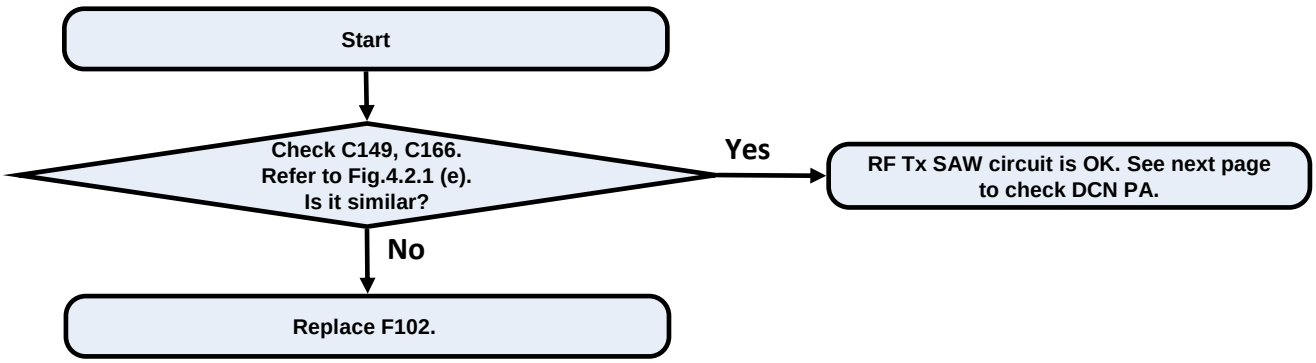
Test Point



Circuit Diagram



Checking Flow



Waveform

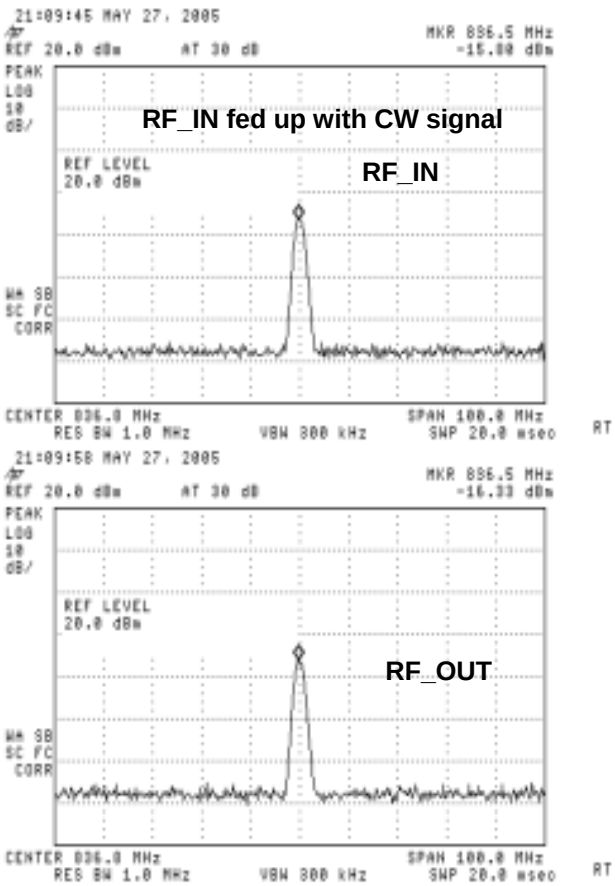
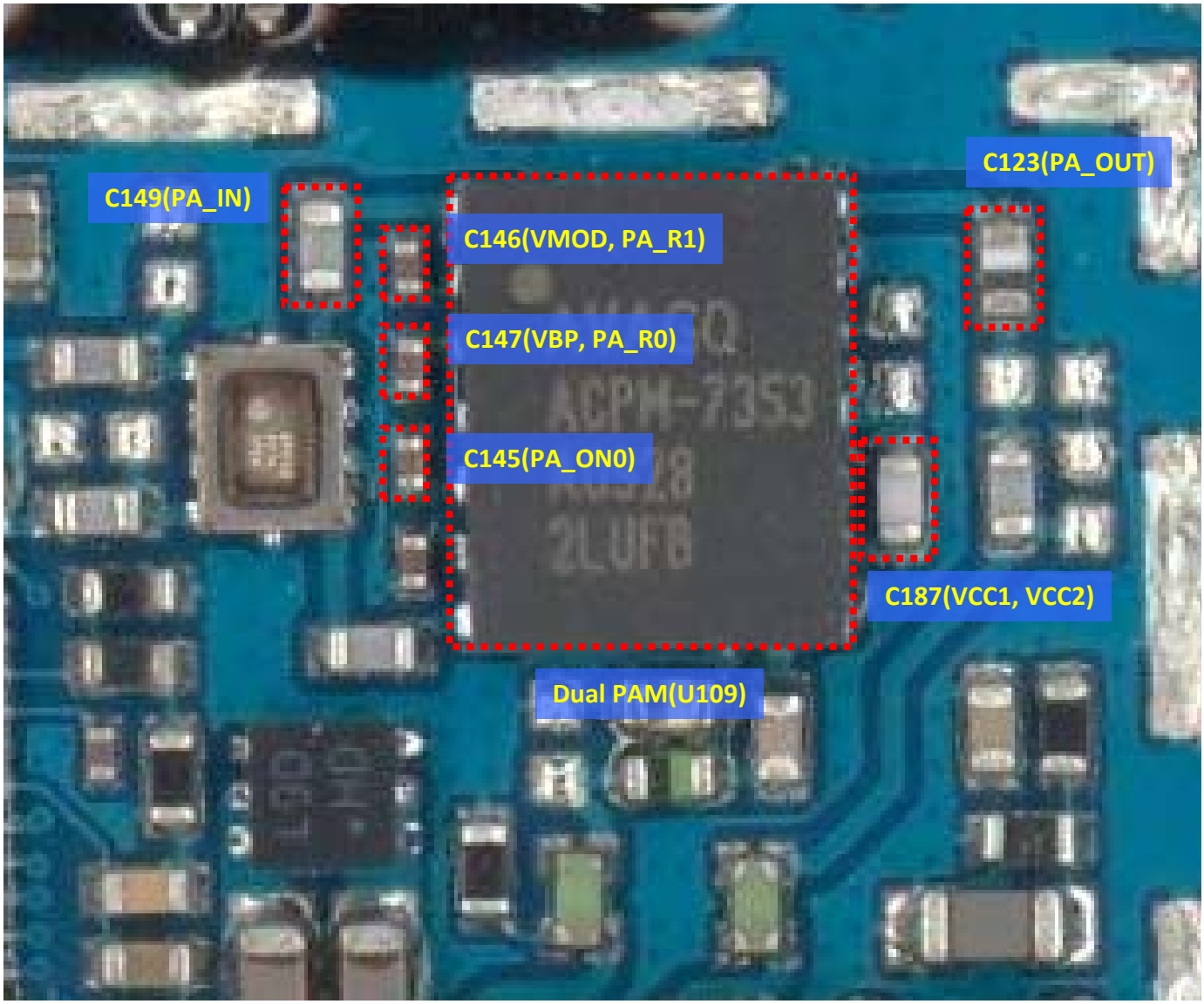


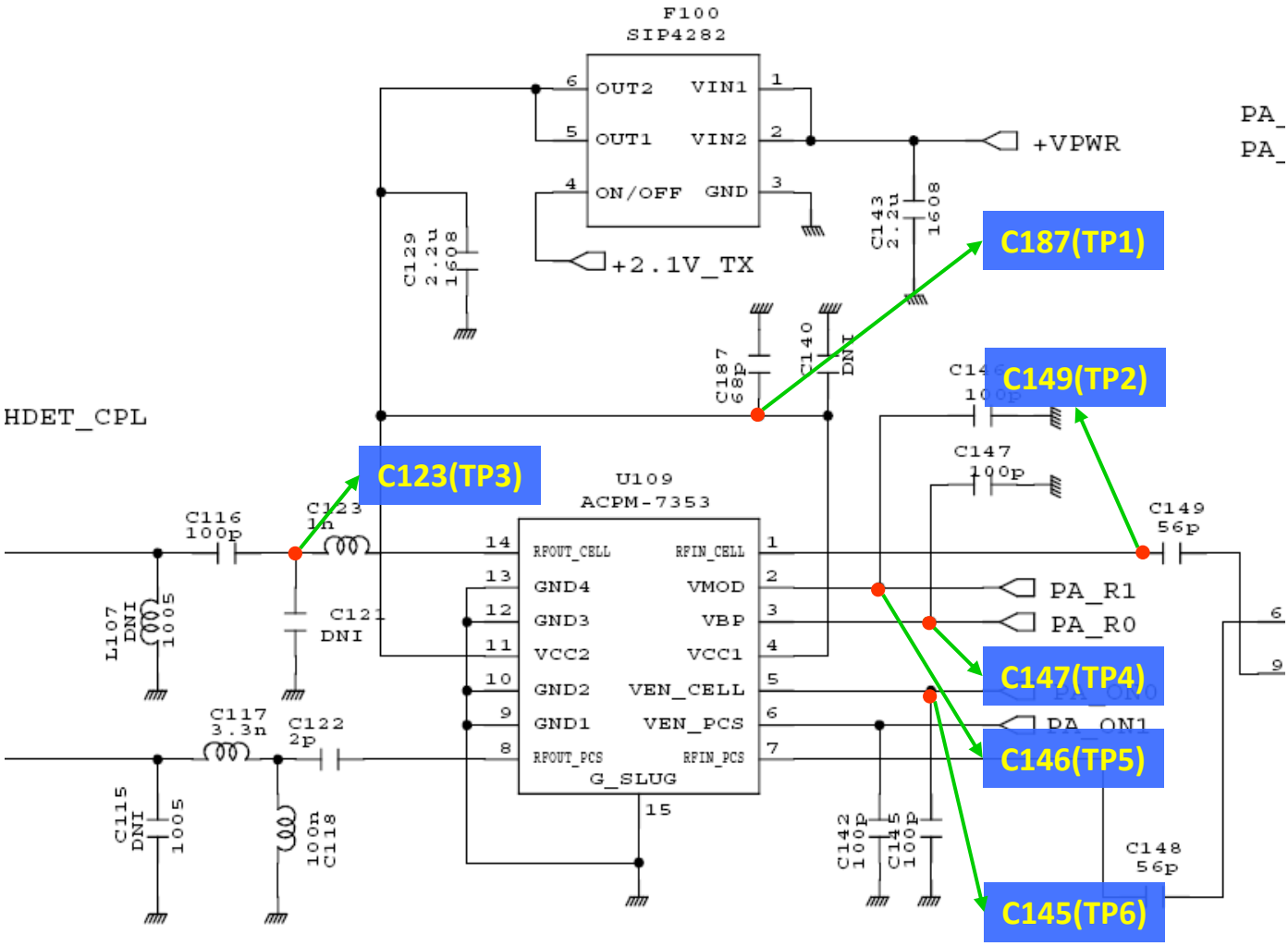
Fig. 4.2.1 (e)

4.2.1.5 Check DCN PAM circuit

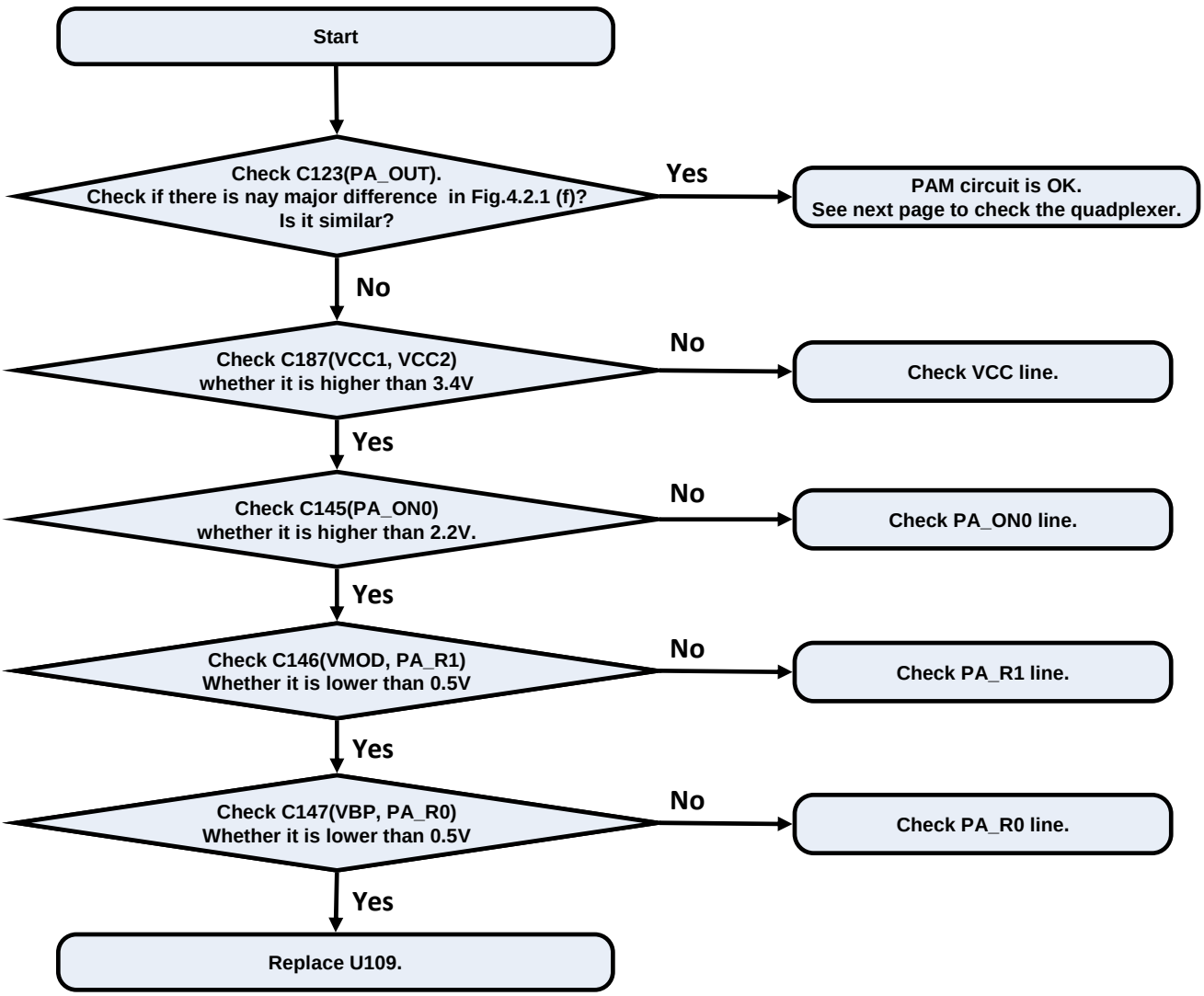
Test Point



Circuit Diagram



Checking Flow



Waveform

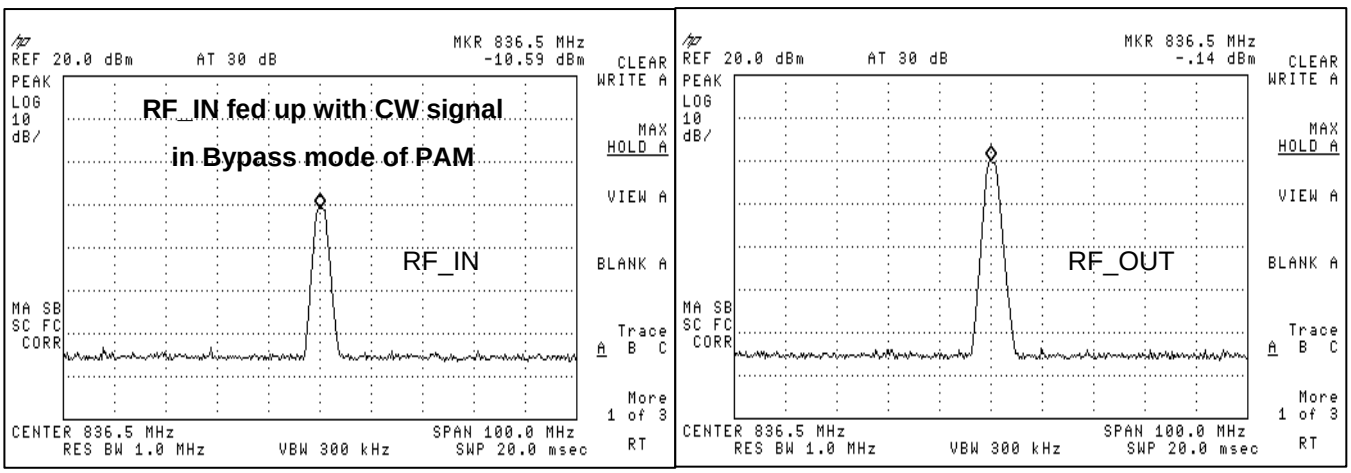
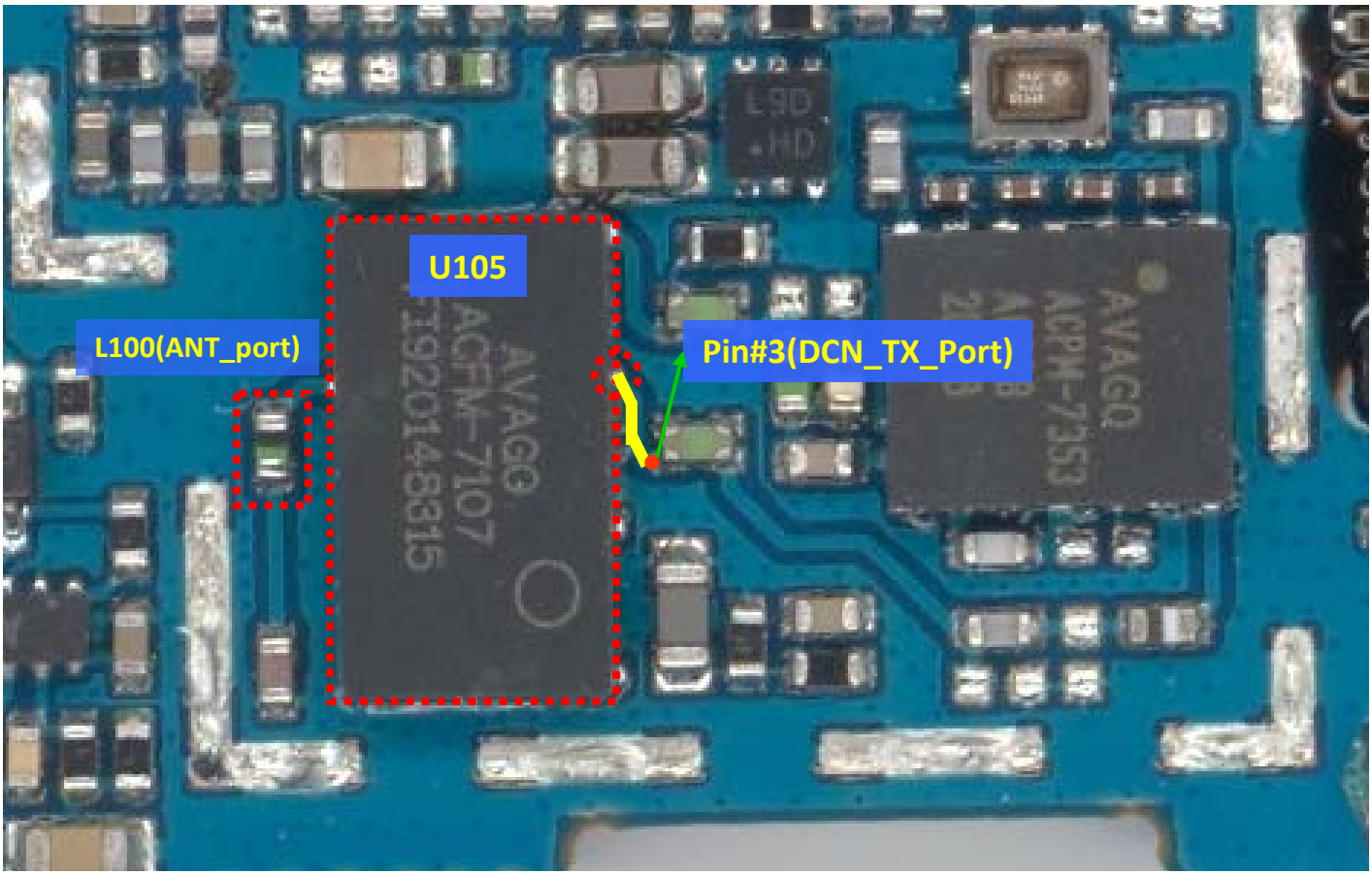


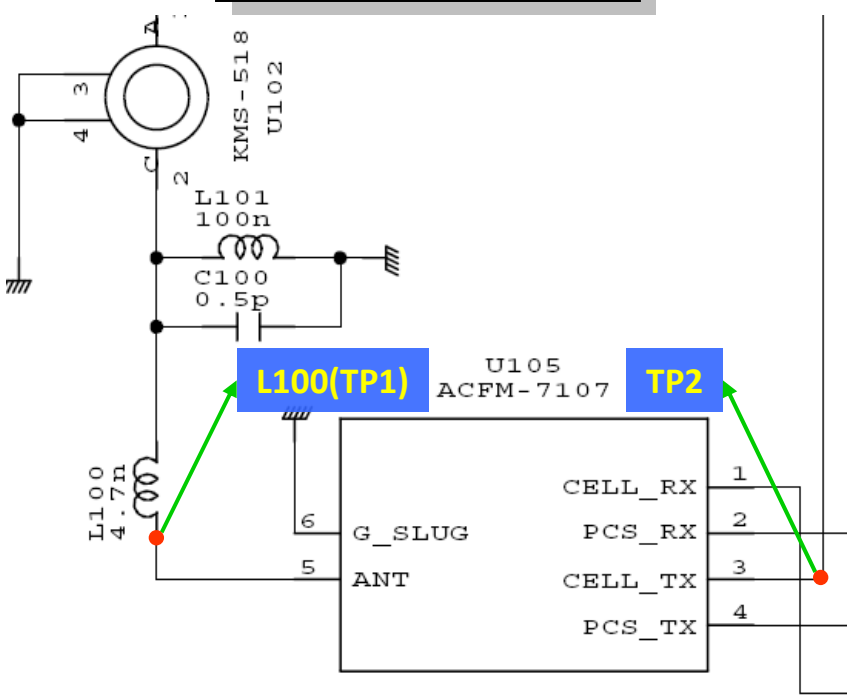
Fig. 4.2.1 (f)

4.2.1.6 Check Quadplexer

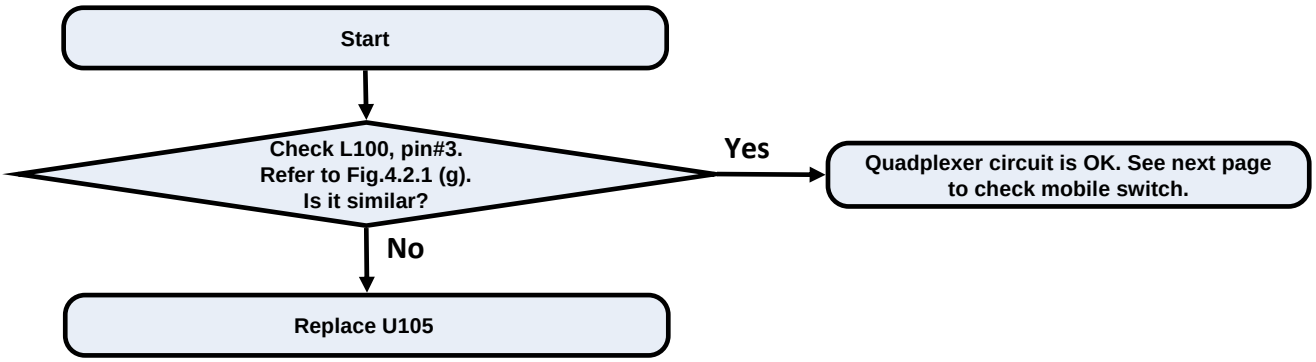
Test Point



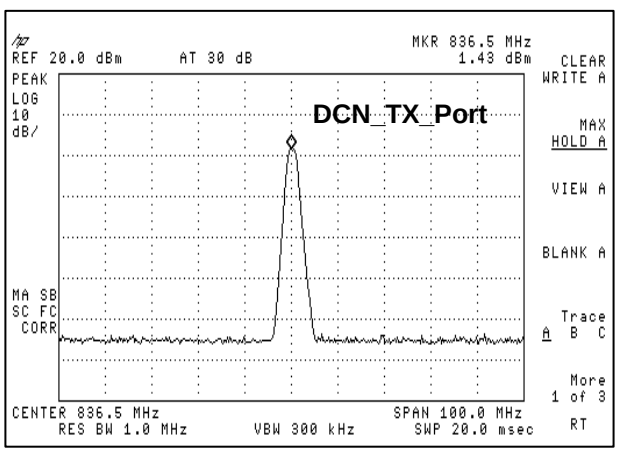
Circuit Diagram



Checking Flow



Waveform



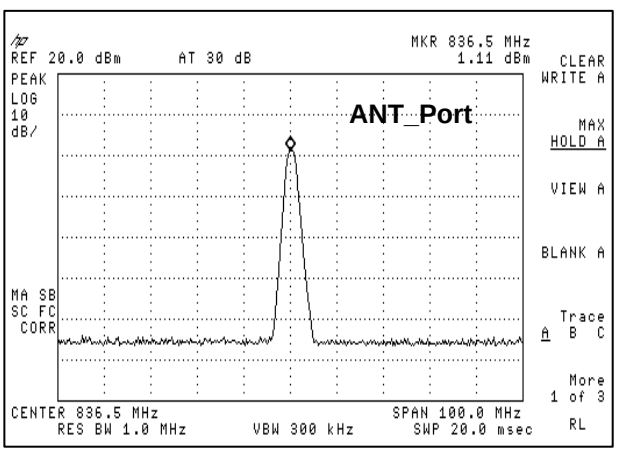
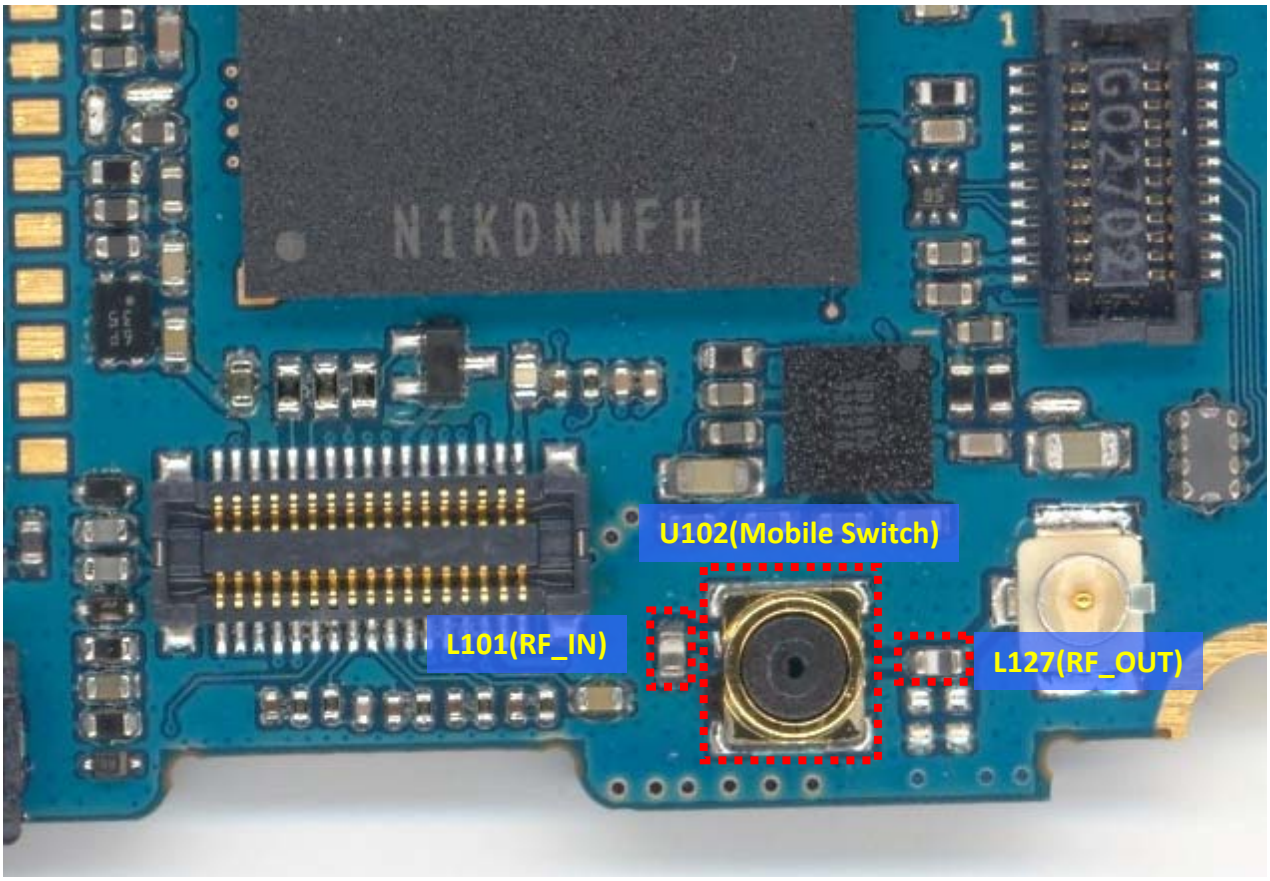


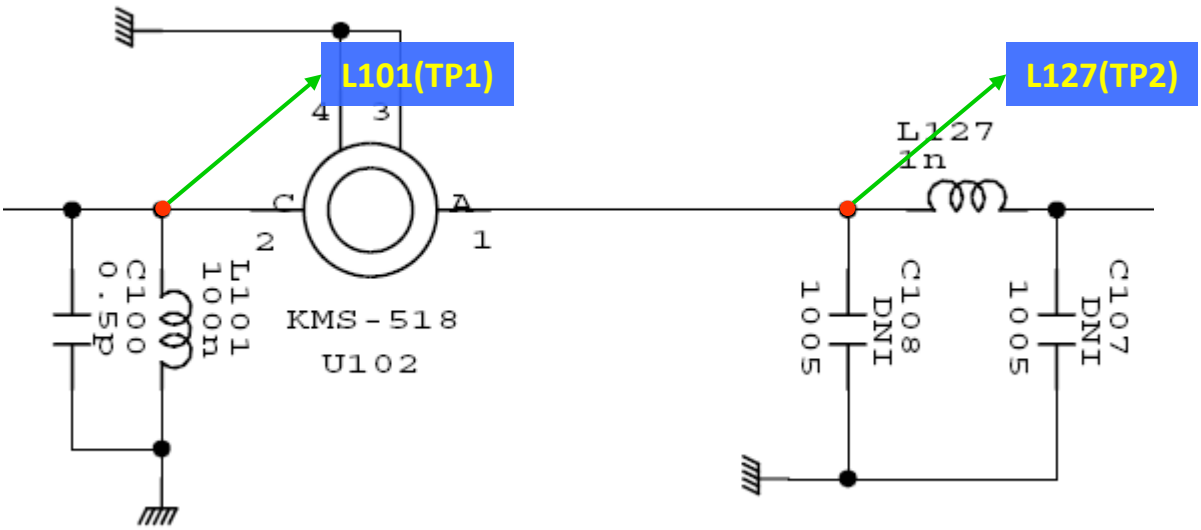
Fig. 4.2.1 (g)

4.2.1.7 Check Mobile S/W

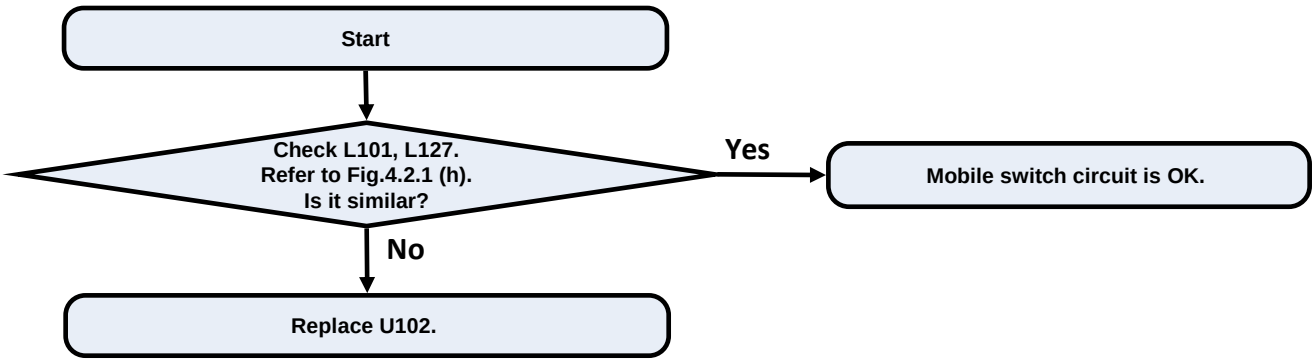
Test Point



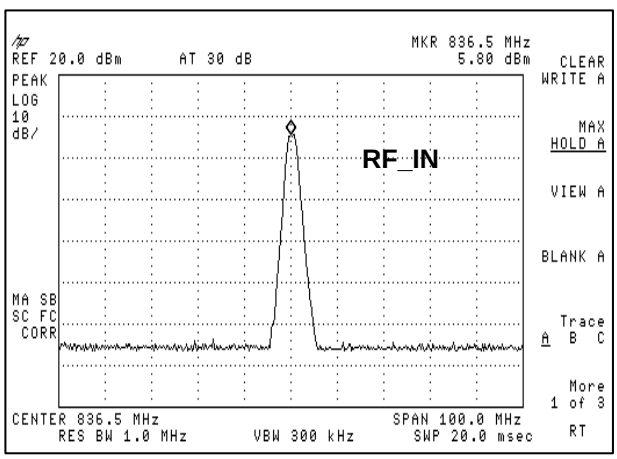
Circuit Diagram



Checking Flow



Waveform



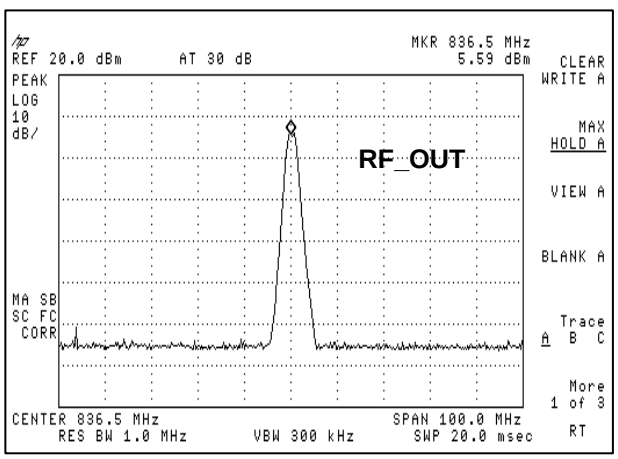
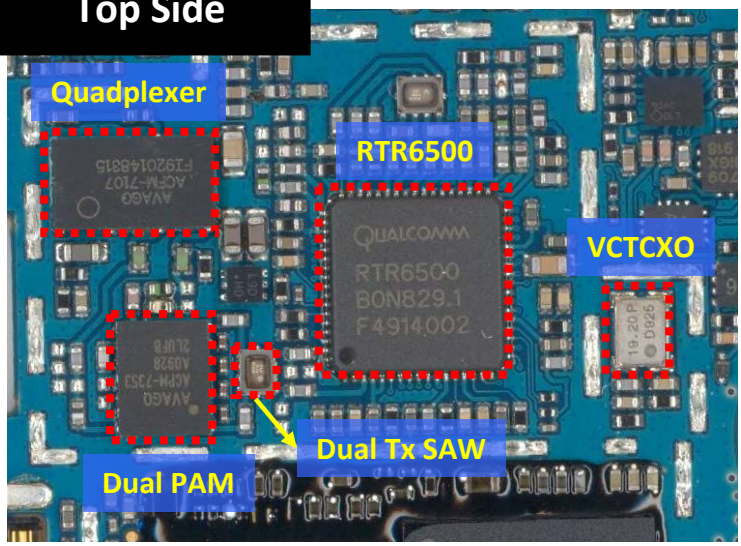


Fig. 4.2.1 (h)

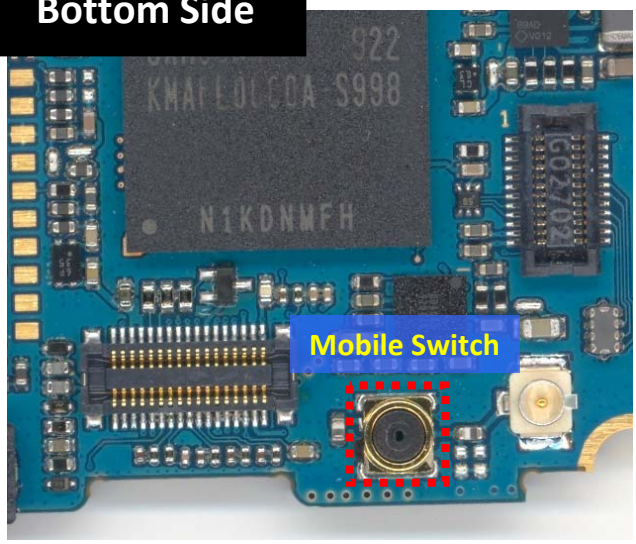
4.2.2 PCS Tx

Test Point

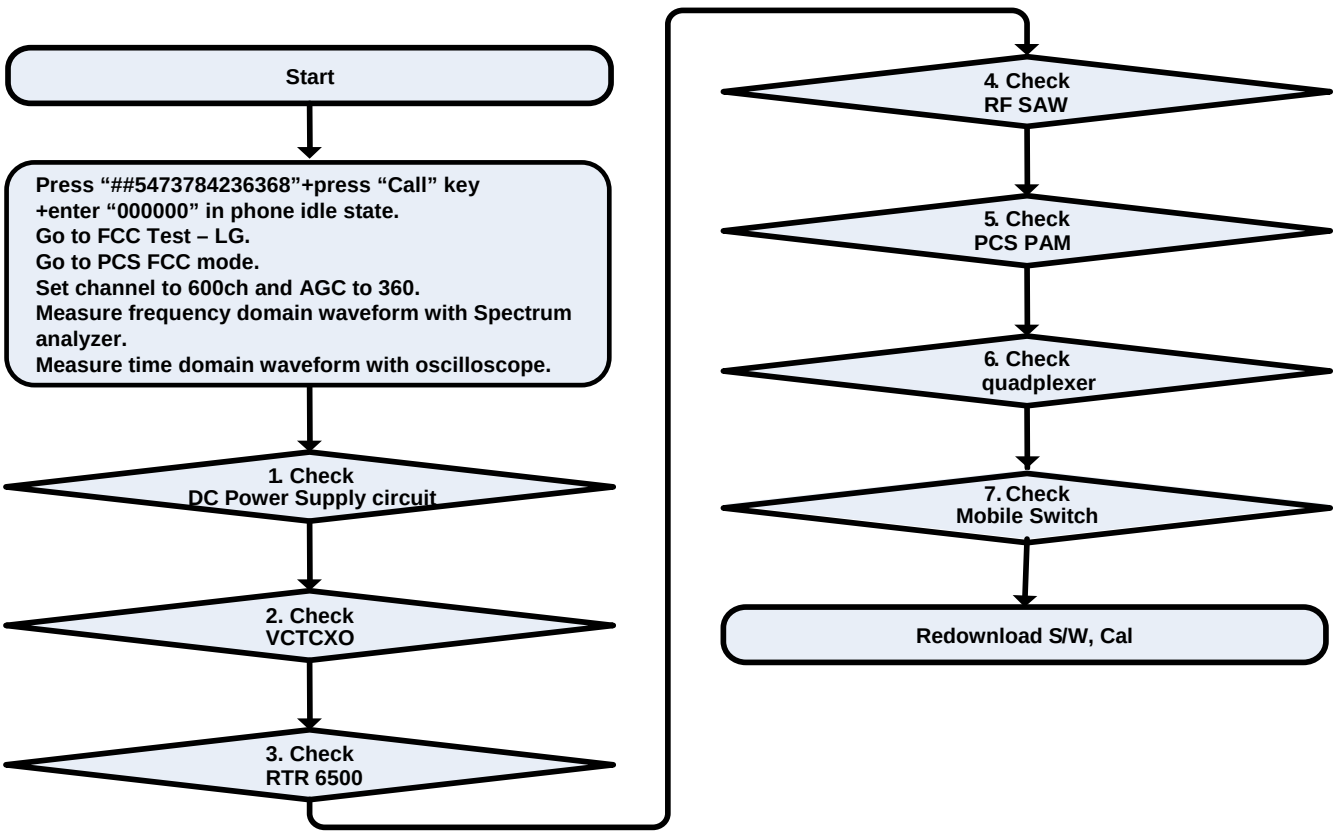
Top Side



Bottom Side

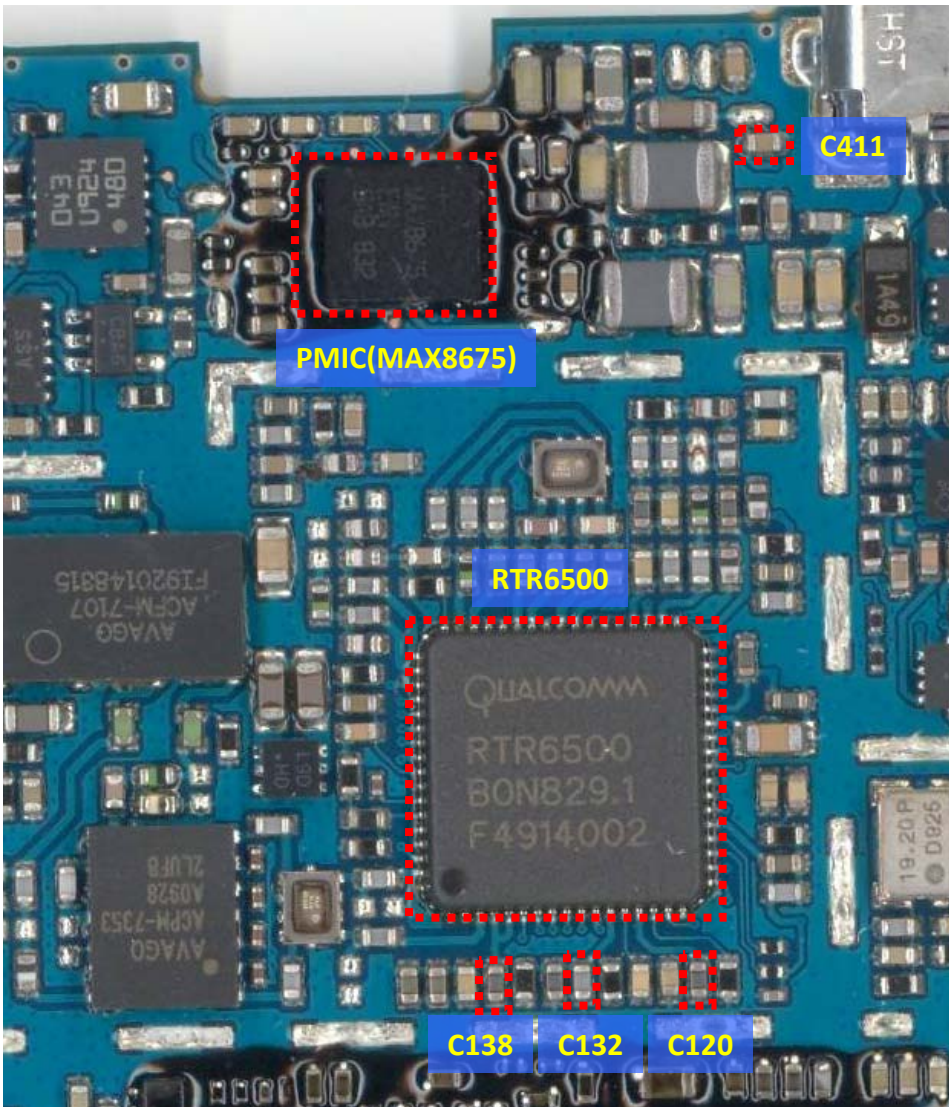


Checking Flow



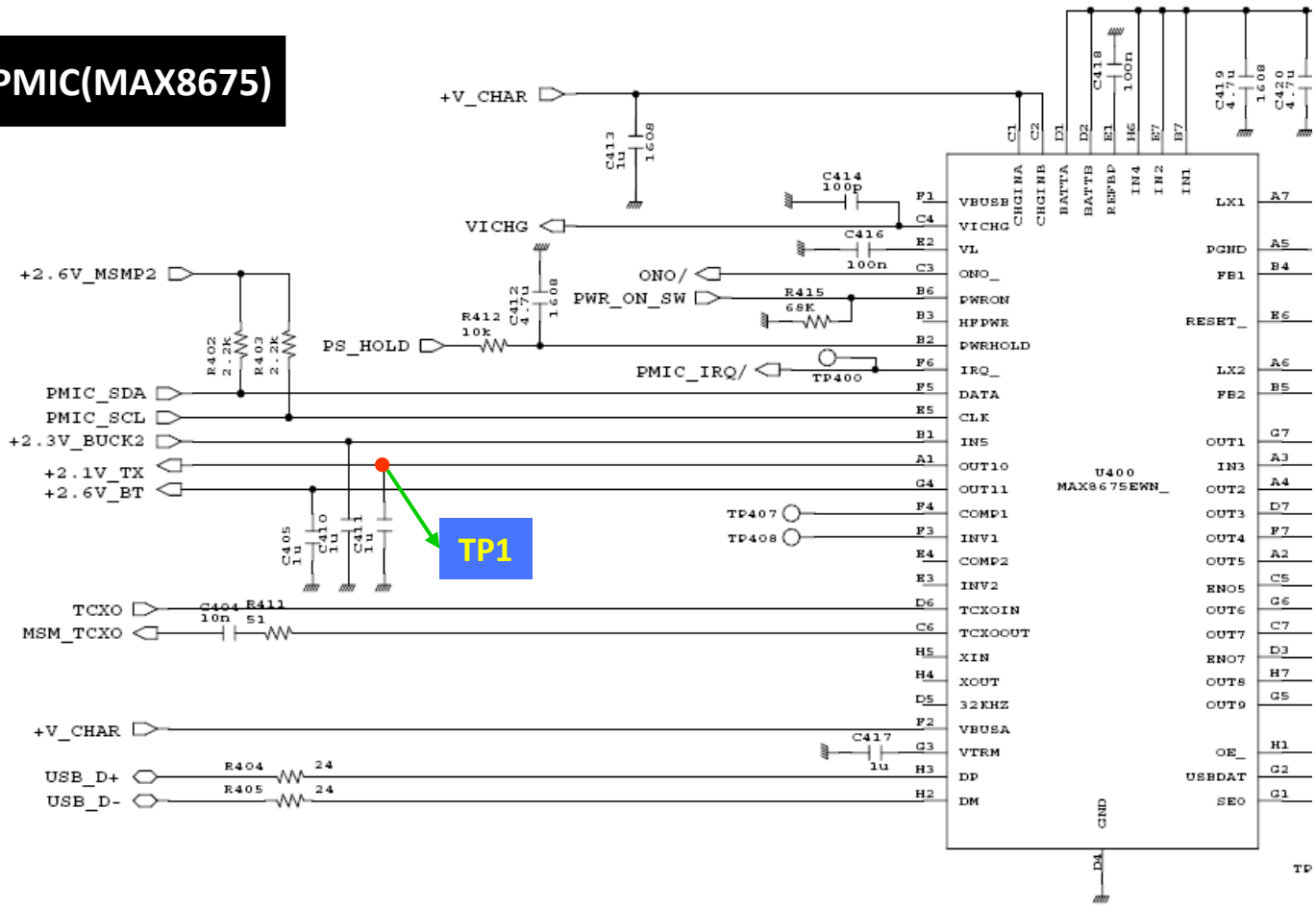
4.2.2.1 Checking DC Power supply circuit (PMIC)

Test Point

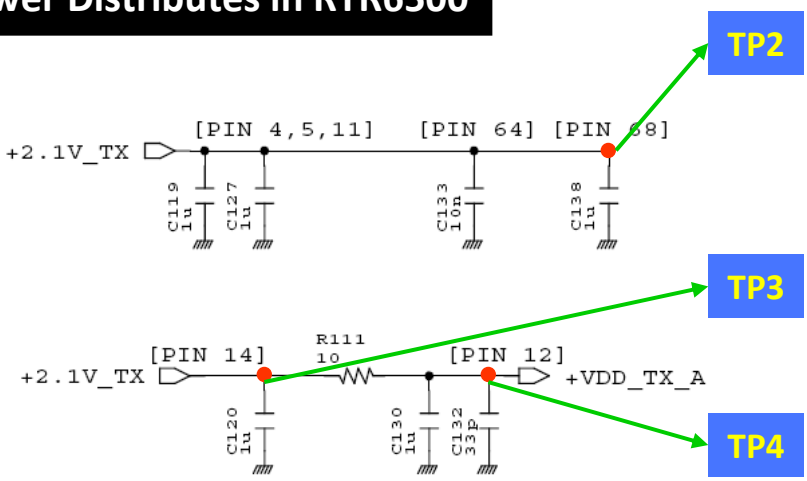


Circuit Diagram

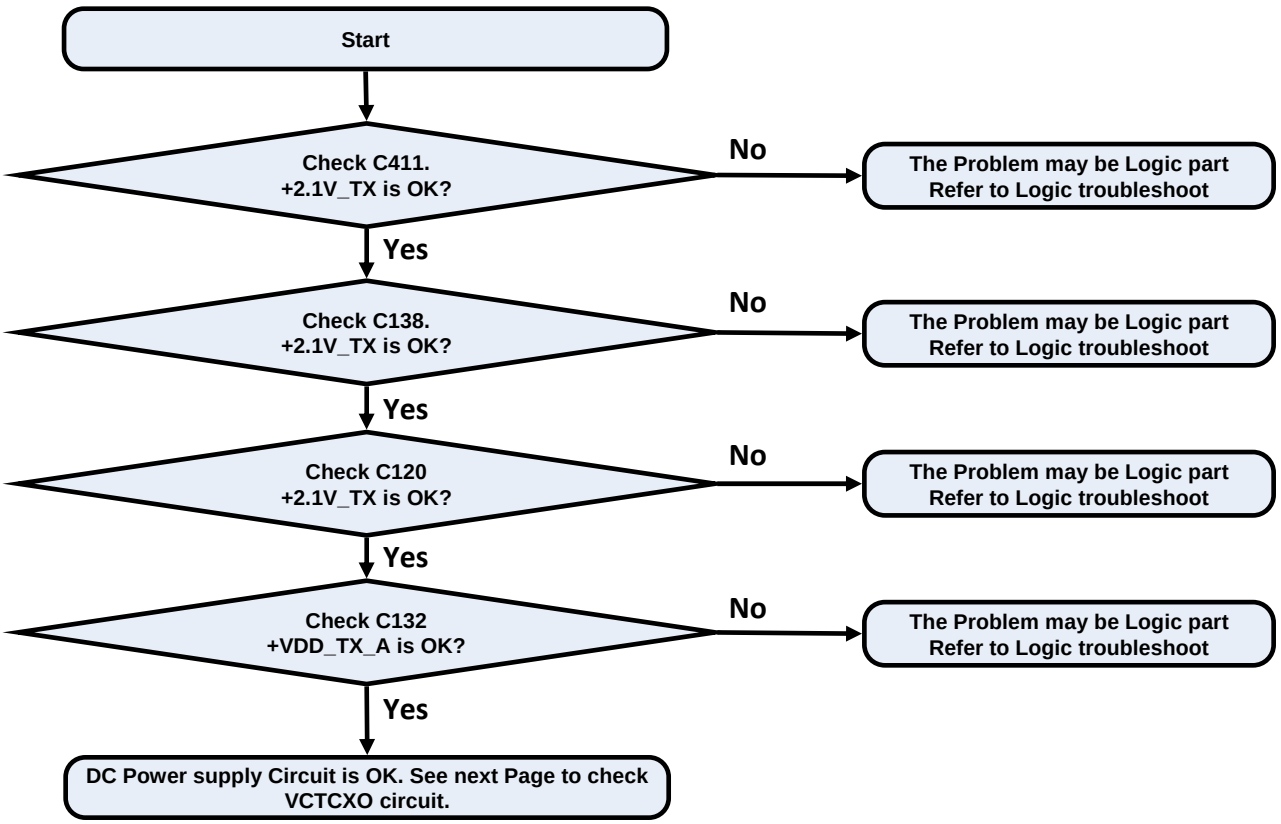
PMIC(MAX8675)



Power Distributes in RTR6500



Checking Flow

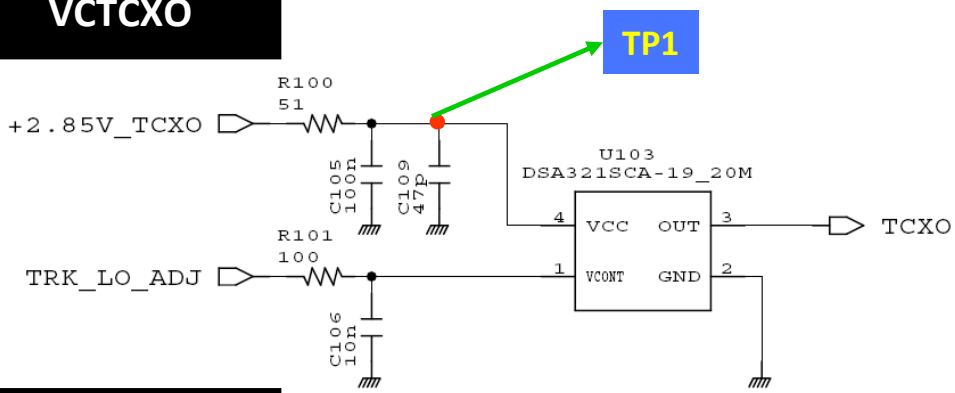


4.2.2.2 Checking VCTCXO circuit

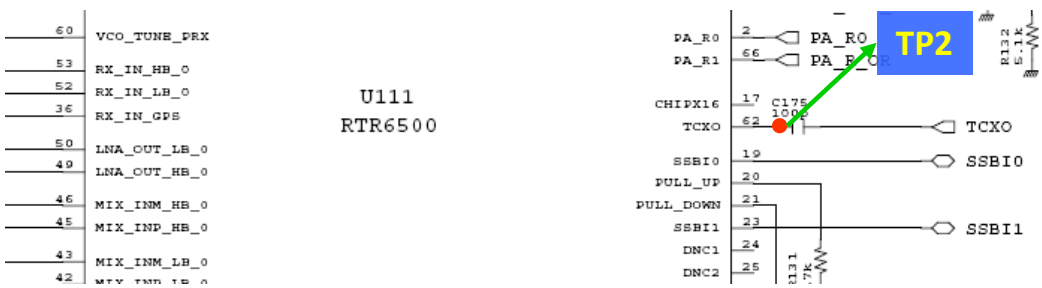
Test Point

Circuit Diagram

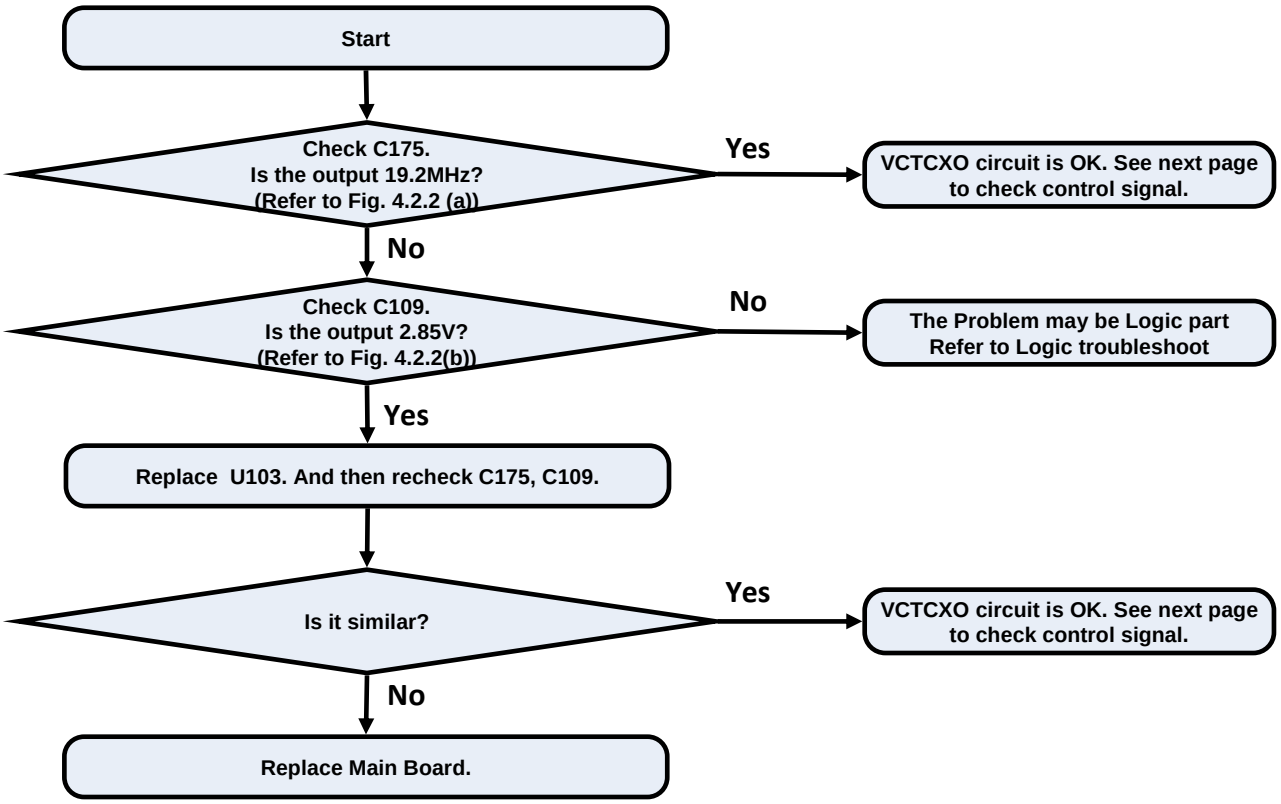
VCTCXO



RFIC(RTR6500)



Checking Flow



Waveform

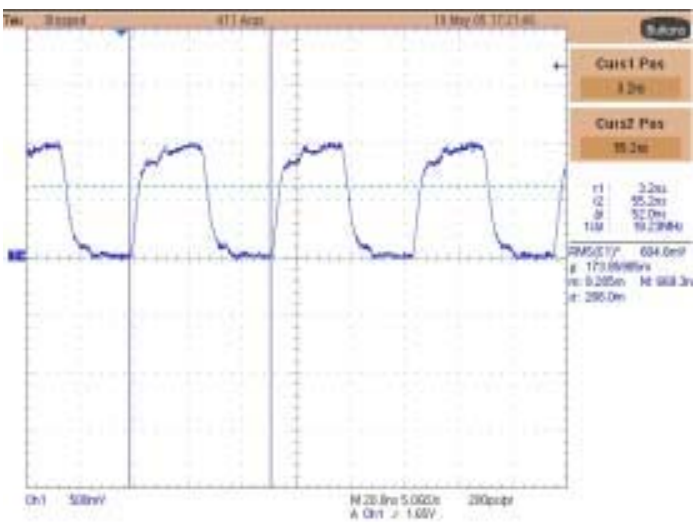


Fig. 4.2.2 (a)

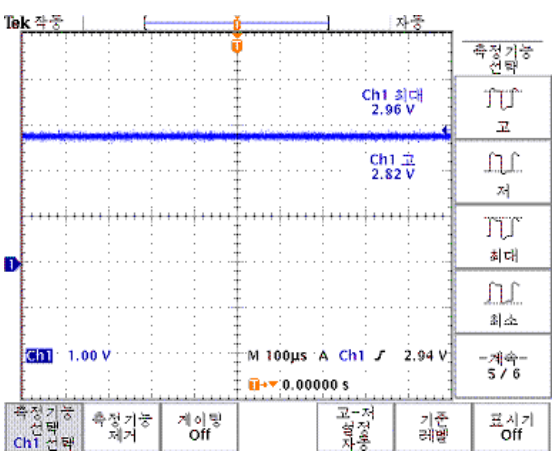
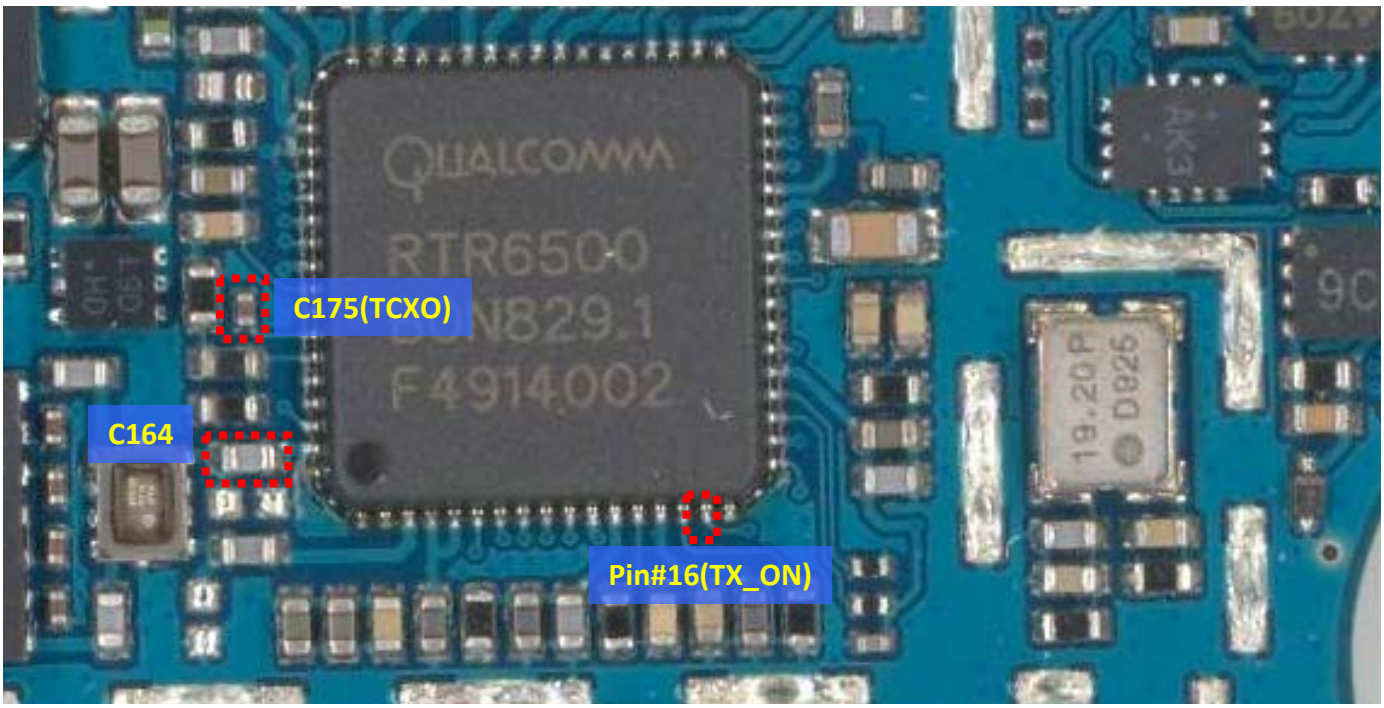


Fig. 4.2.2 (b)

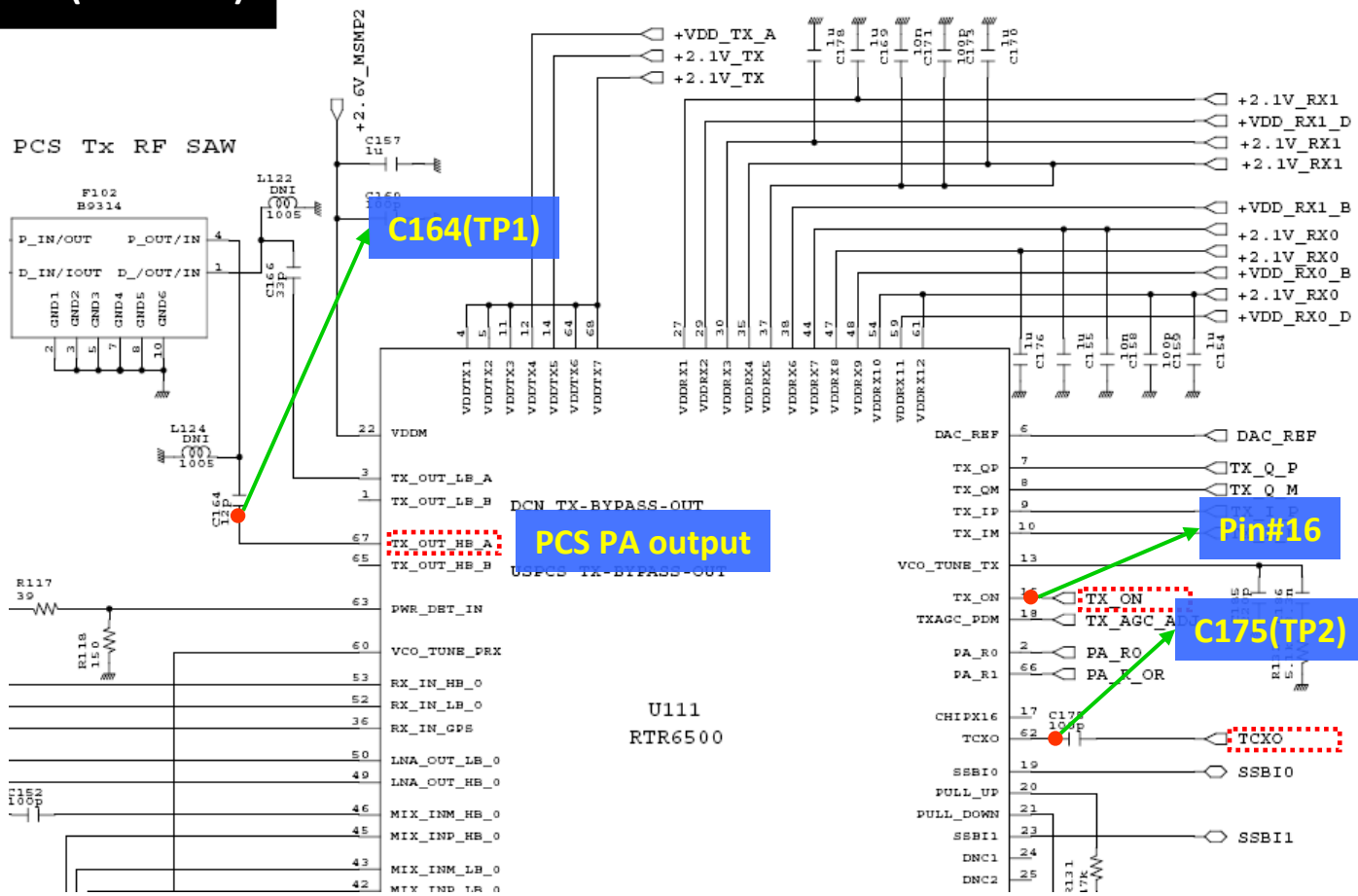
4.2.2.3 Checking RTR6500 circuit

Test Point

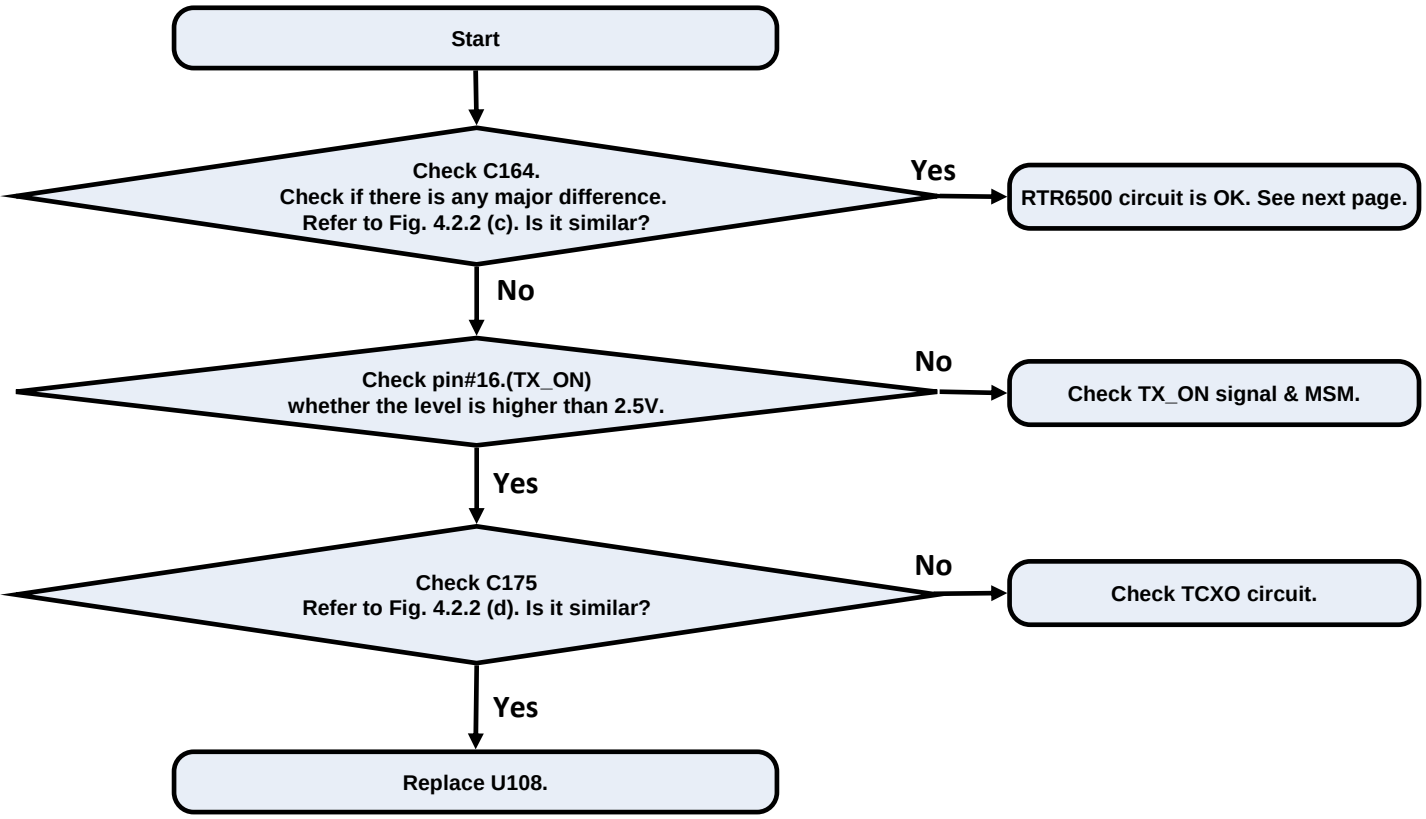


Circuit Diagram

RFIC(RTR6500)



Checking Flow



Waveform

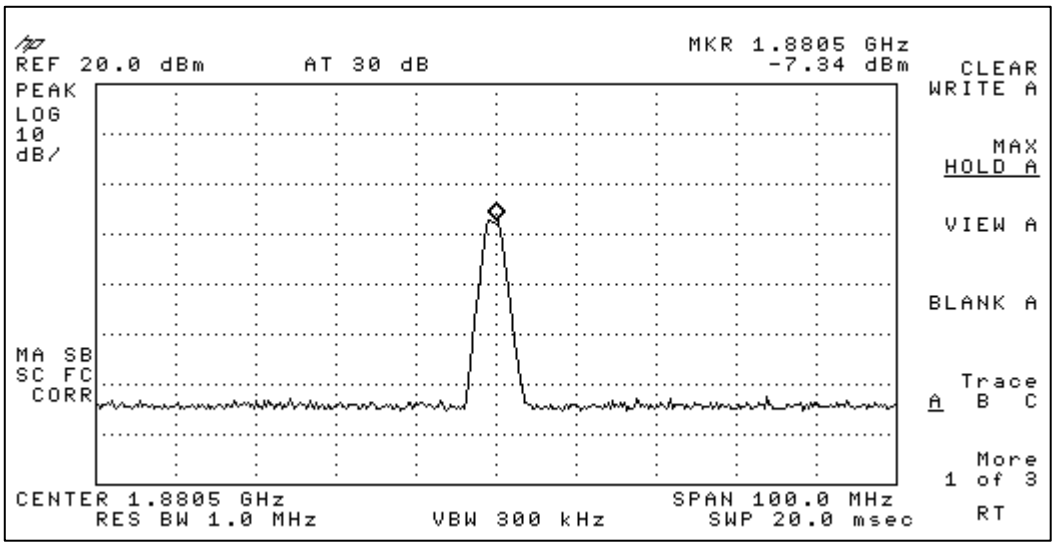


Fig. 4.2.2 (c)

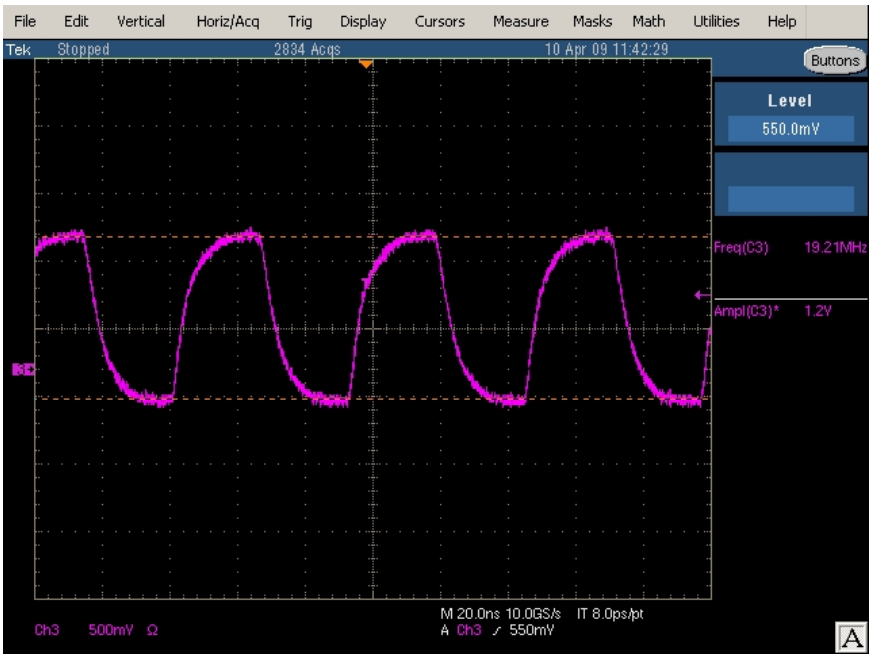
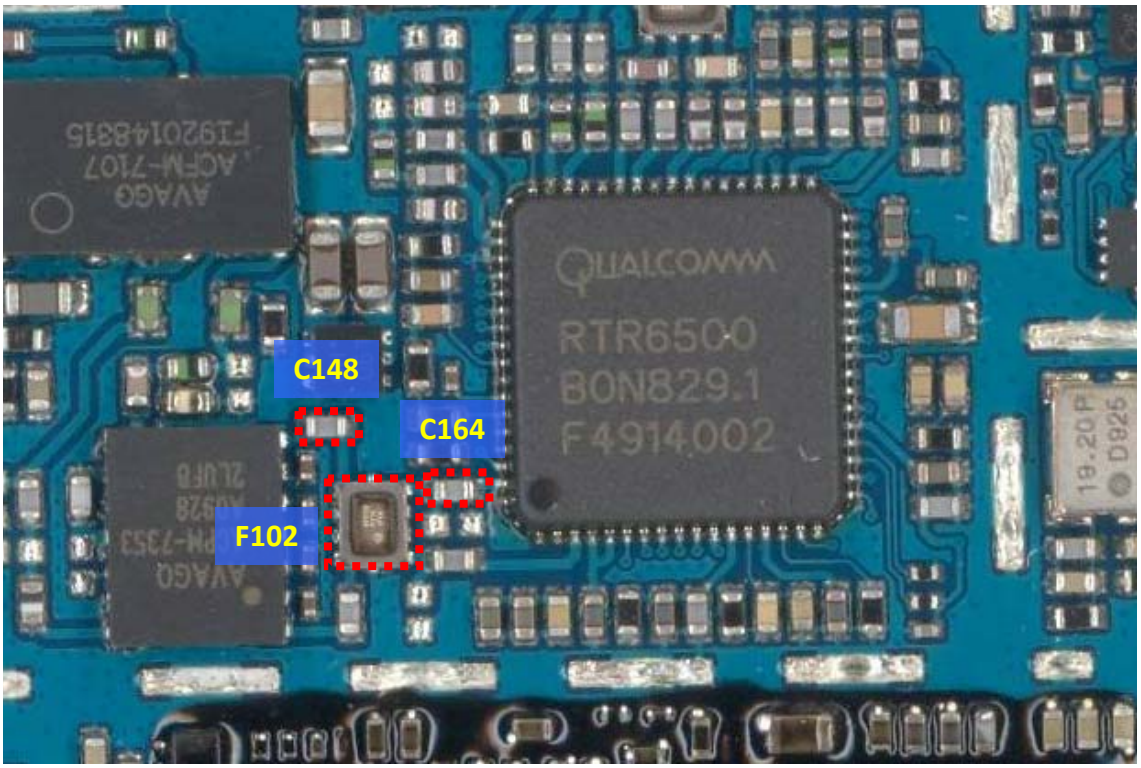


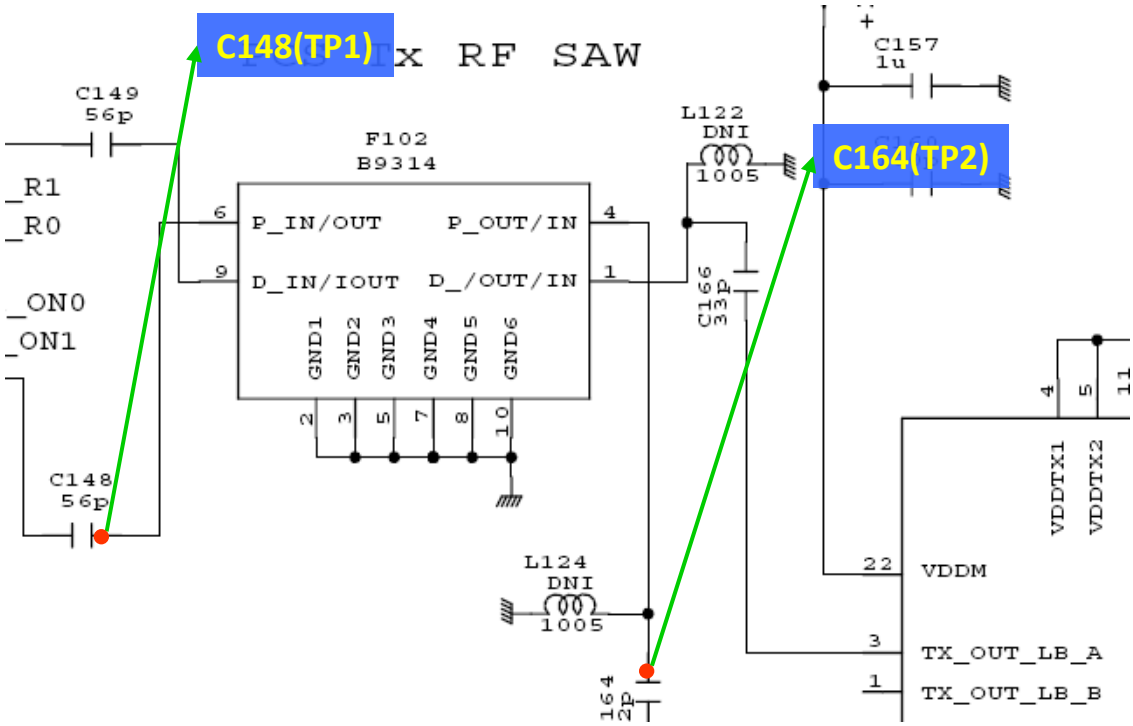
Fig. 4.2.2 (d)

4.2.2.4 Check PCS RF Tx SAW

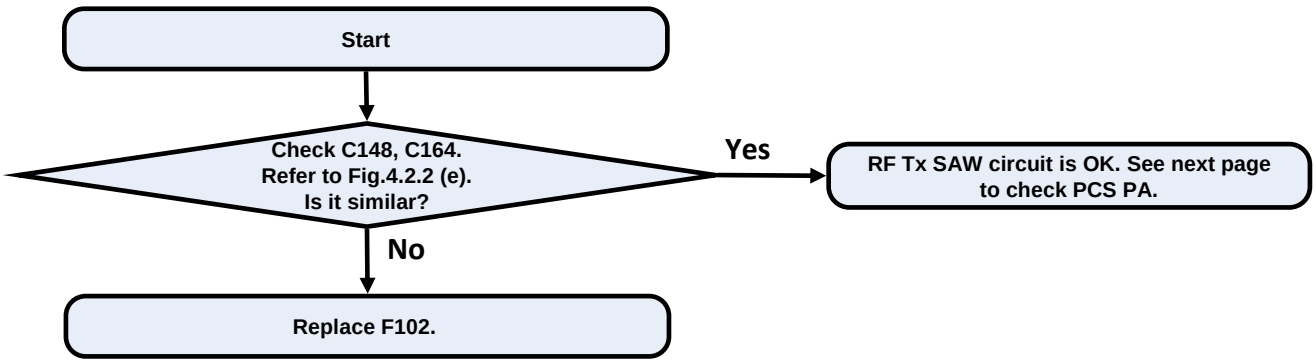
Test Point



Circuit Diagram



Checking Flow



Waveform

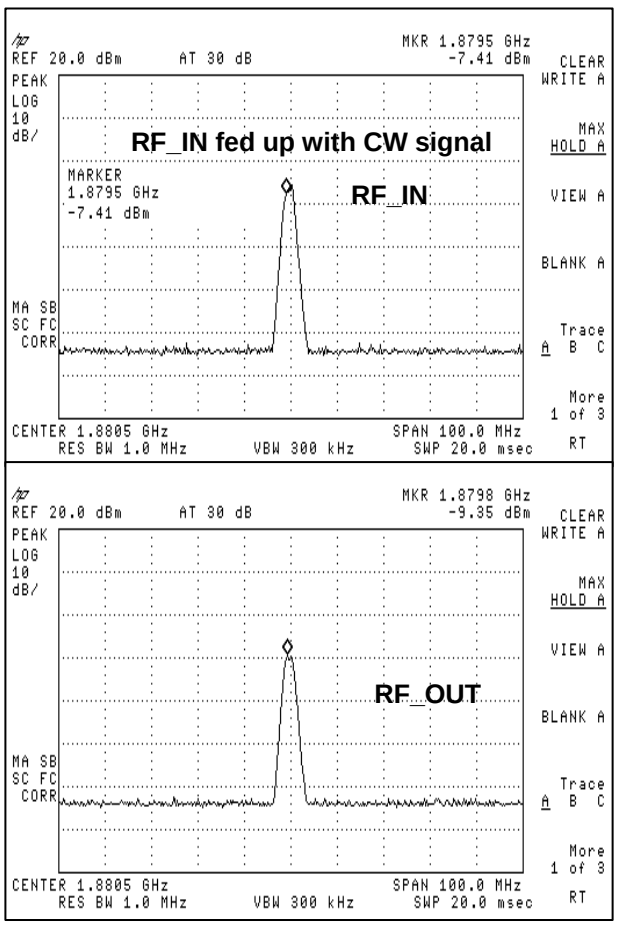
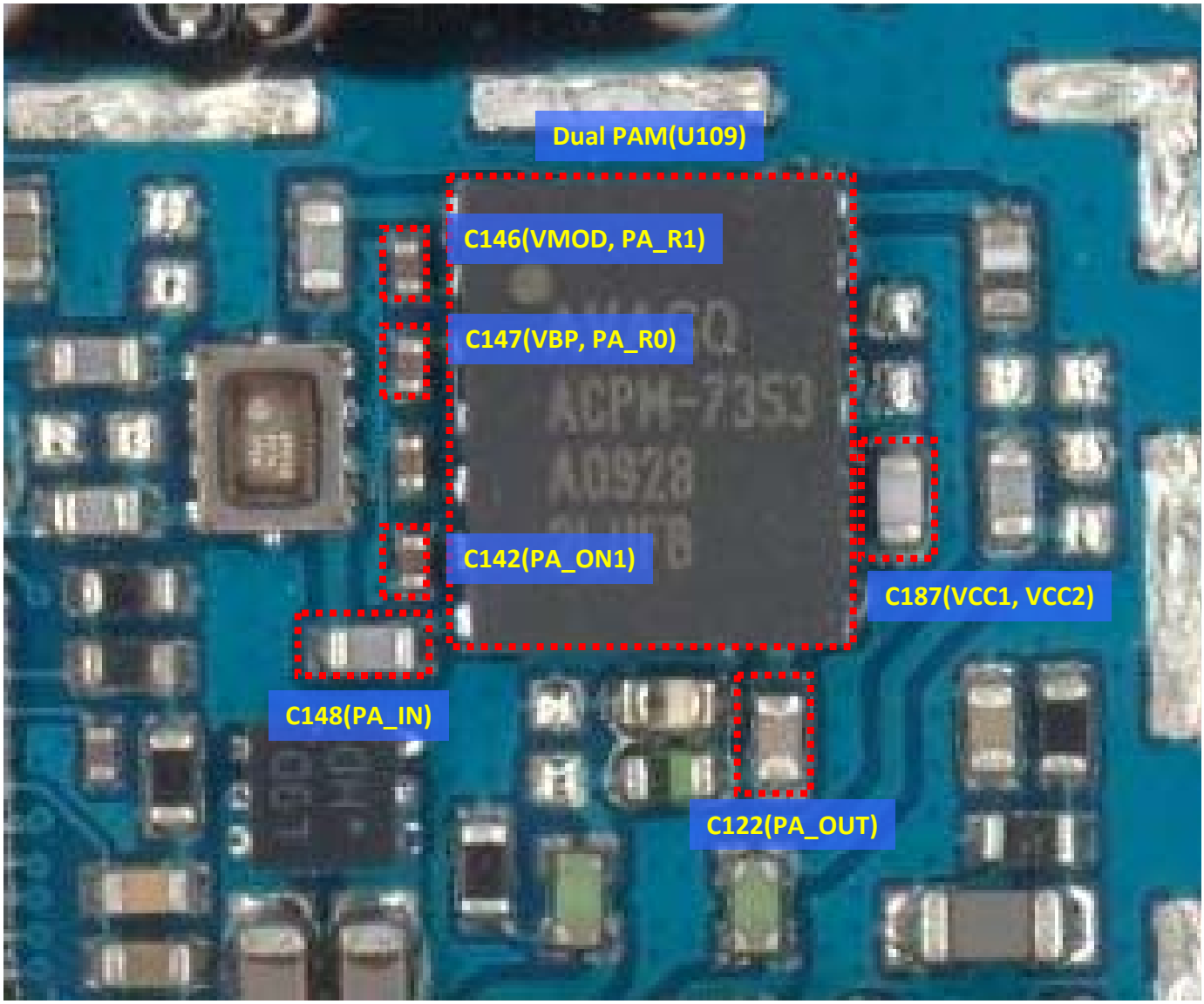


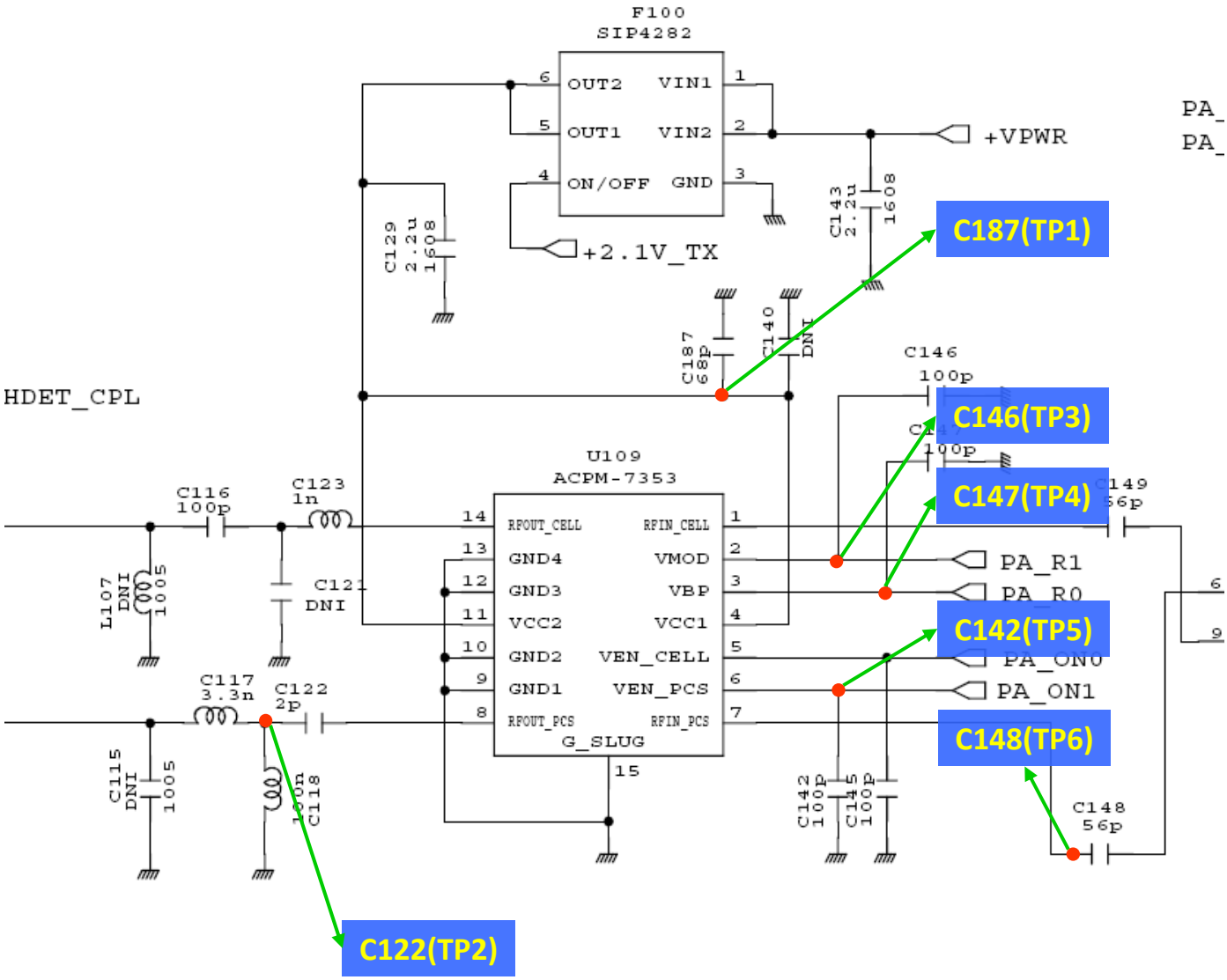
Fig. 4.2.2 (e)

4.2.2.5 Check PCS PAM circuit

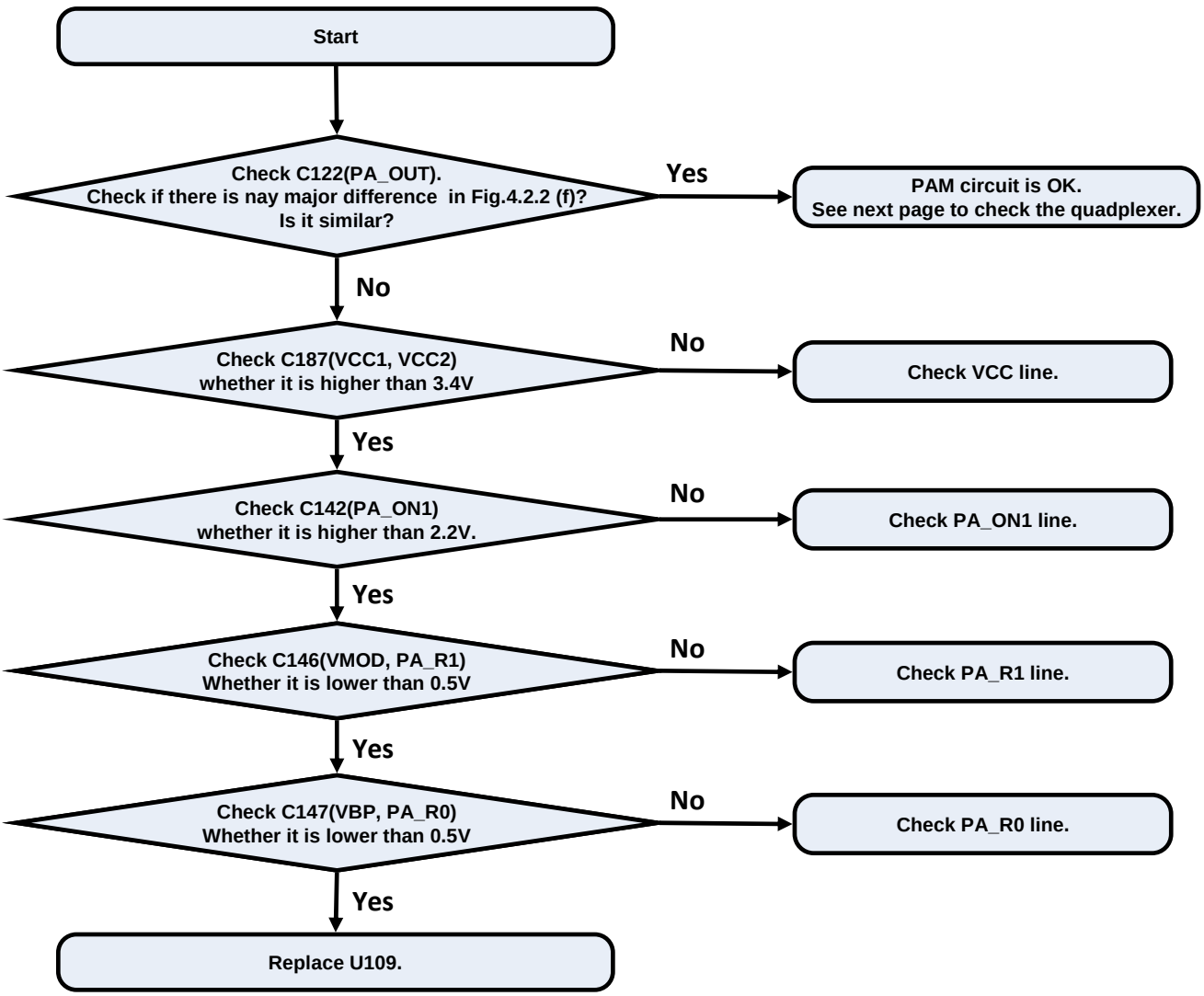
Test Point



Circuit Diagram



Checking Flow



Waveform

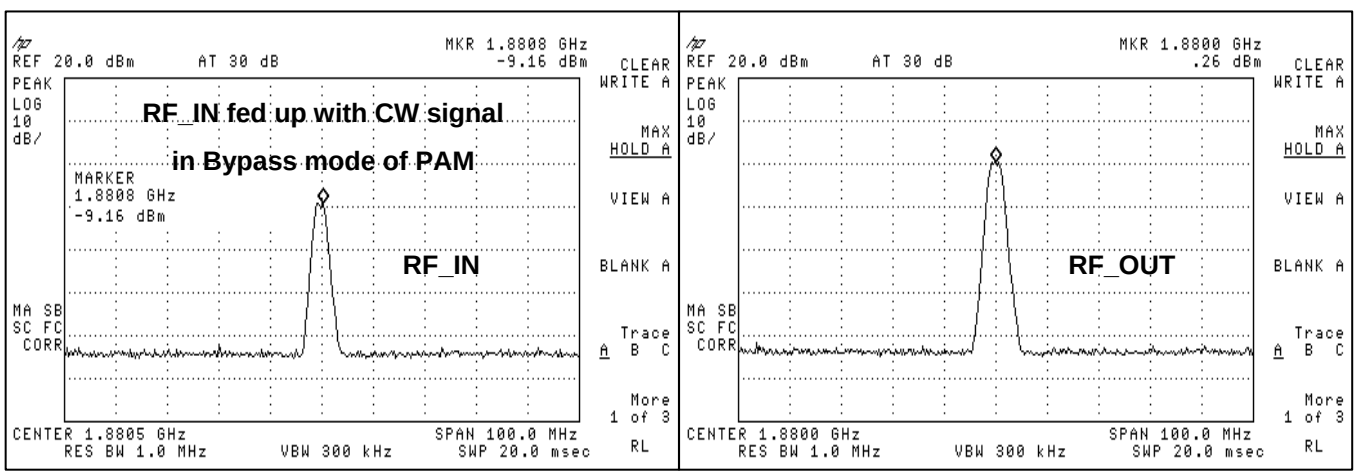
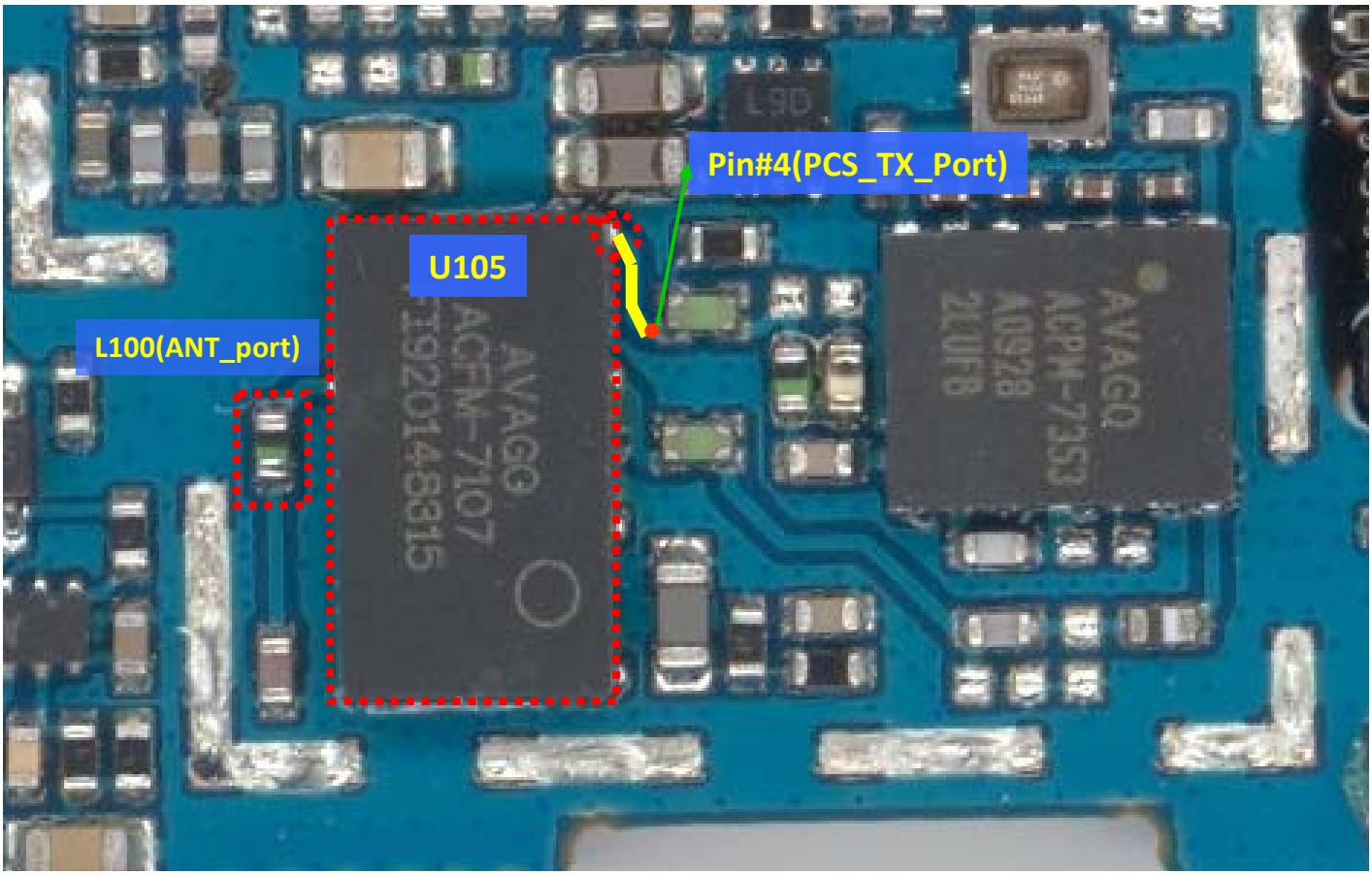


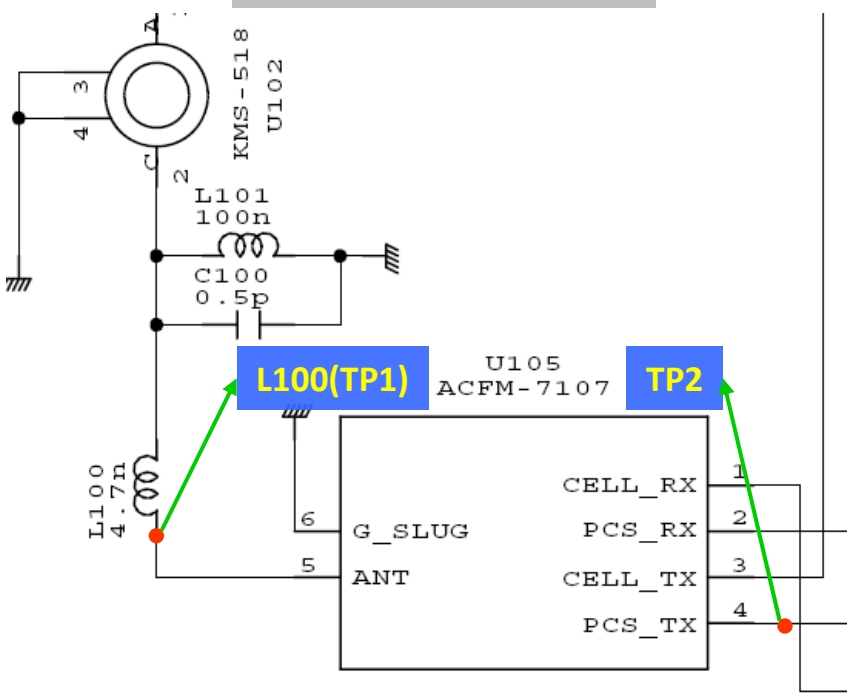
Fig. 4.2.2 (f)

4.2.2.6 Check Quadplexer

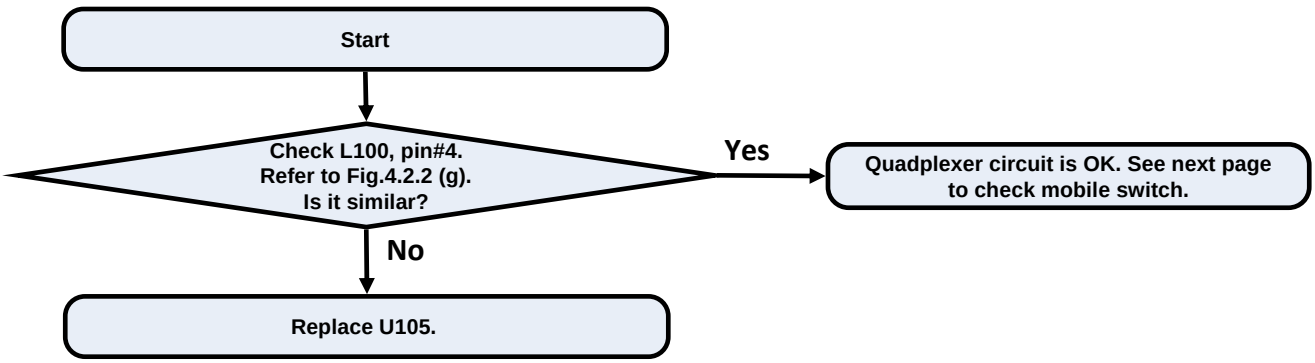
Test Point



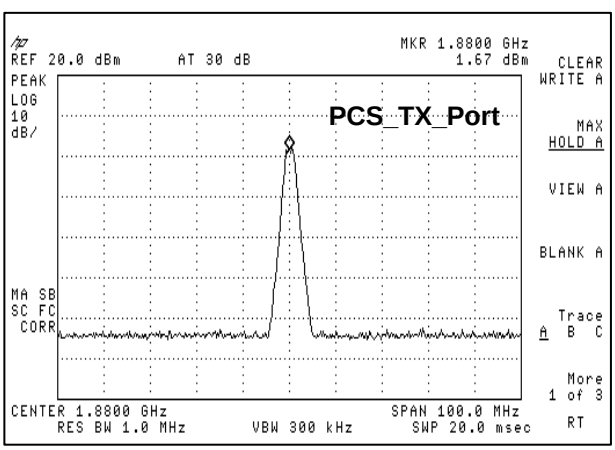
Circuit Diagram



Checking Flow



Waveform



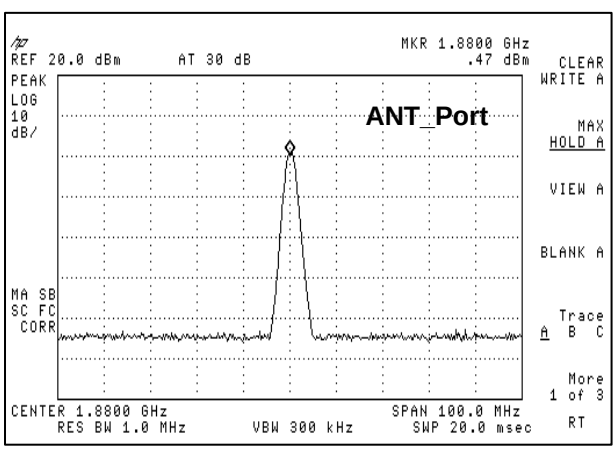
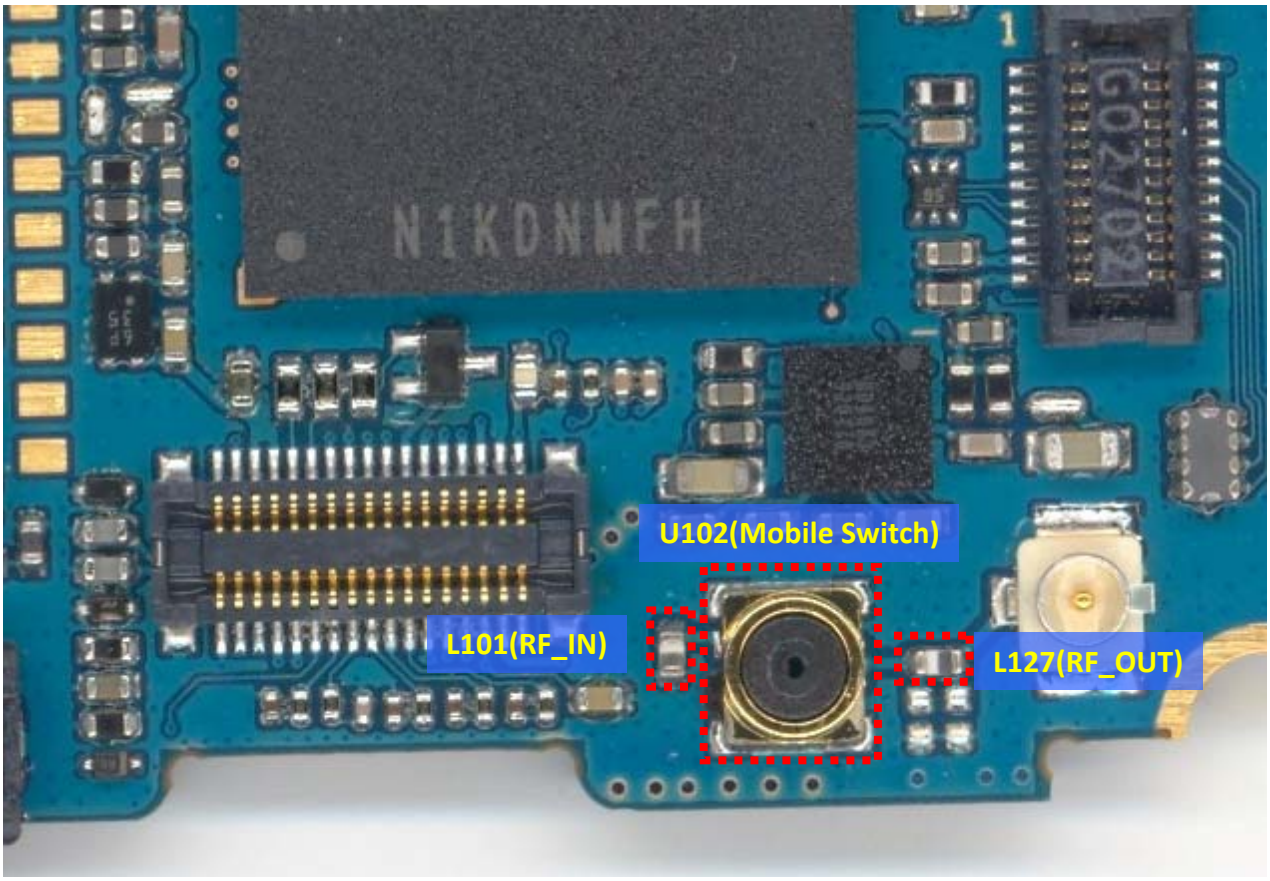


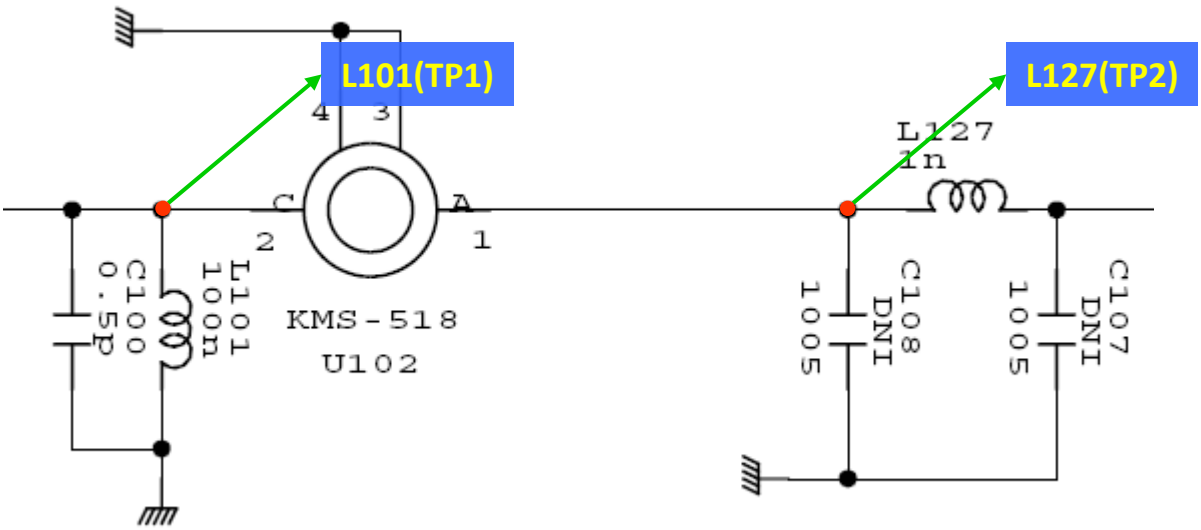
Fig. 4.2.2 (g)

4.2.2.7 Check Mobile S/W

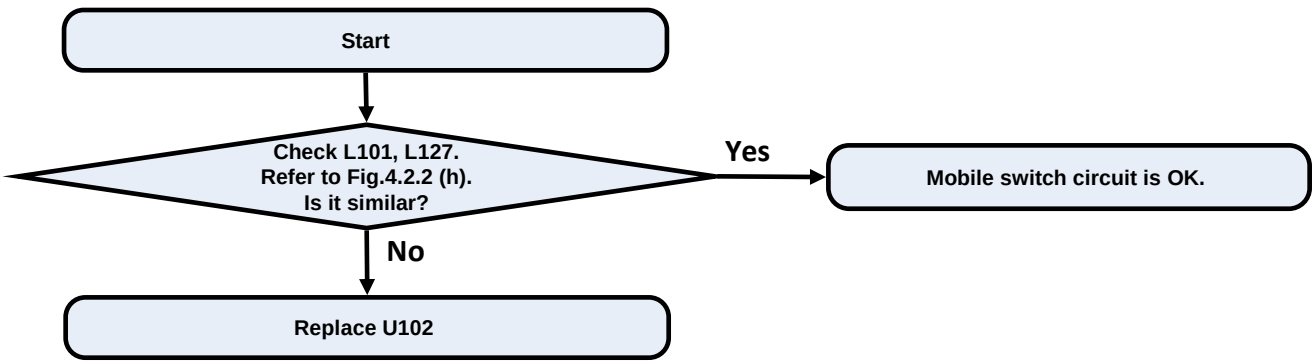
Test Point



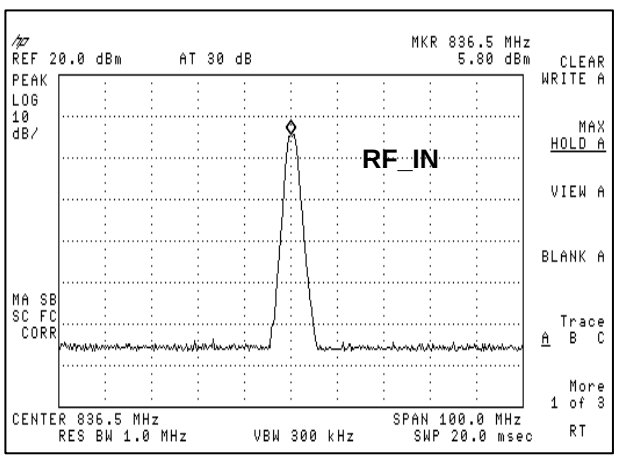
Circuit Diagram



Checking Flow



Waveform



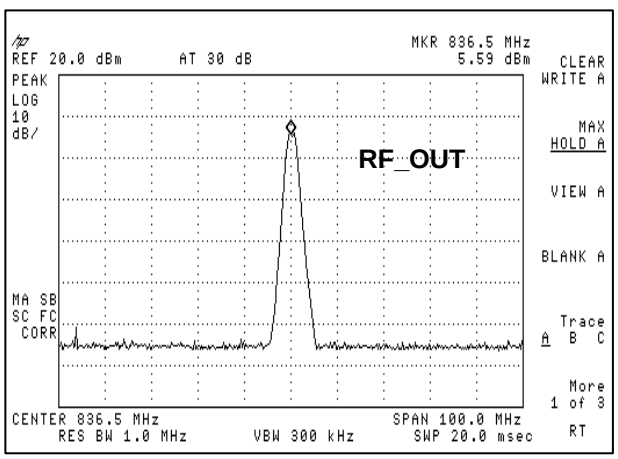


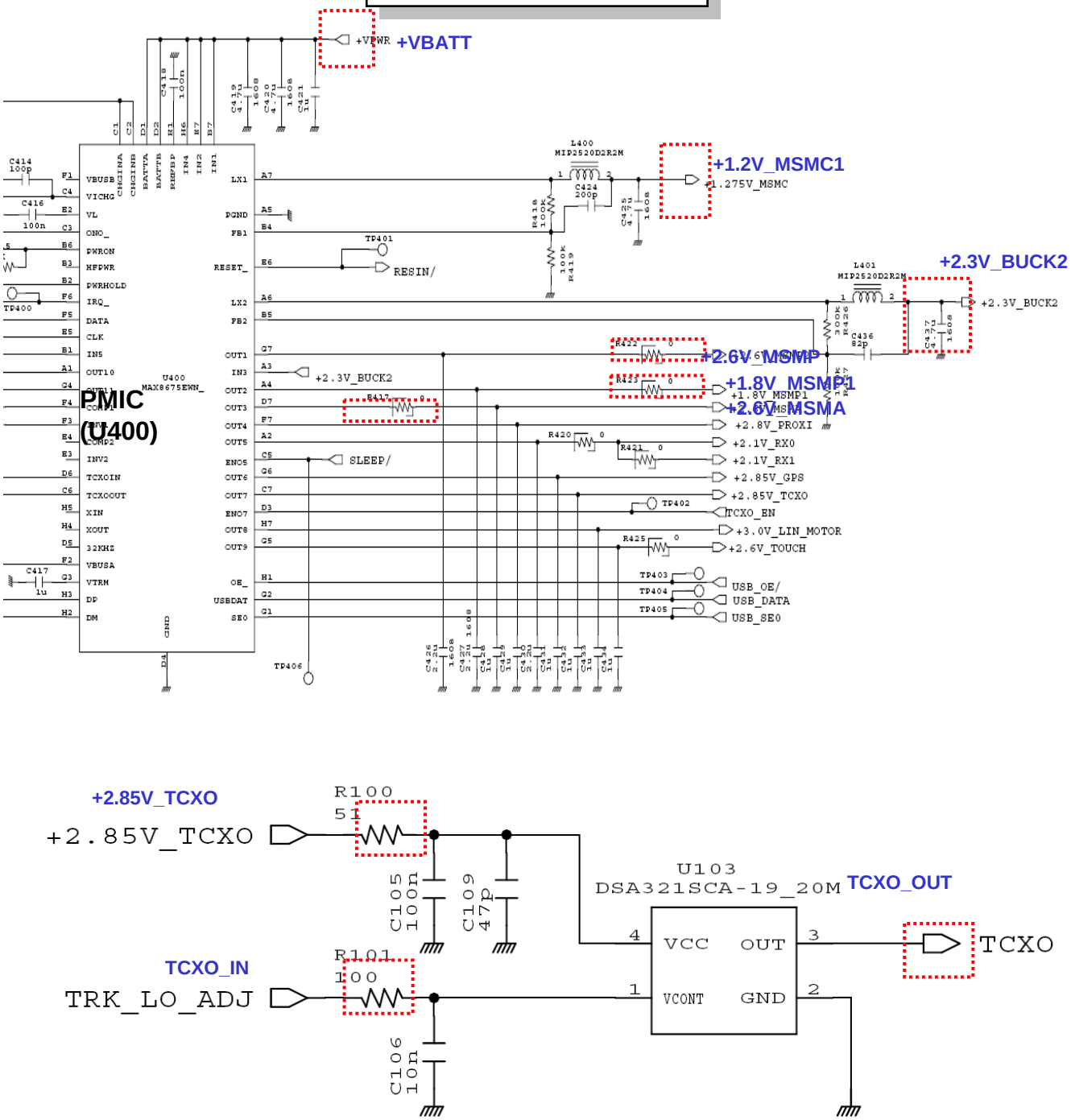
Fig. 4.2.2 (h)

4.3 Logic Part Trouble Shooting

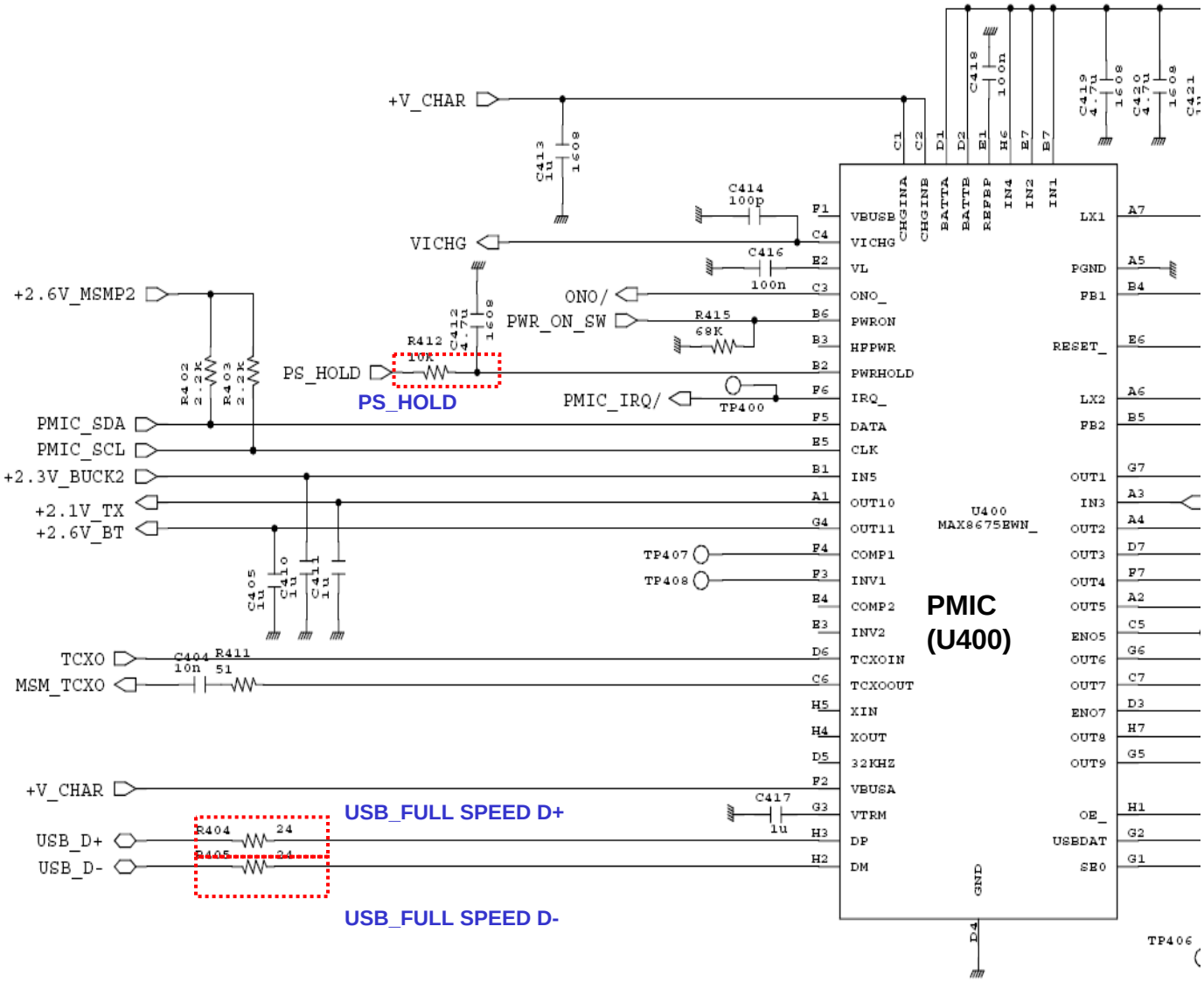
4.3.1 Power

4.3.1.1 Power-On Trouble

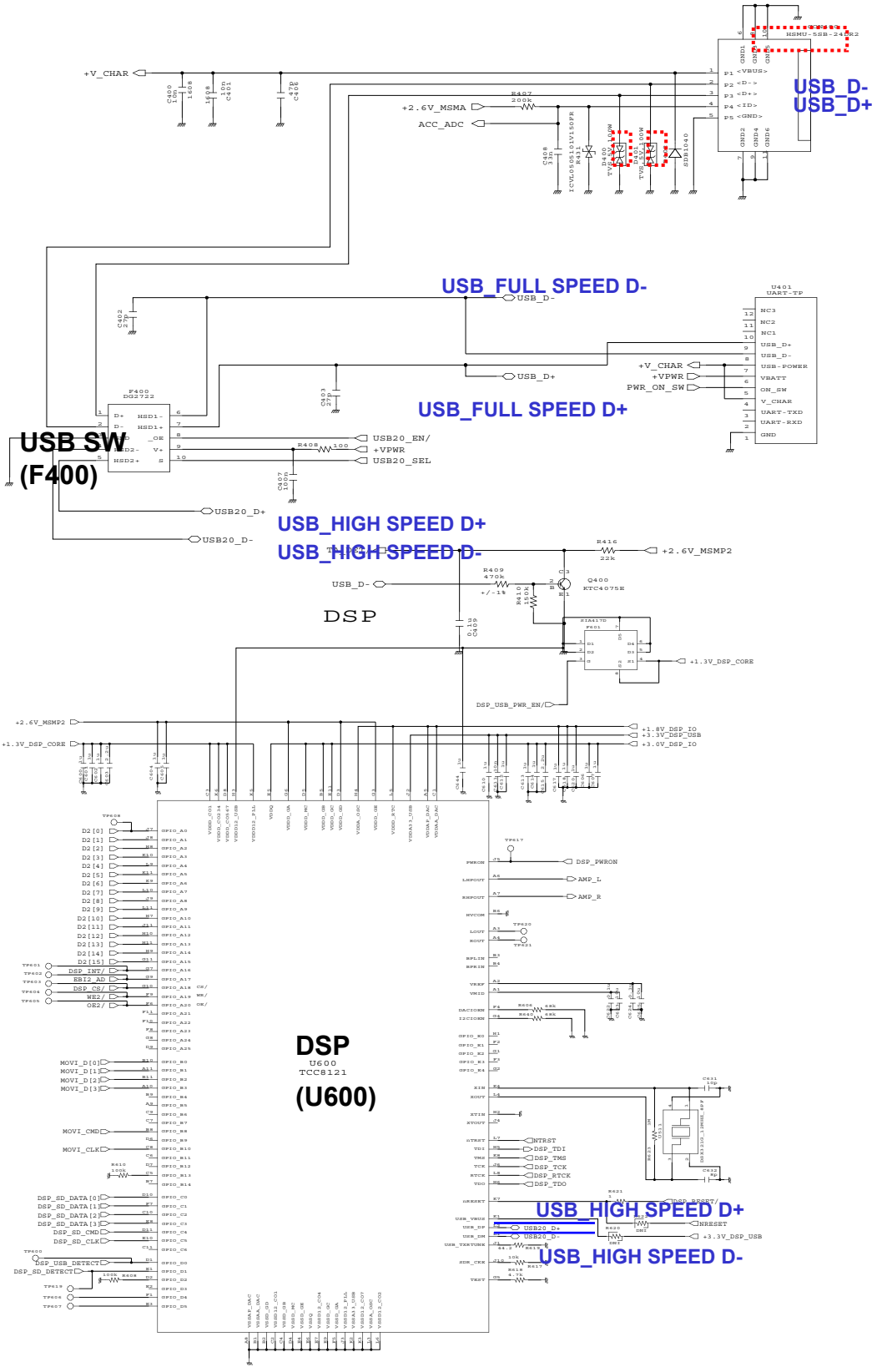
Circuit Diagram



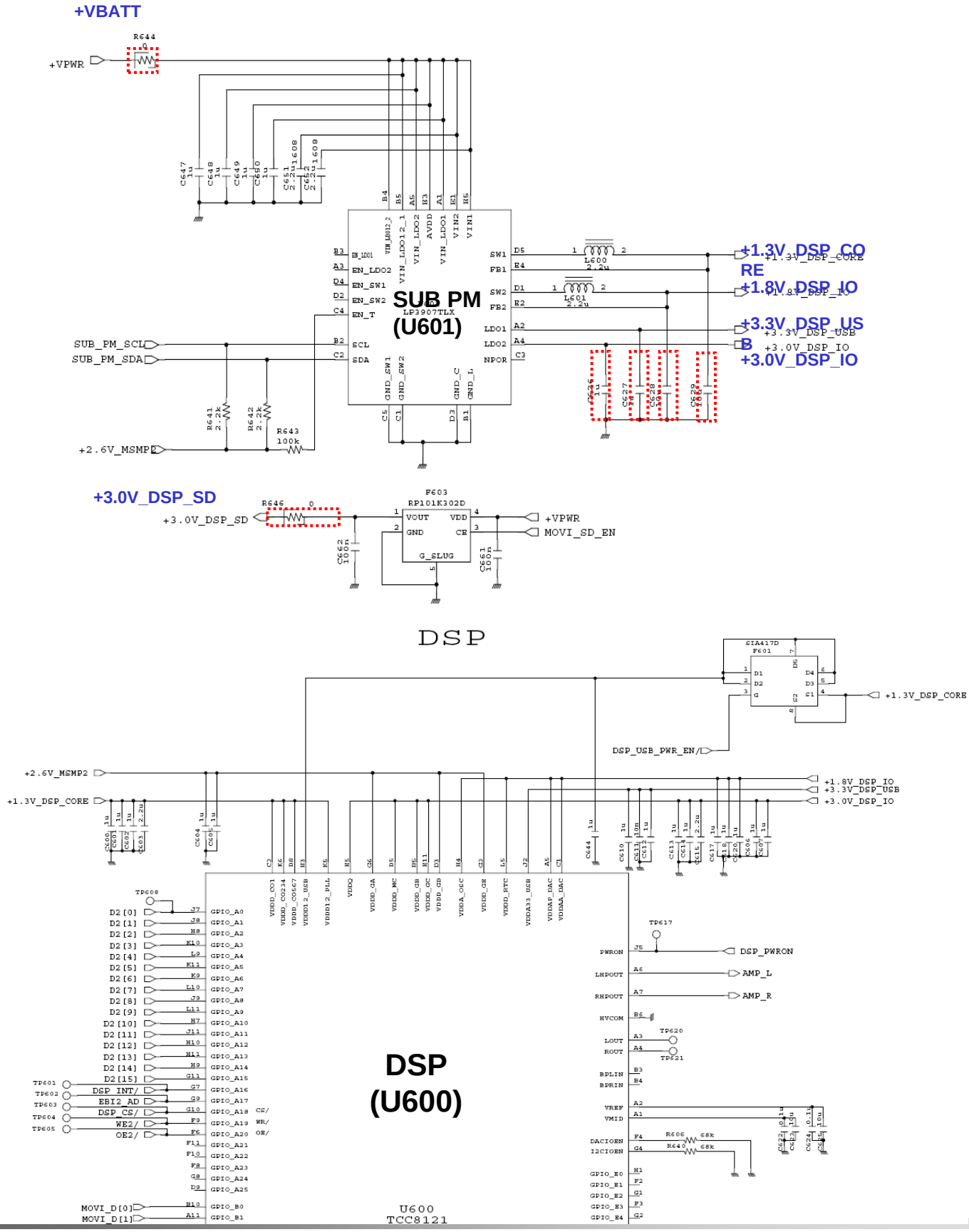
Circuit Diagram2



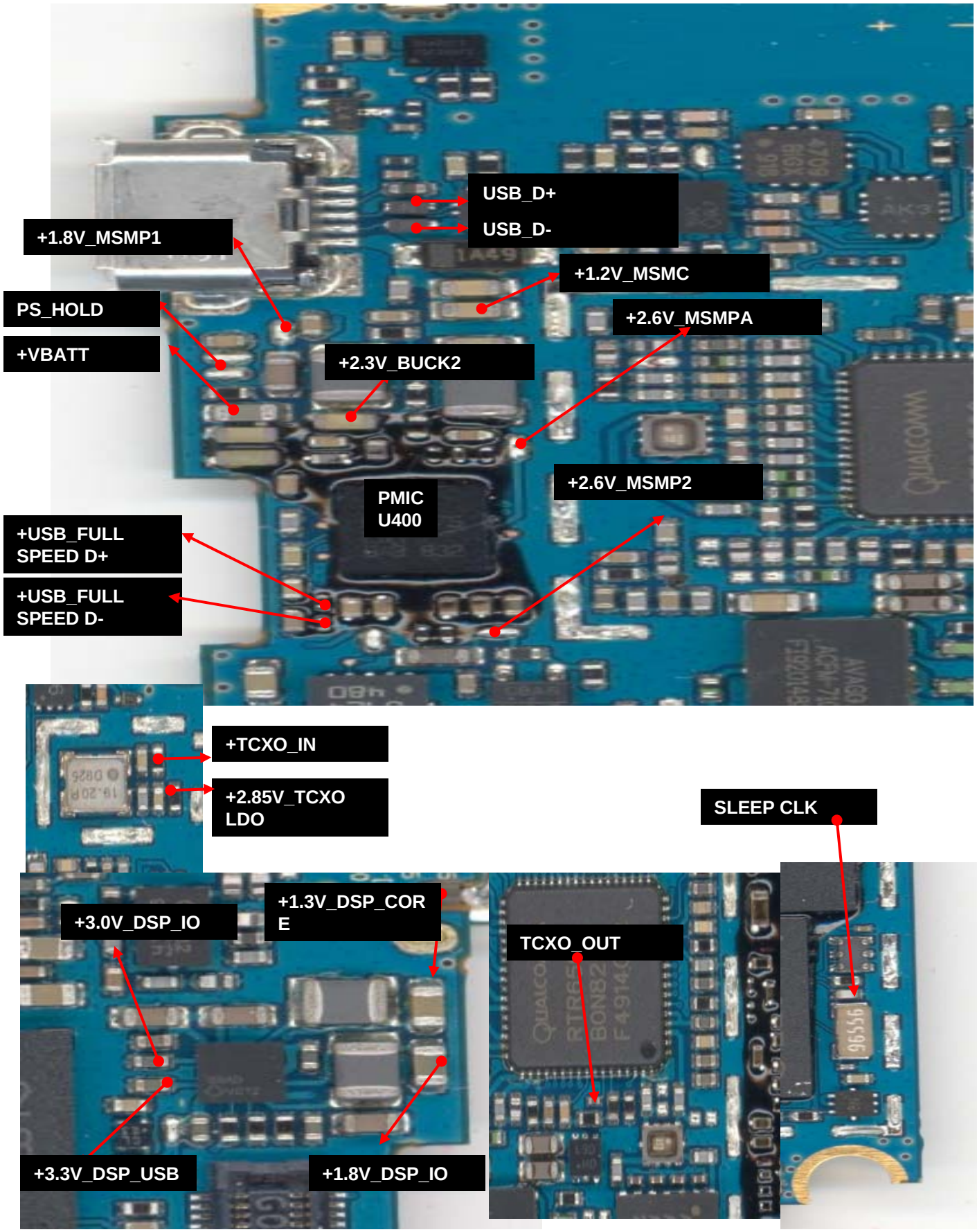
Circuit Diagram3



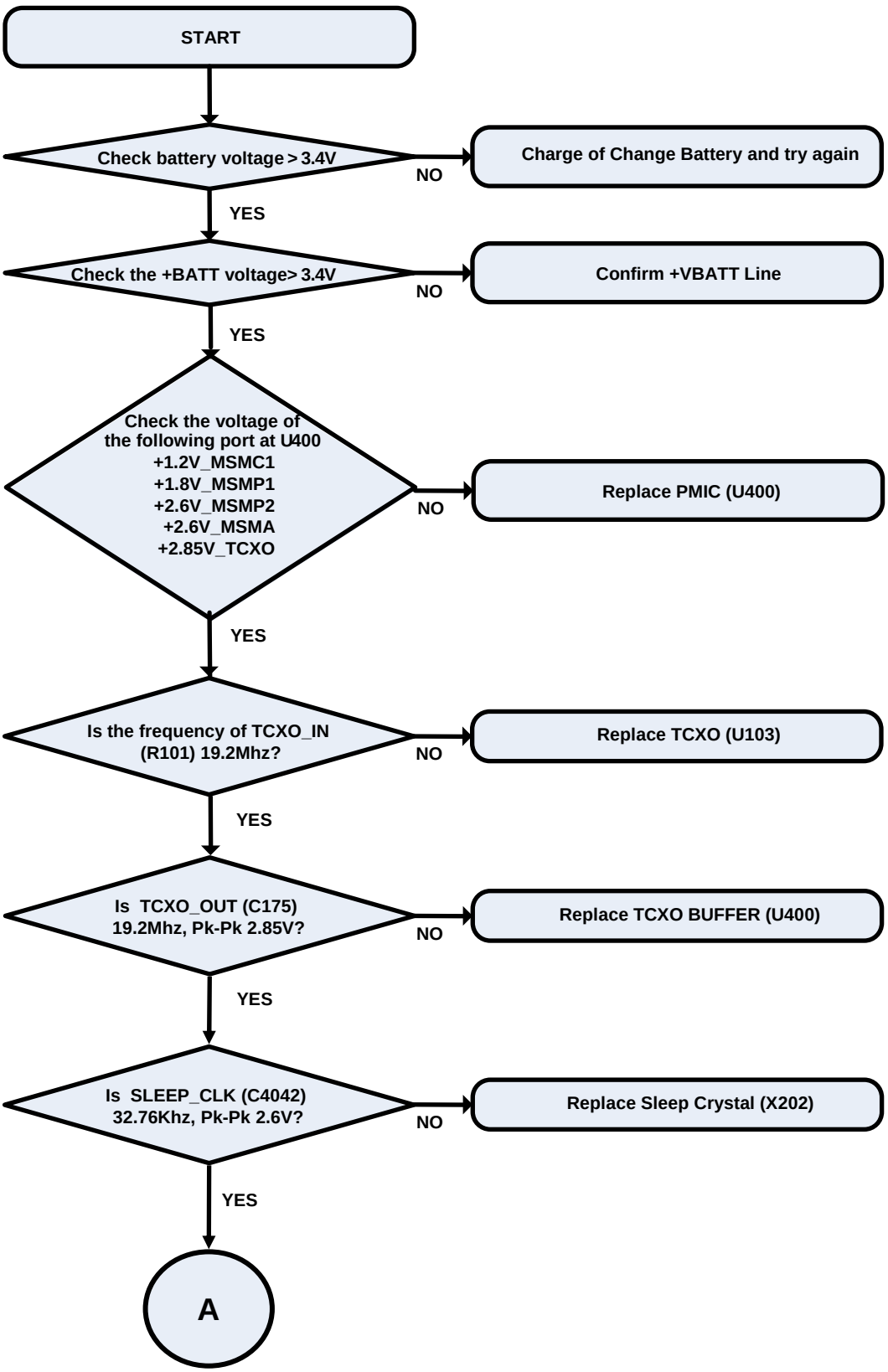
Circuit Diagram4



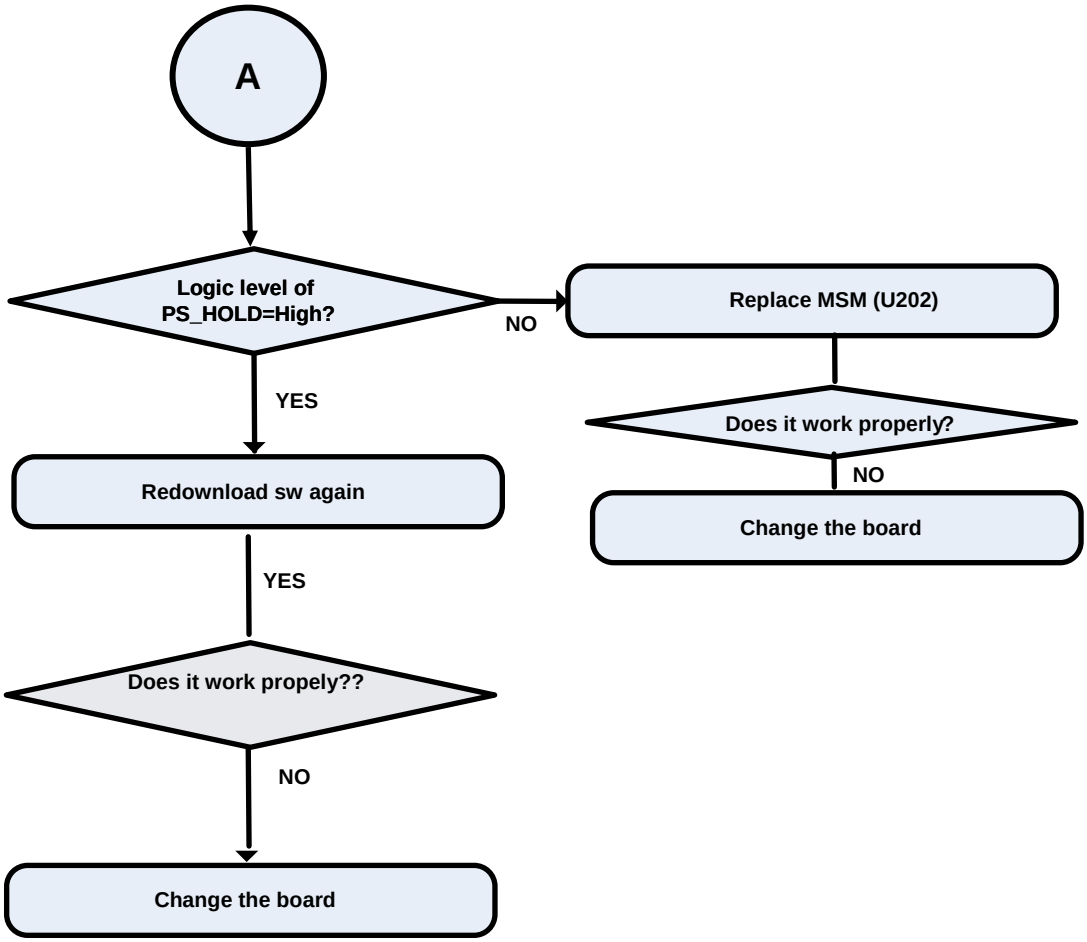
Test point


USB_D+
USB_D-
+1.8V_MSMP1
+1.2V_MSMC
PS_HOLD
+2.6V_MSMPA
+VBATT
+2.3V_BUCK2
PMIC
U400
+2.6V_MSMP2
+USB_FULL SPEED D+
+USB_FULL SPEED D-
+TCXO_IN
+2.85V_TCXO LDO
SLEEP CLK
+3.0V_DSP_IO
+1.3V_DSP_CORE
TCXO_OUT
+3.3V_DSP_USB
+1.8V_DSP_IO

Checking Flow

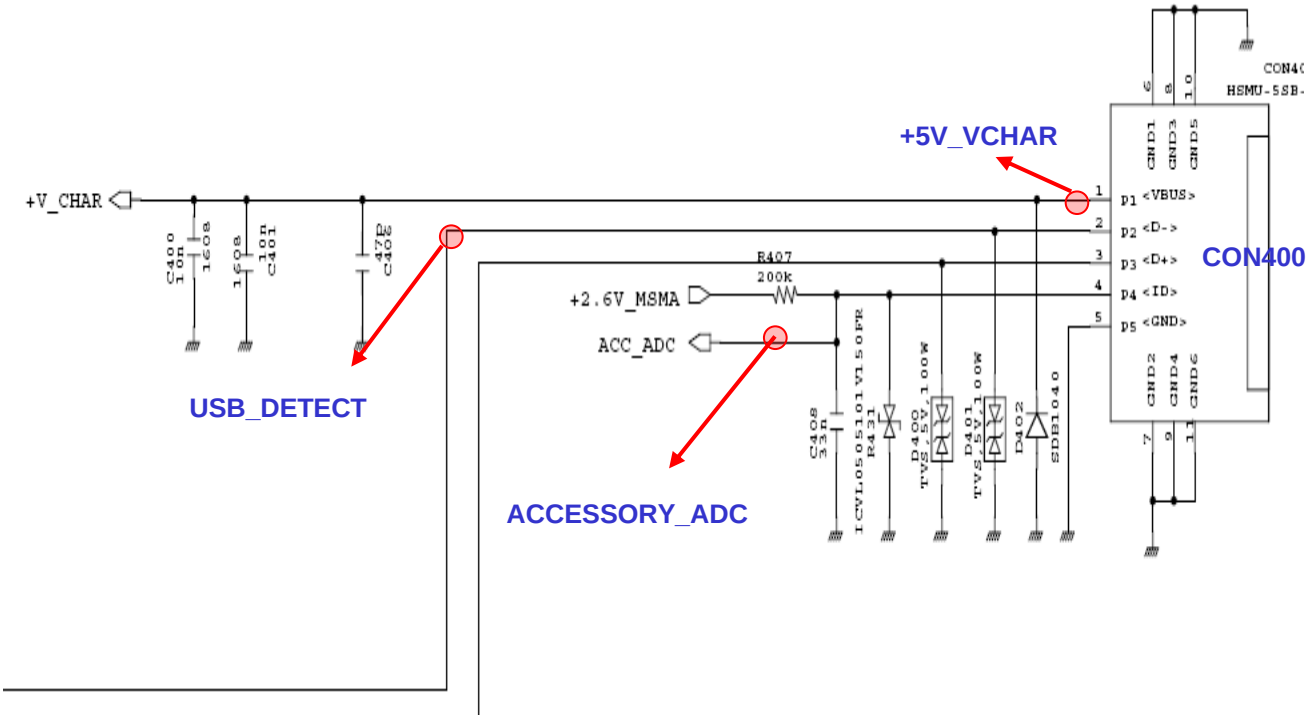


Checking Flow

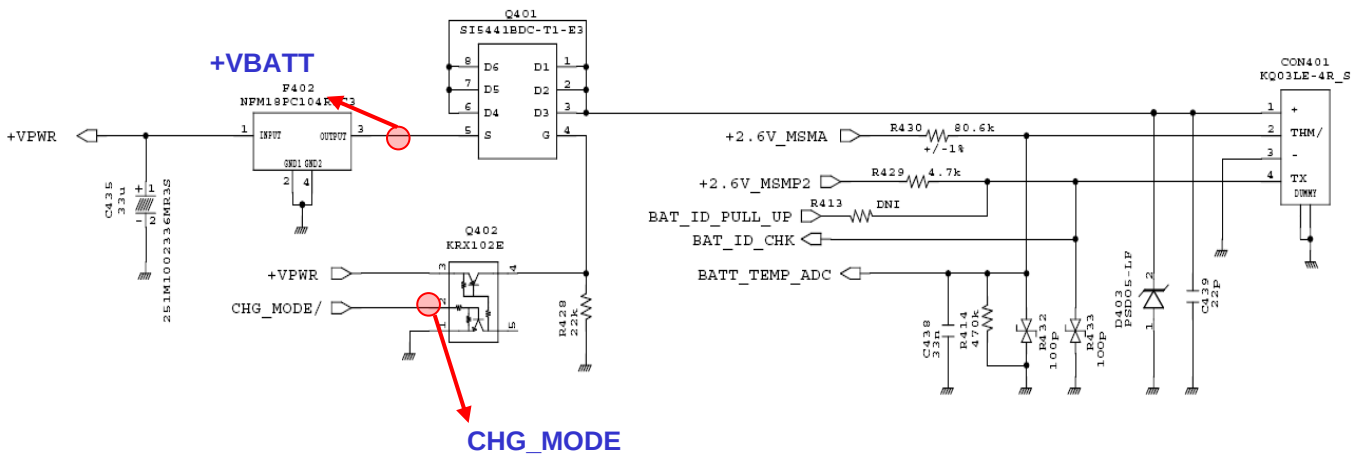


4.3.1.2 Charging Trouble

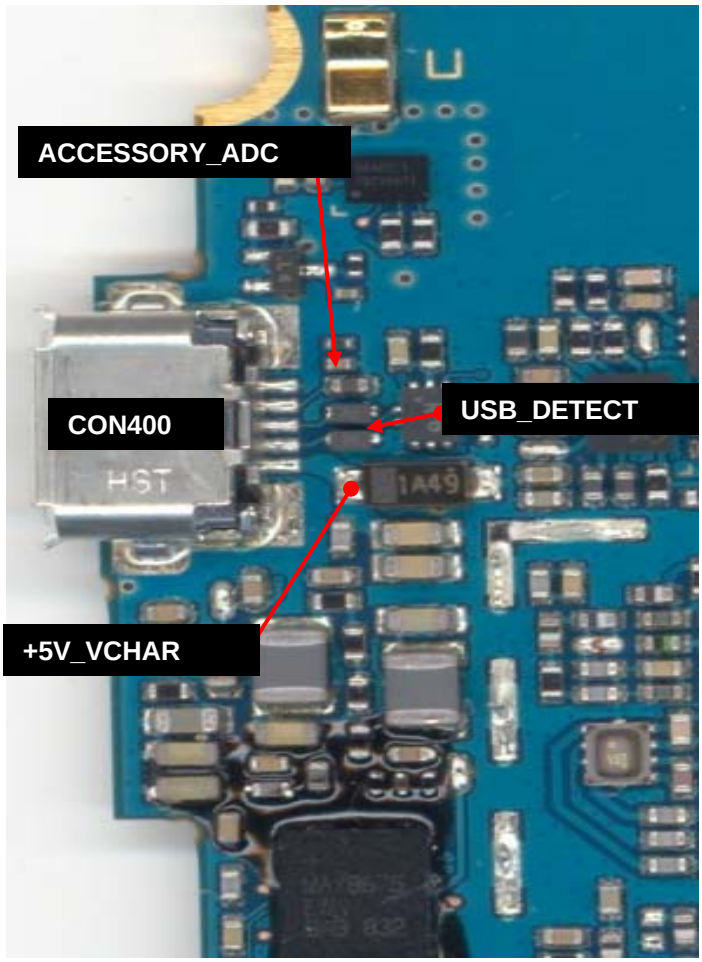
Circuit Diagram

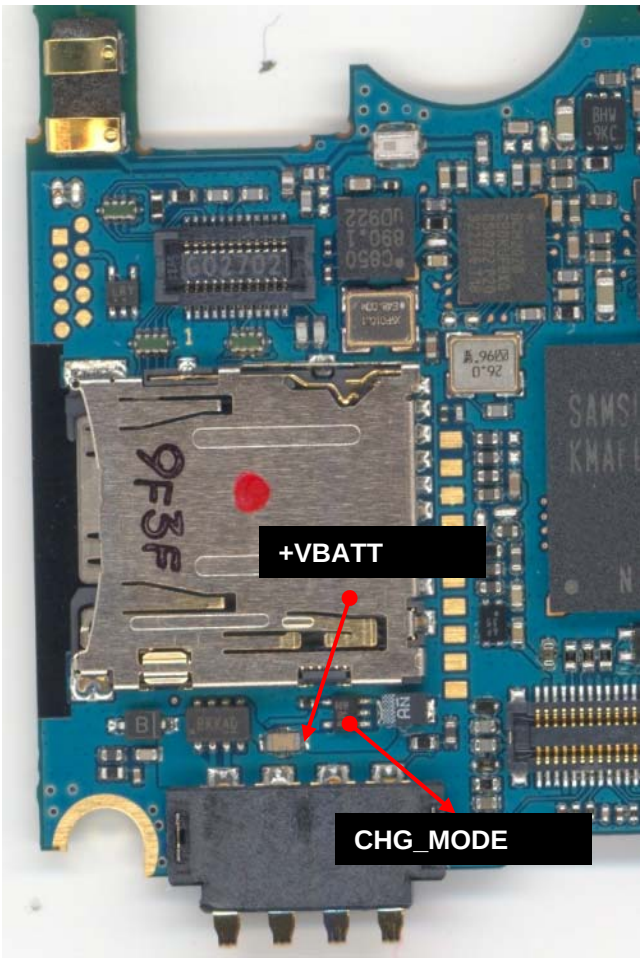


<BATTERY CONTACT>

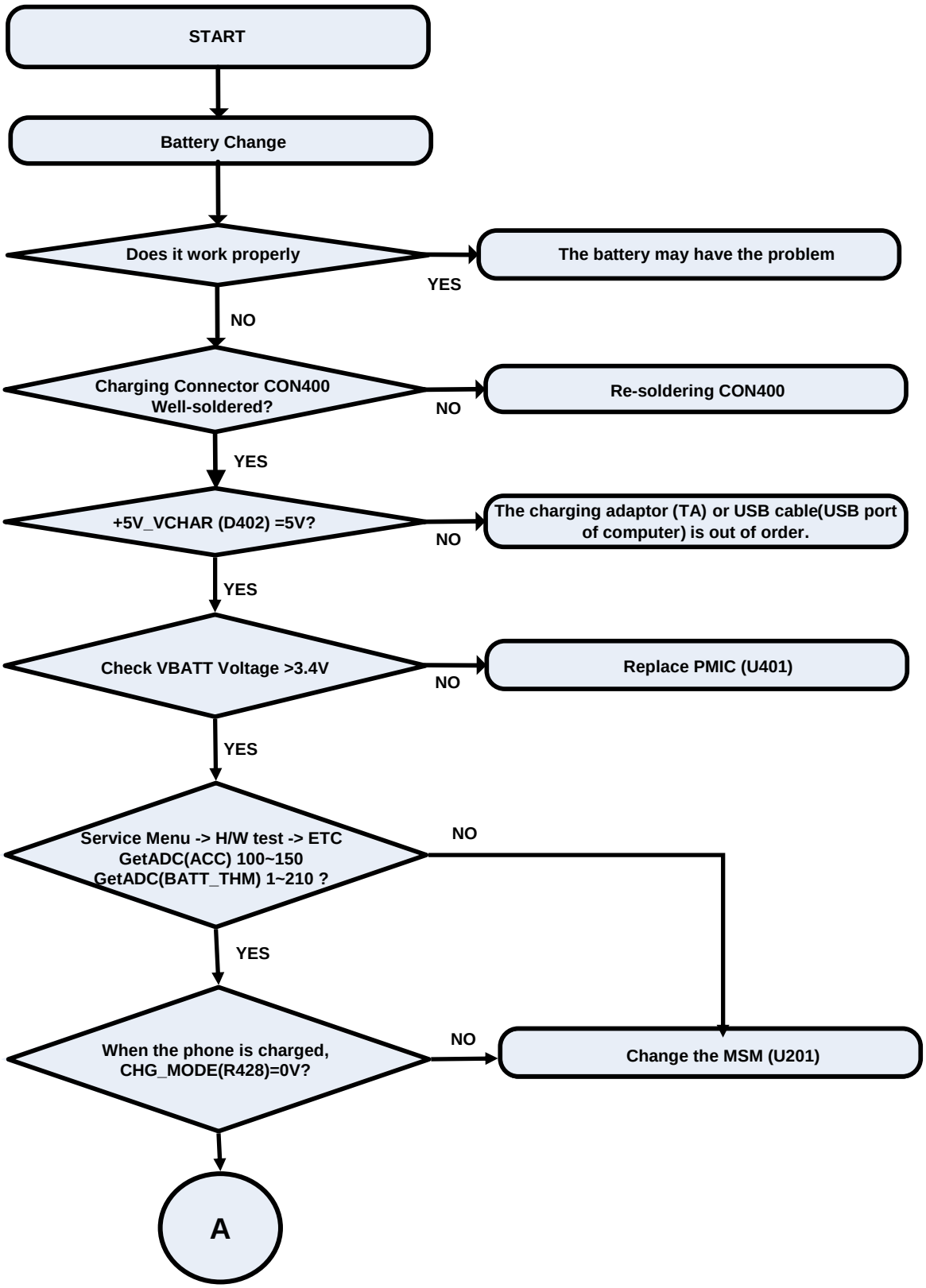


Test point

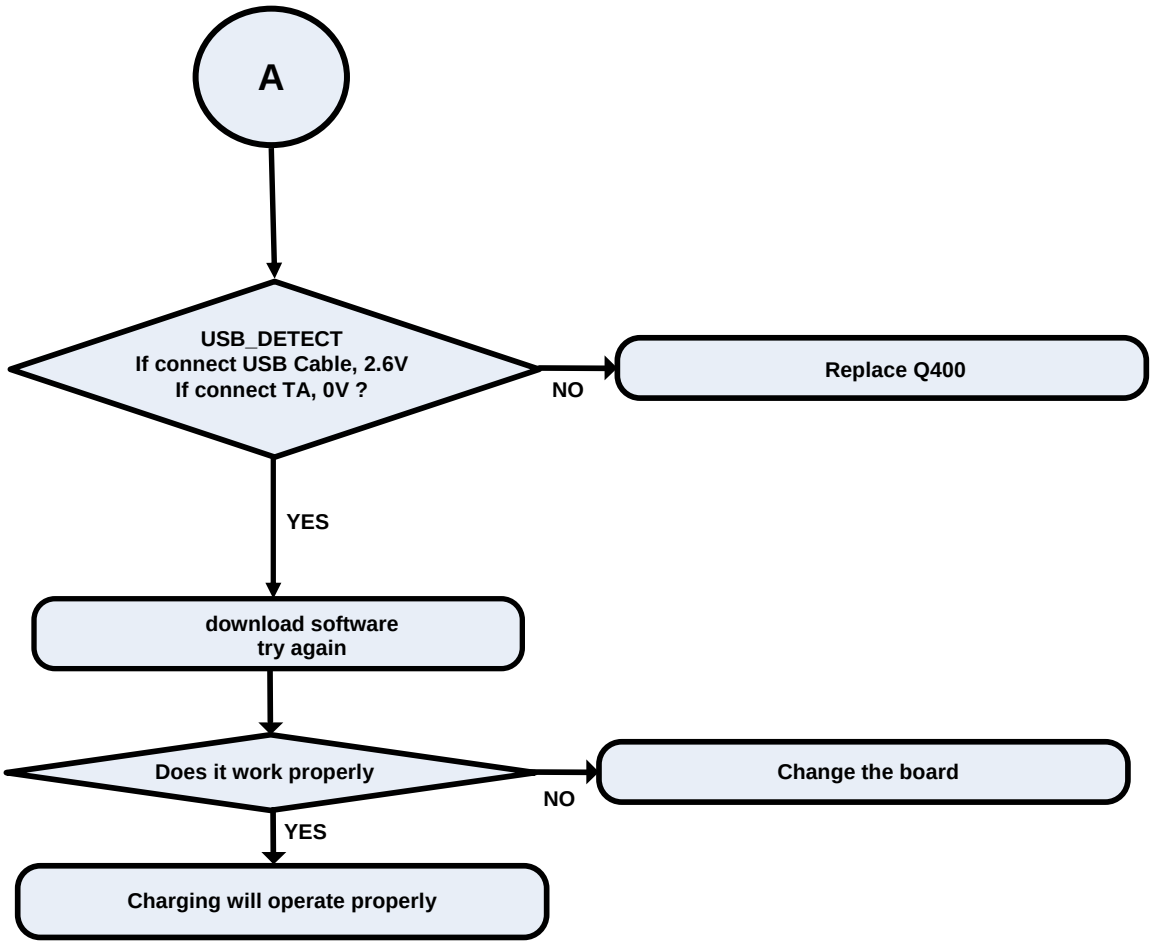




Checking Flow

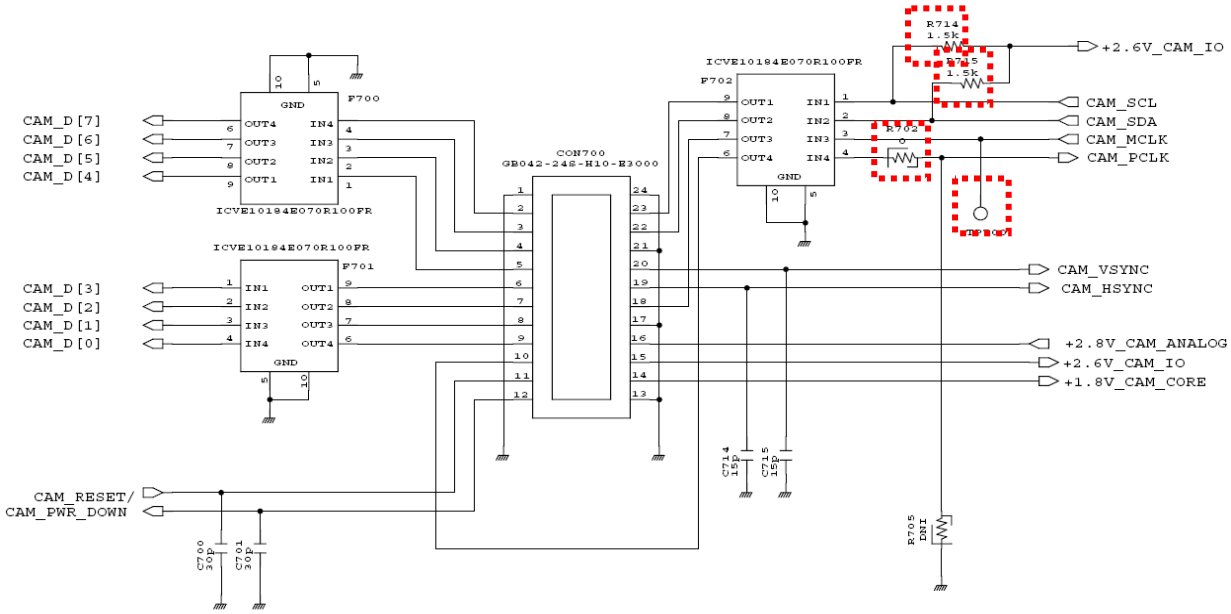


Checking Flow



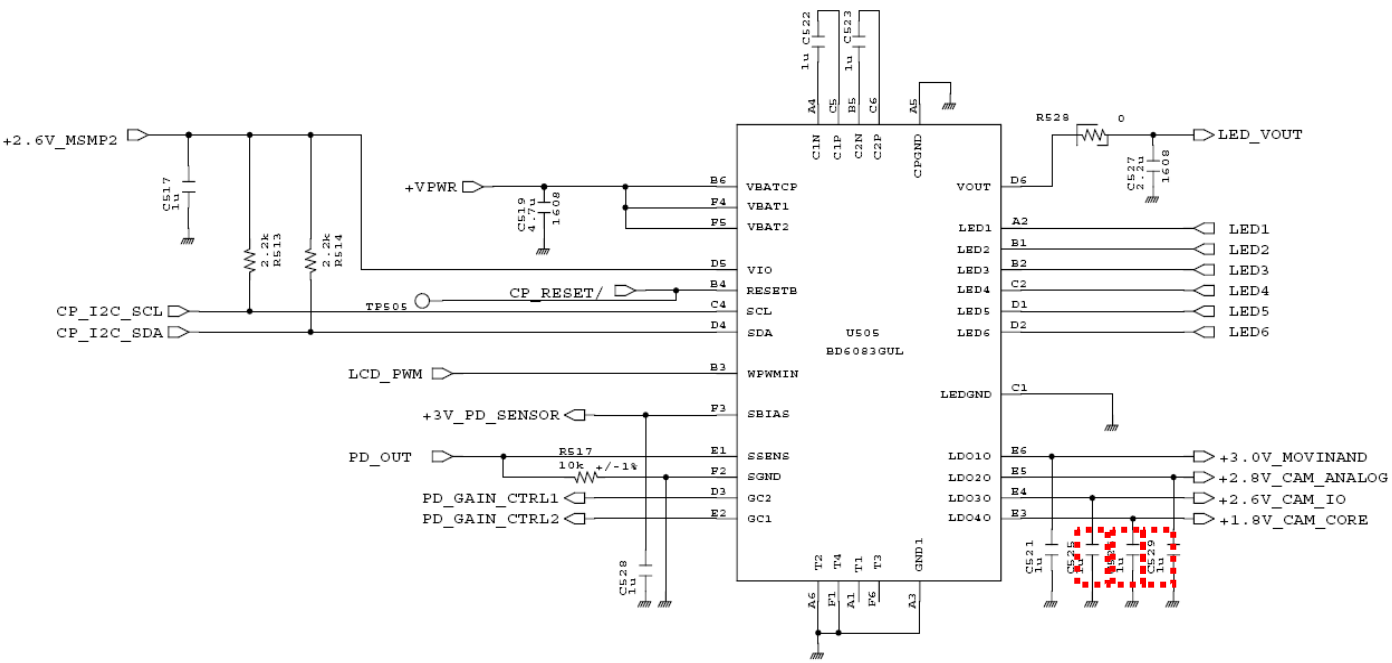
4.3.2 Camera trouble

Circuit Diagram



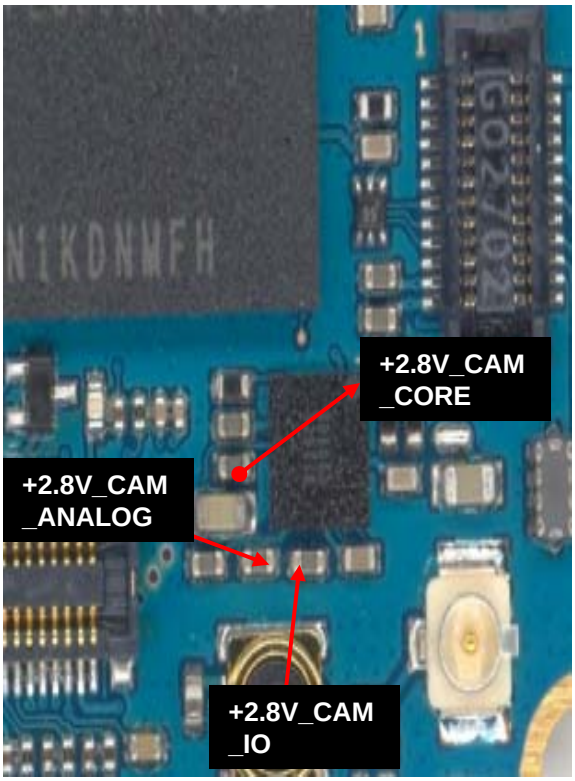
- **Camera Control signals**

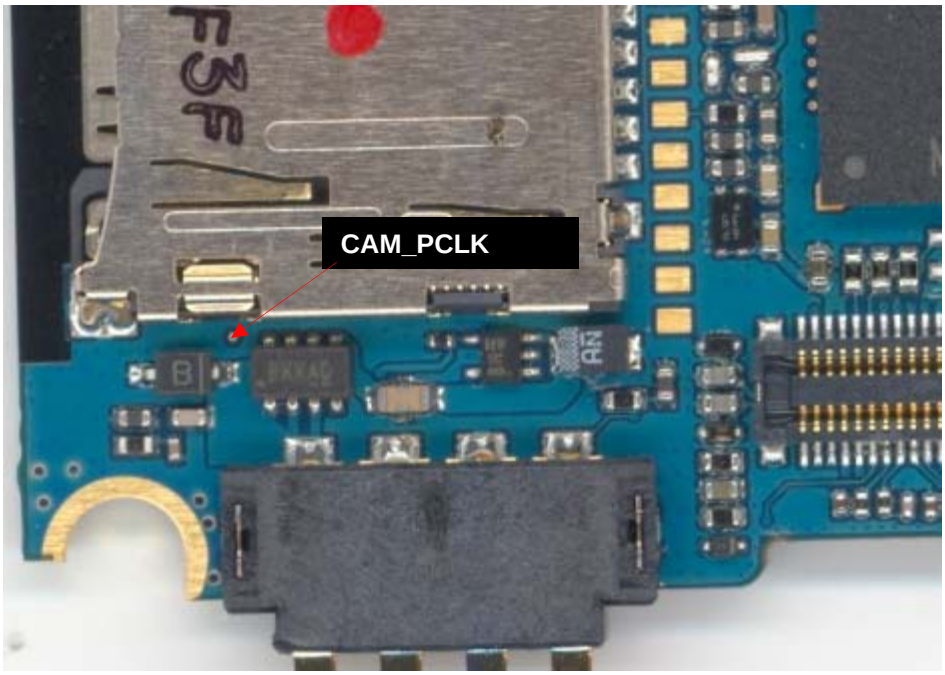
  To MSM : CAM_DATA[0:7], CAM_RESET/,
  CAM_I2C_SDA, CAM_I2C_SCL,
  CAM_OSC_MCLK, CAM_PCLK



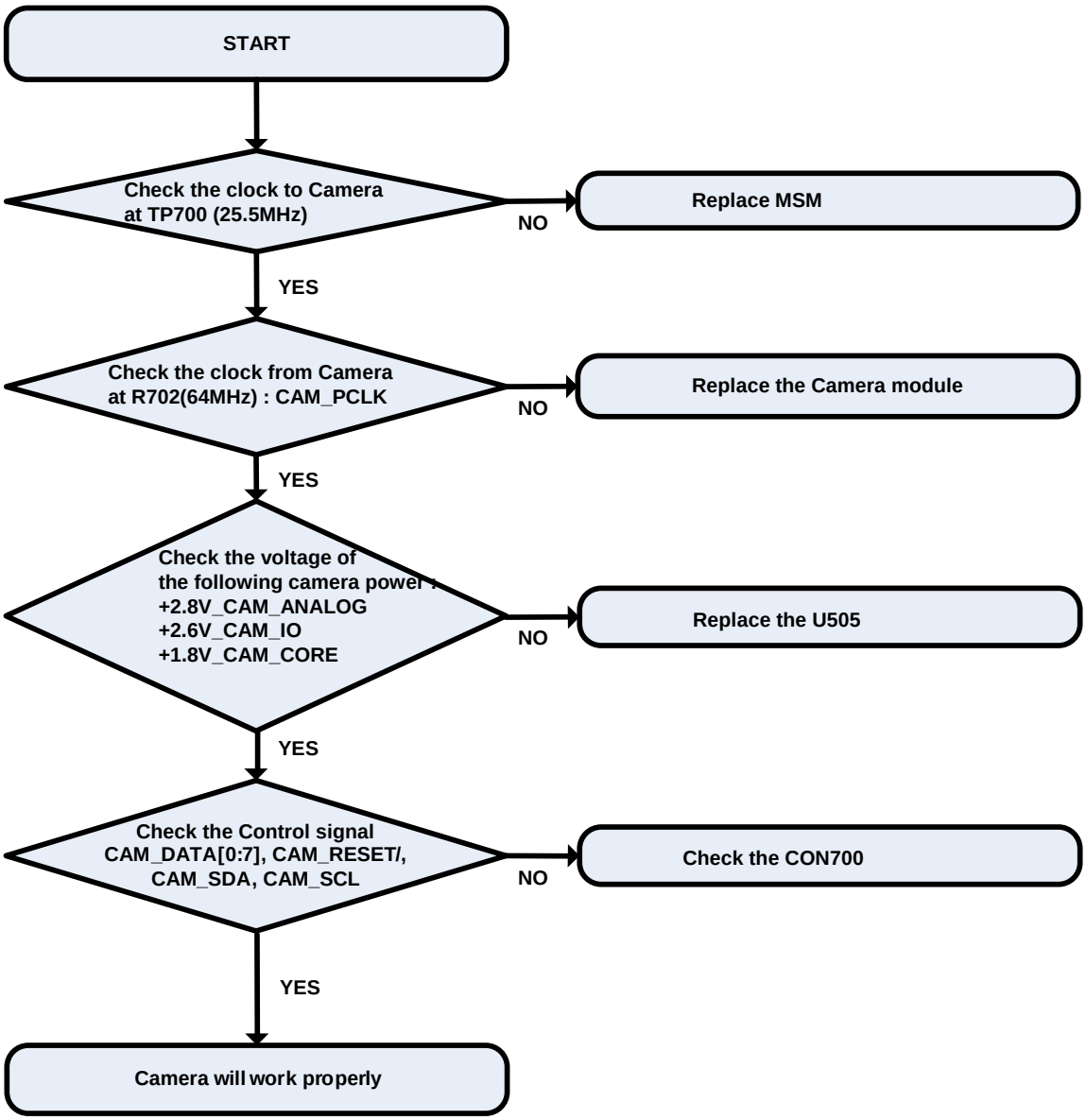
4.3.2 Camera trouble

Test Point





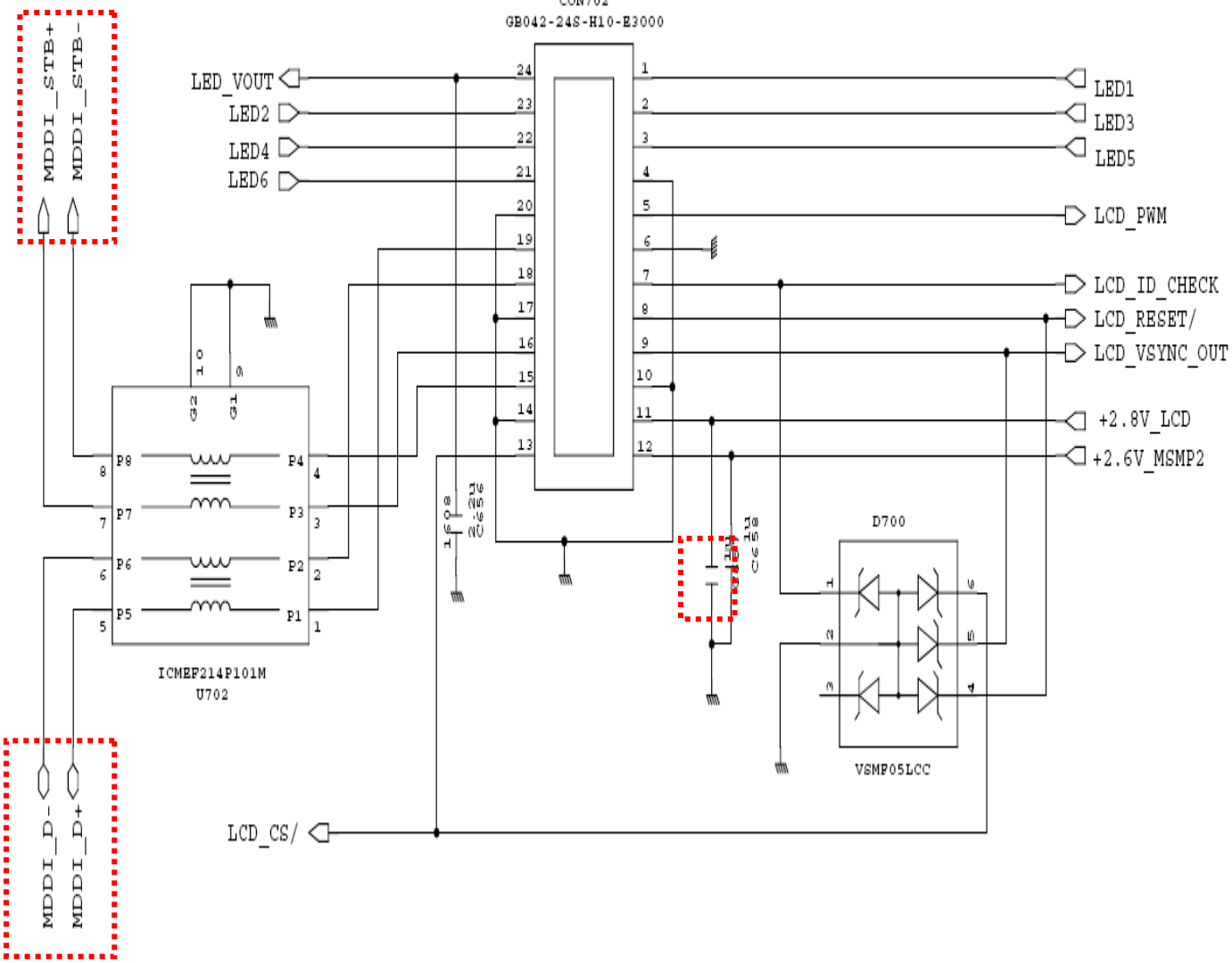
Check flow


START
Check the clock to Camera at TP700 (25.5MHz)
NO
Replace MSM
YES
Check the clock from Camera at R702(64MHz) : CAM_PCLK
NO
Replace the Camera module
YES
Check the voltage of the following camera power : +2.8V_CAM_ANALOG +2.6V_CAM_IO +1.8V_CAM_CORE
NO
Replace the U505
YES
Check the Control signal CAM_DATA[0:7], CAM_RESET/, CAM_SDA, CAM_SCL
NO
Check the CON700
YES
Camera will work properly

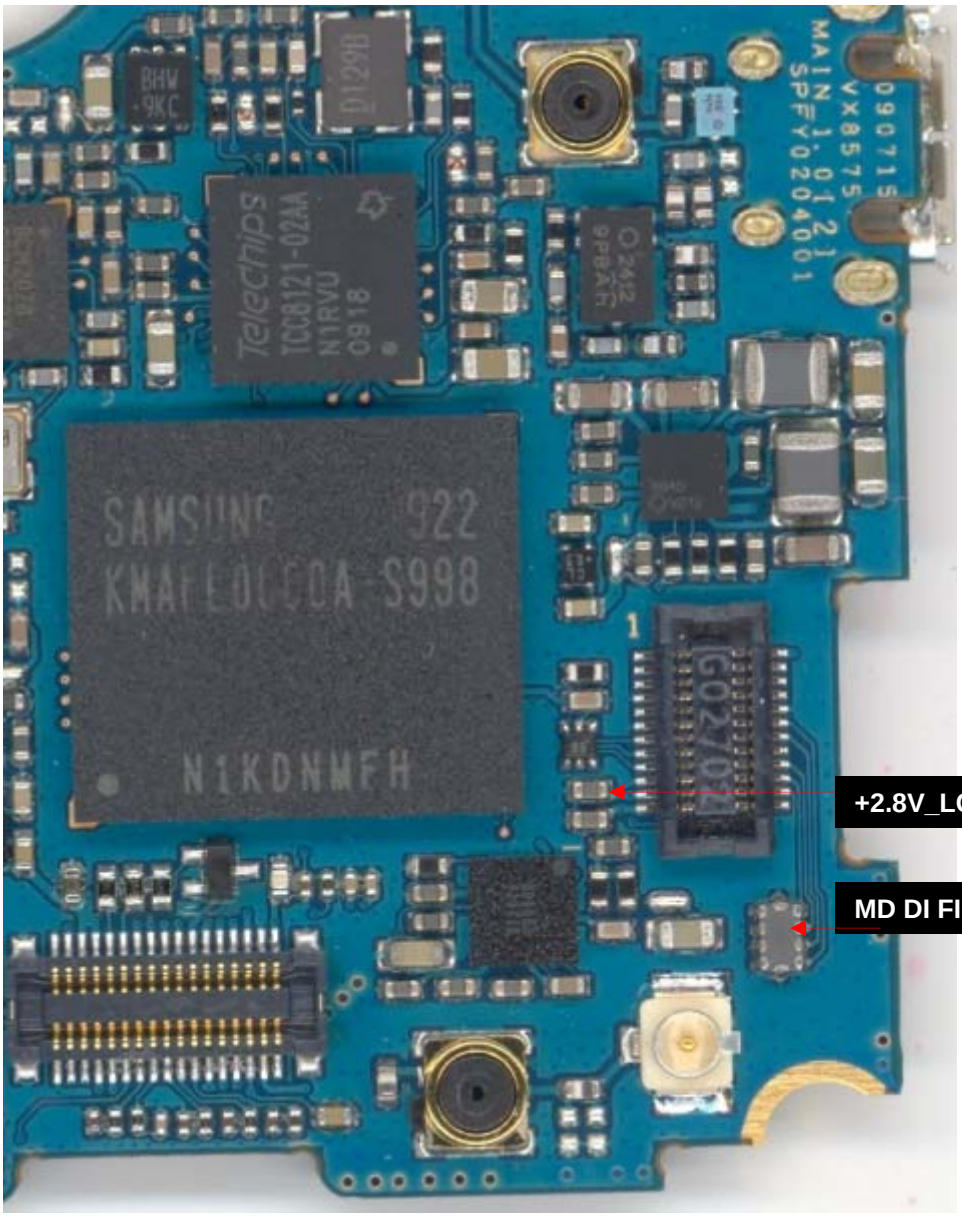
4.3.3 LCD

4.3.3.1 LCD Trouble

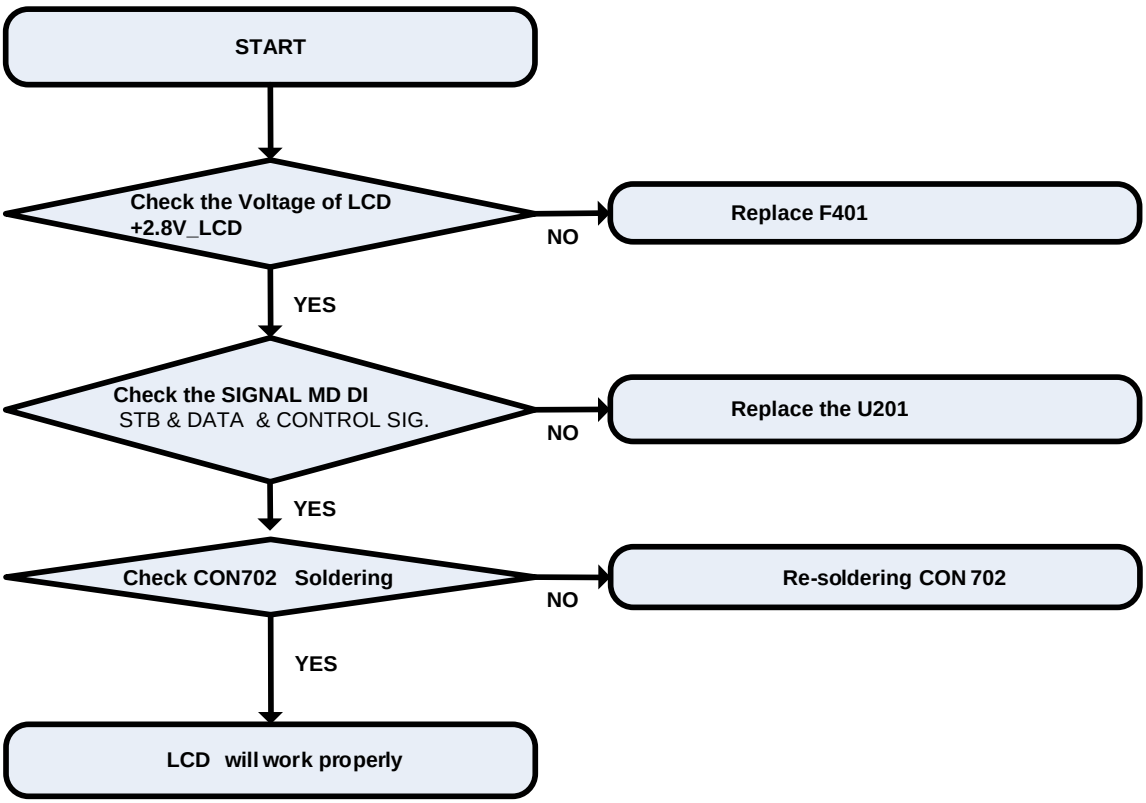
Circuit Diagram



Test Point

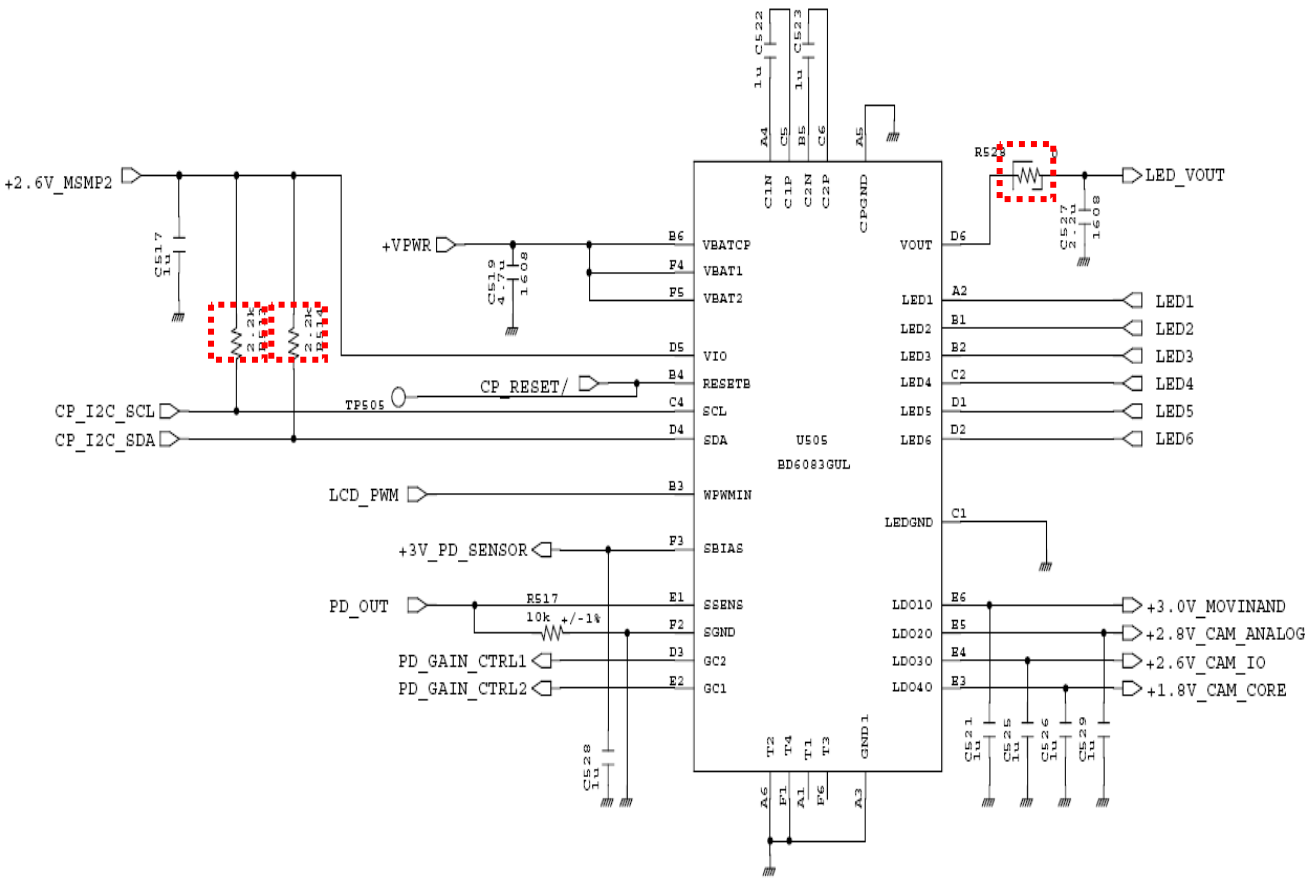


Check flow


START
Check the Voltage of LCD
+2.8V_LCD
NO
Replace F401
YES
Check the SIGNAL MD DI
STB & DATA & CONTROL SIG.
NO
Replace the U201
YES
Check CON702 Soldering
NO
Re-soldering CON 702
YES
LCD will work properly

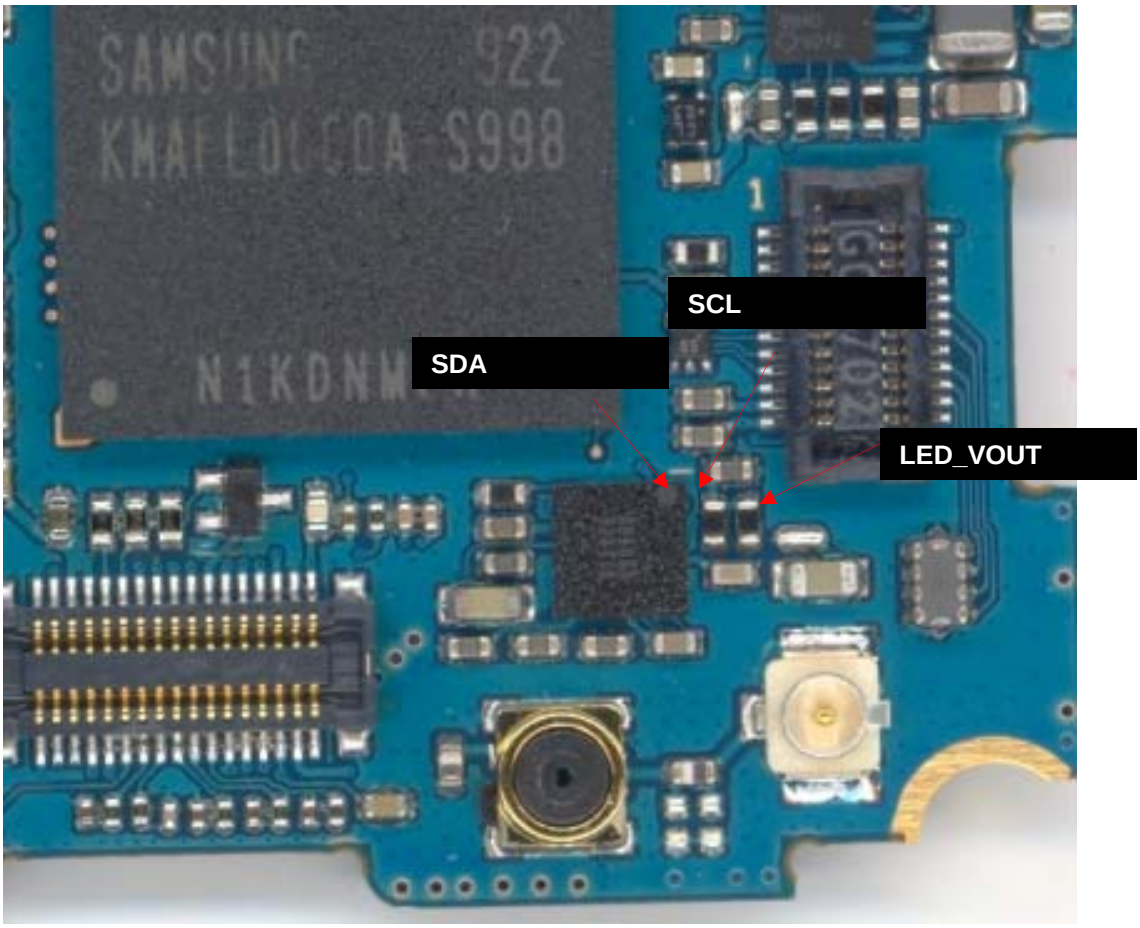
4.3.3.2 LCD Backlight trouble

Circuit Diagram



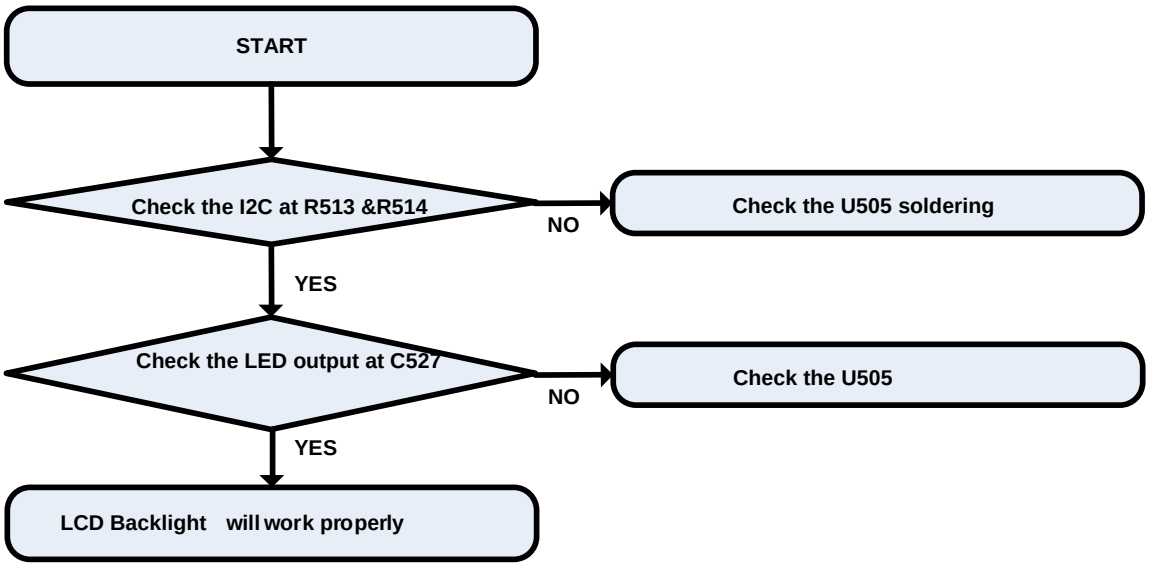
4.3.3.2 LCD Backlight trouble

Test Point



Check flow

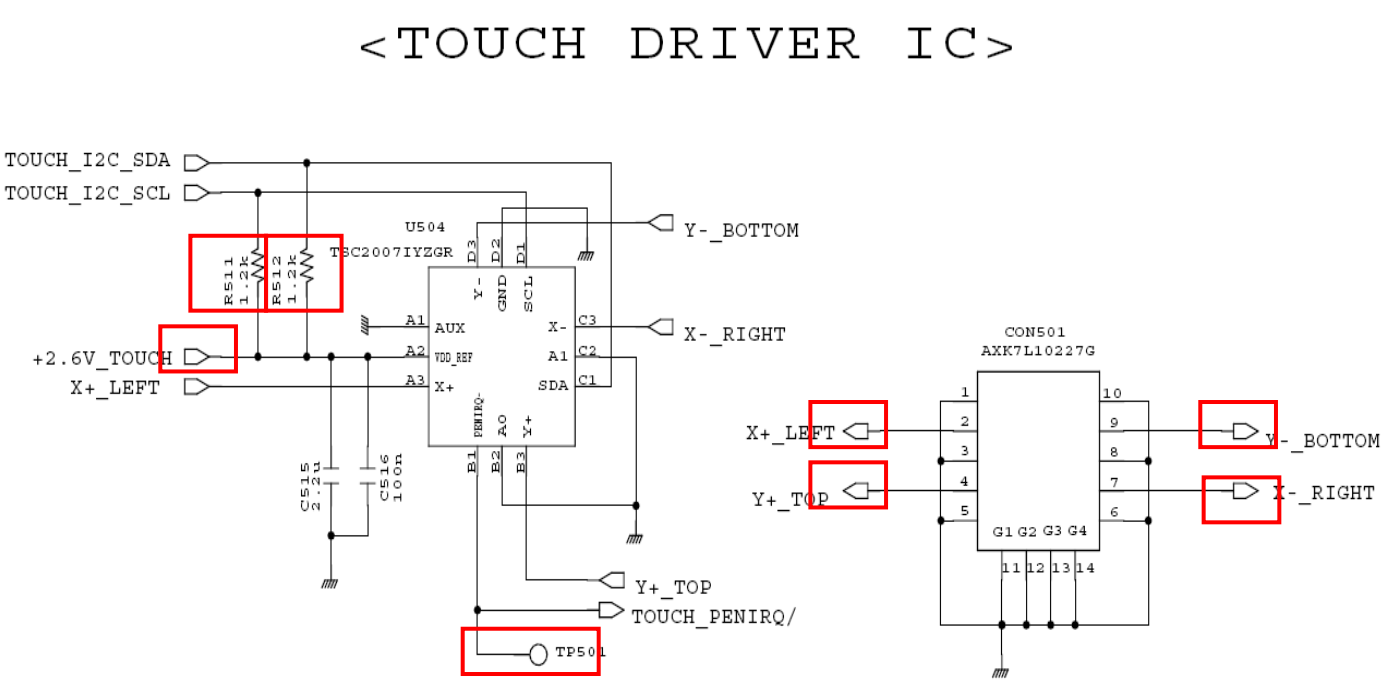
LCD Backlight



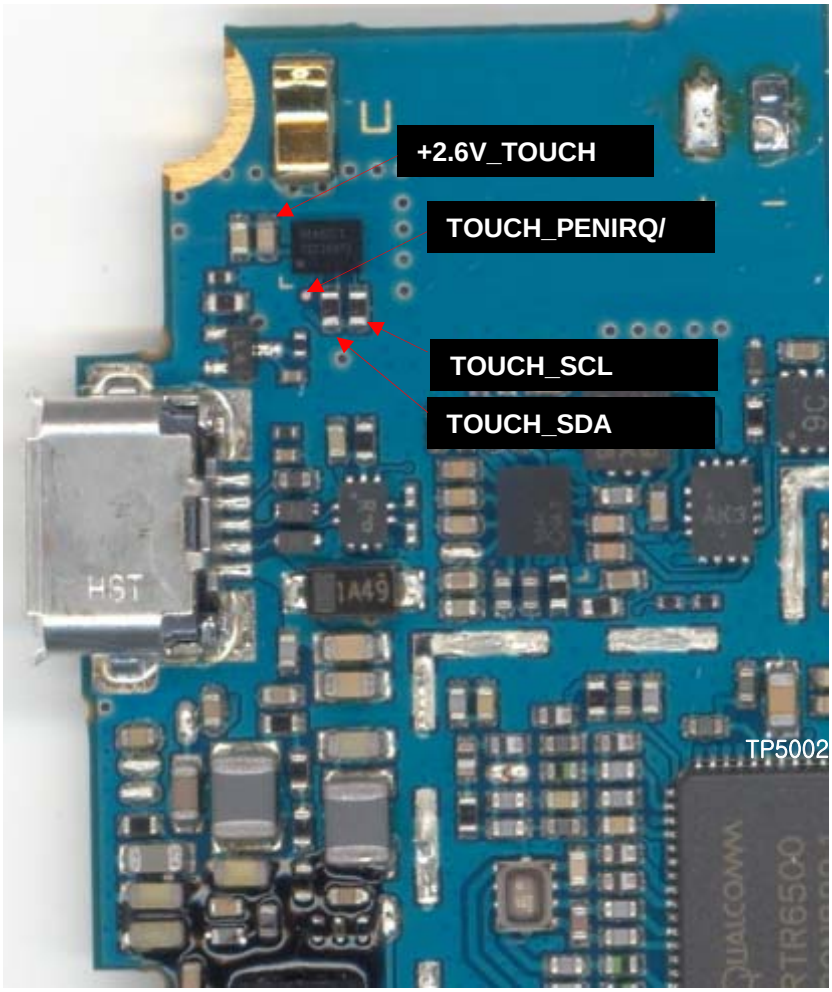
4.3.4 Touch and FPCB

4.3.4.1 Touch Trouble

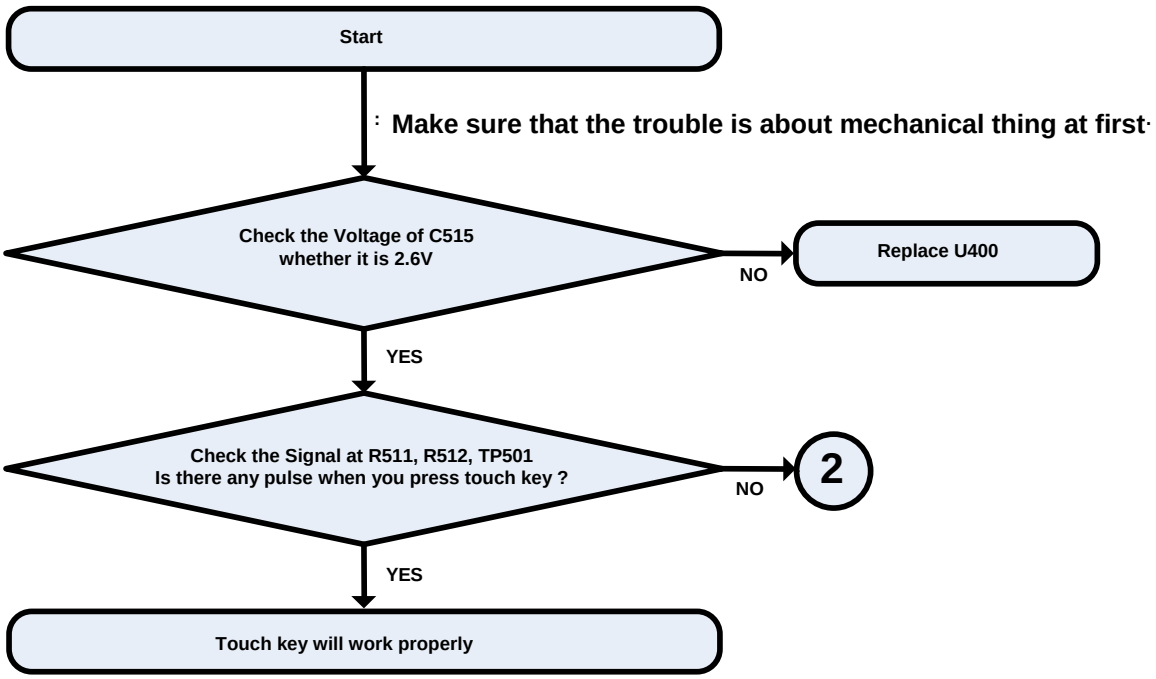
Circuit Diagram

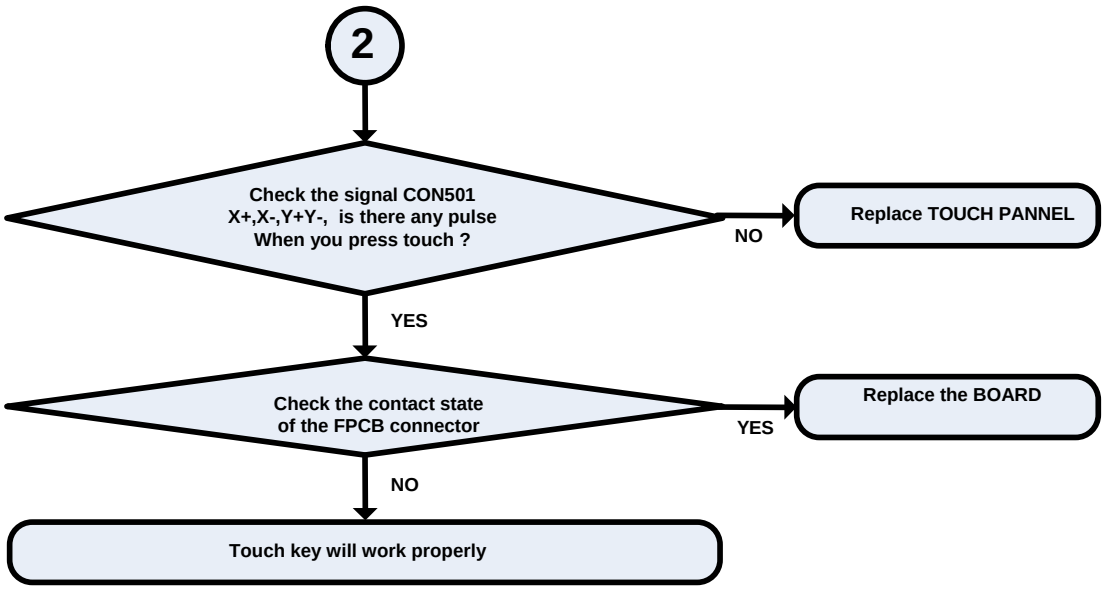


Test Point



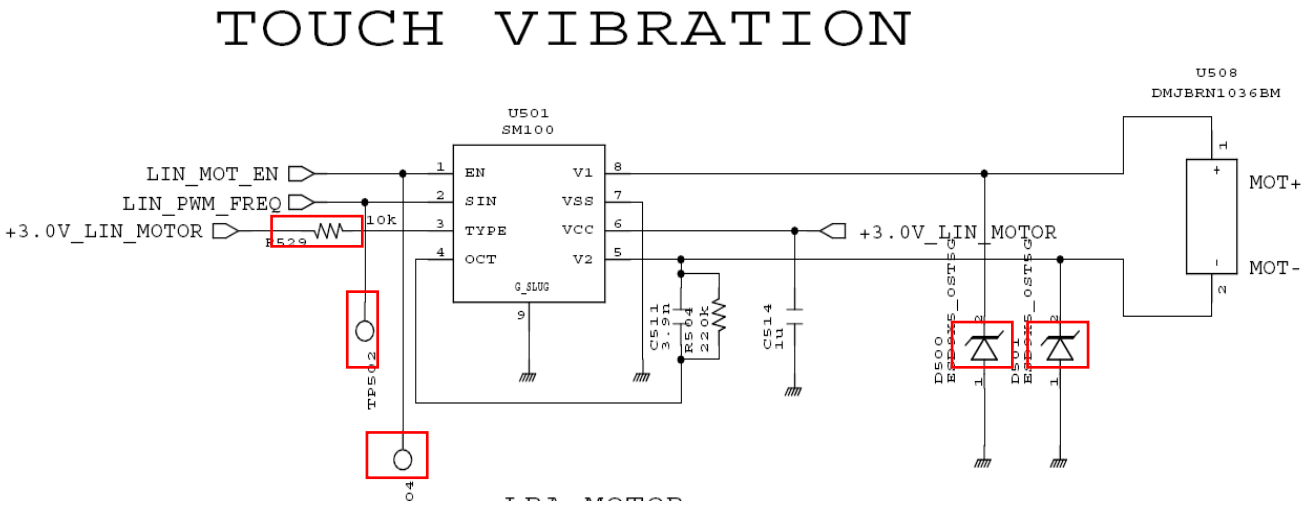
Checking Flow



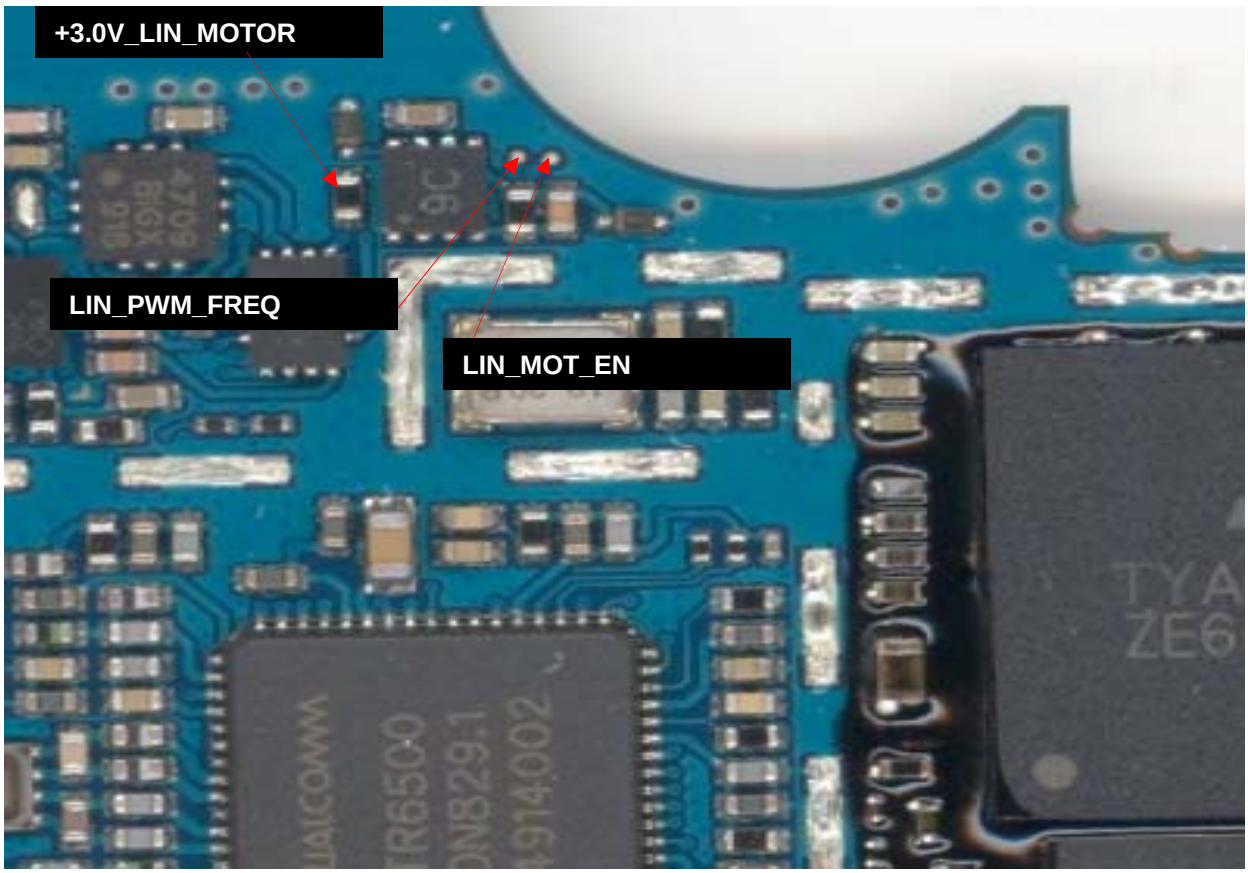


4.3.5 Vibrator

Circuit Diagram

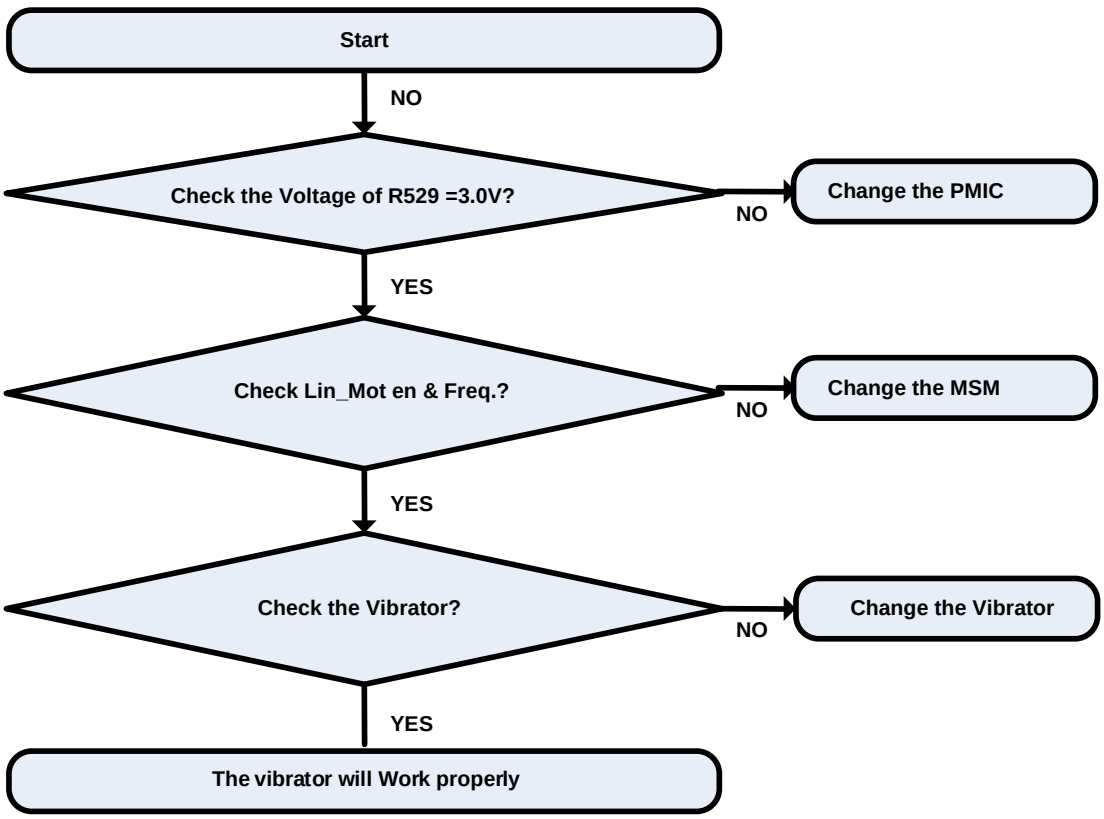


Test Point



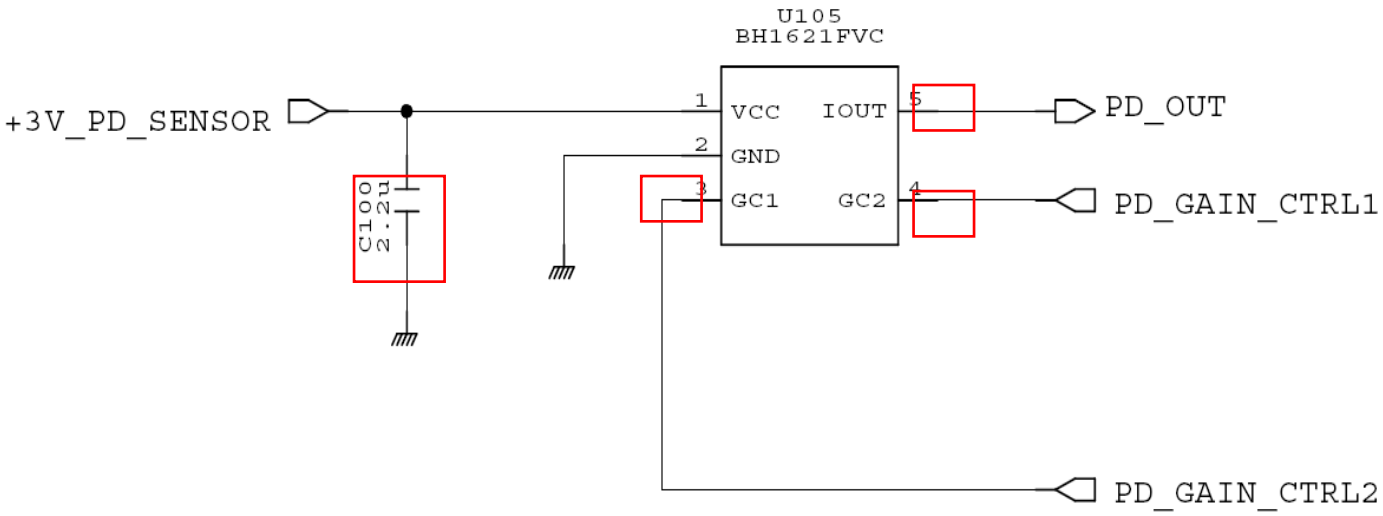
Checking Flow

➢ **Setting: “ON” at the motor test of “test mode”**

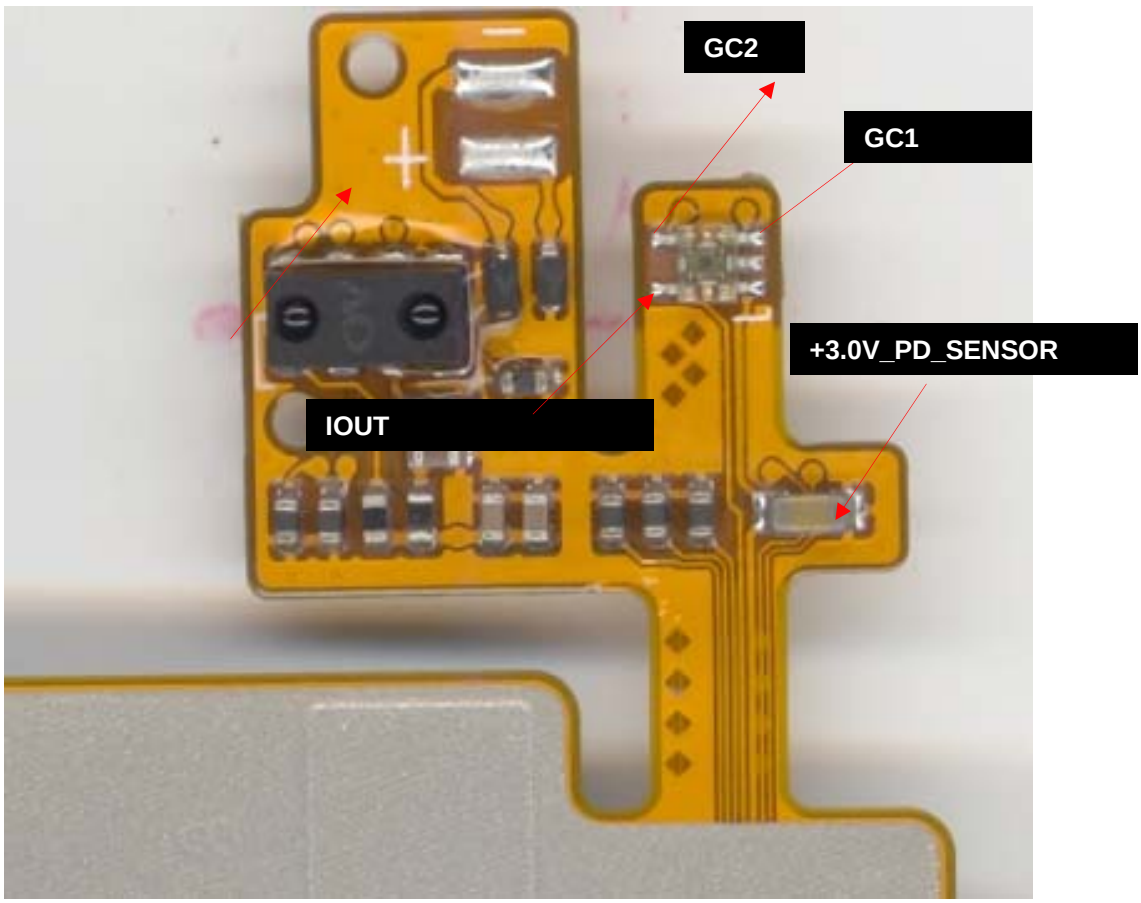


4.3.6 Photo Sensor

Circuit Diagram

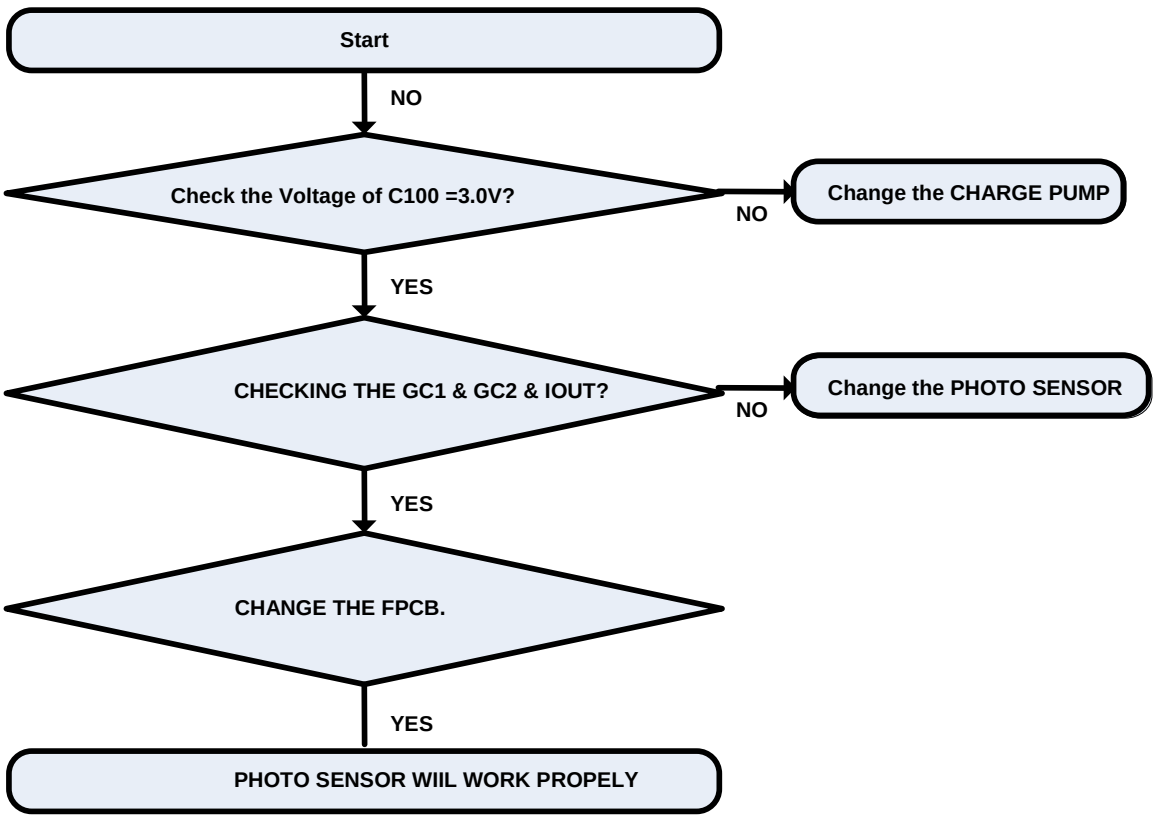


Test Point



Checking Flow

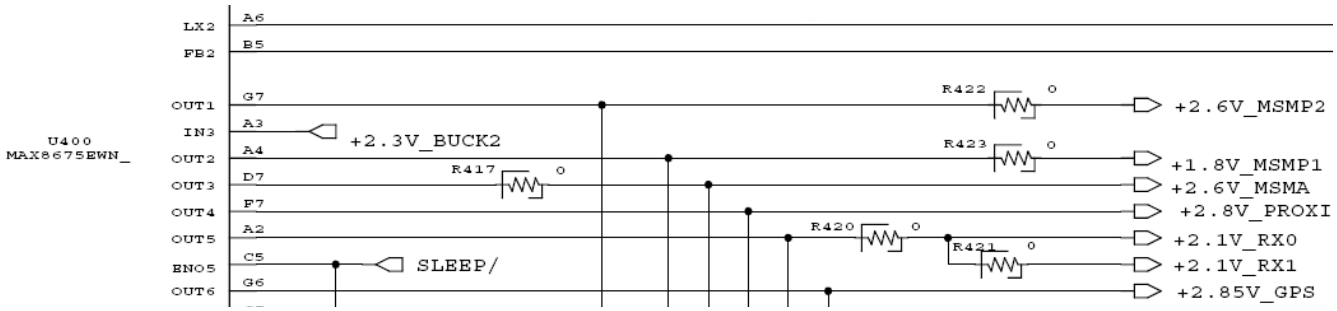
➢ **Setting: “ON” at the motor test of “test mode”**



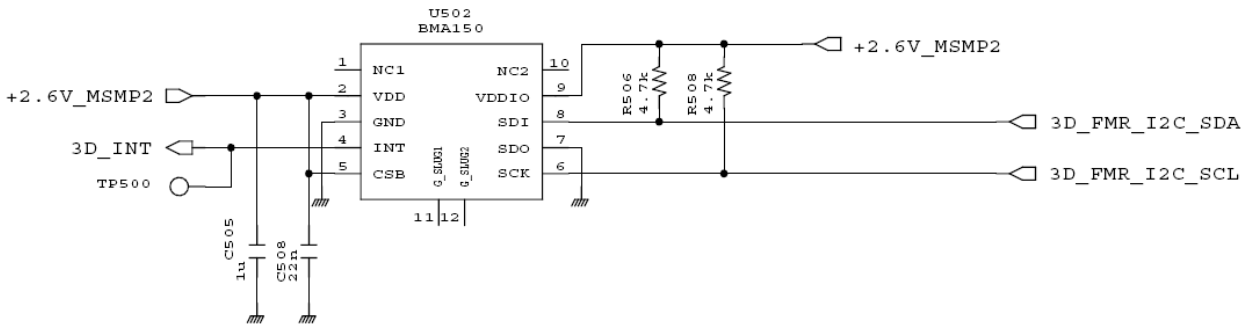
4.3.7 3D ACCELATION SENSOR

Circuit Diagram

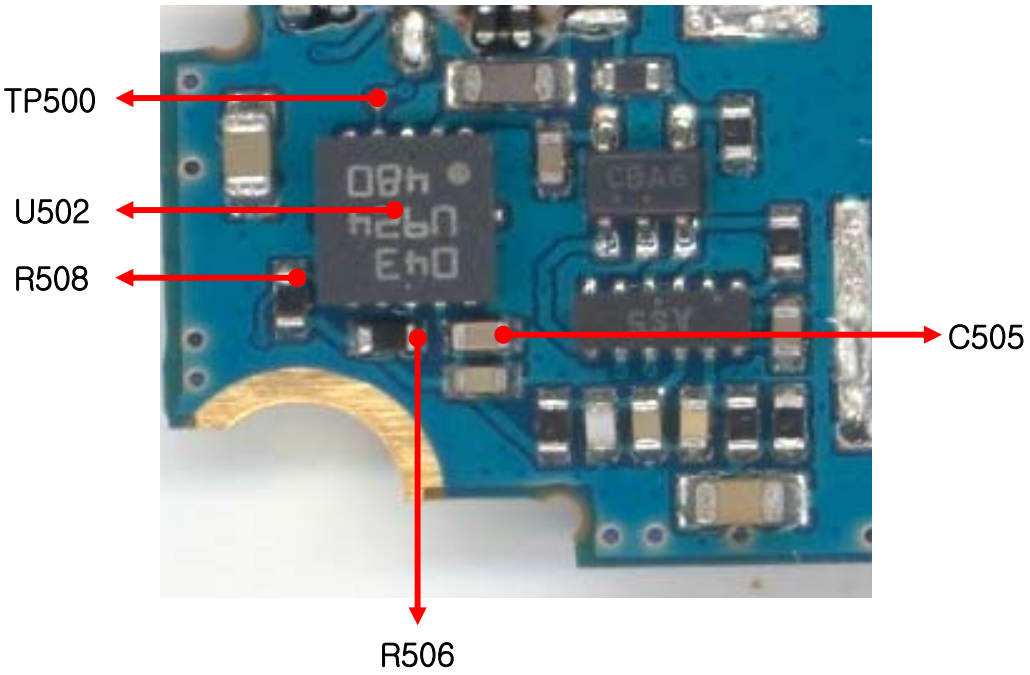
PMIC



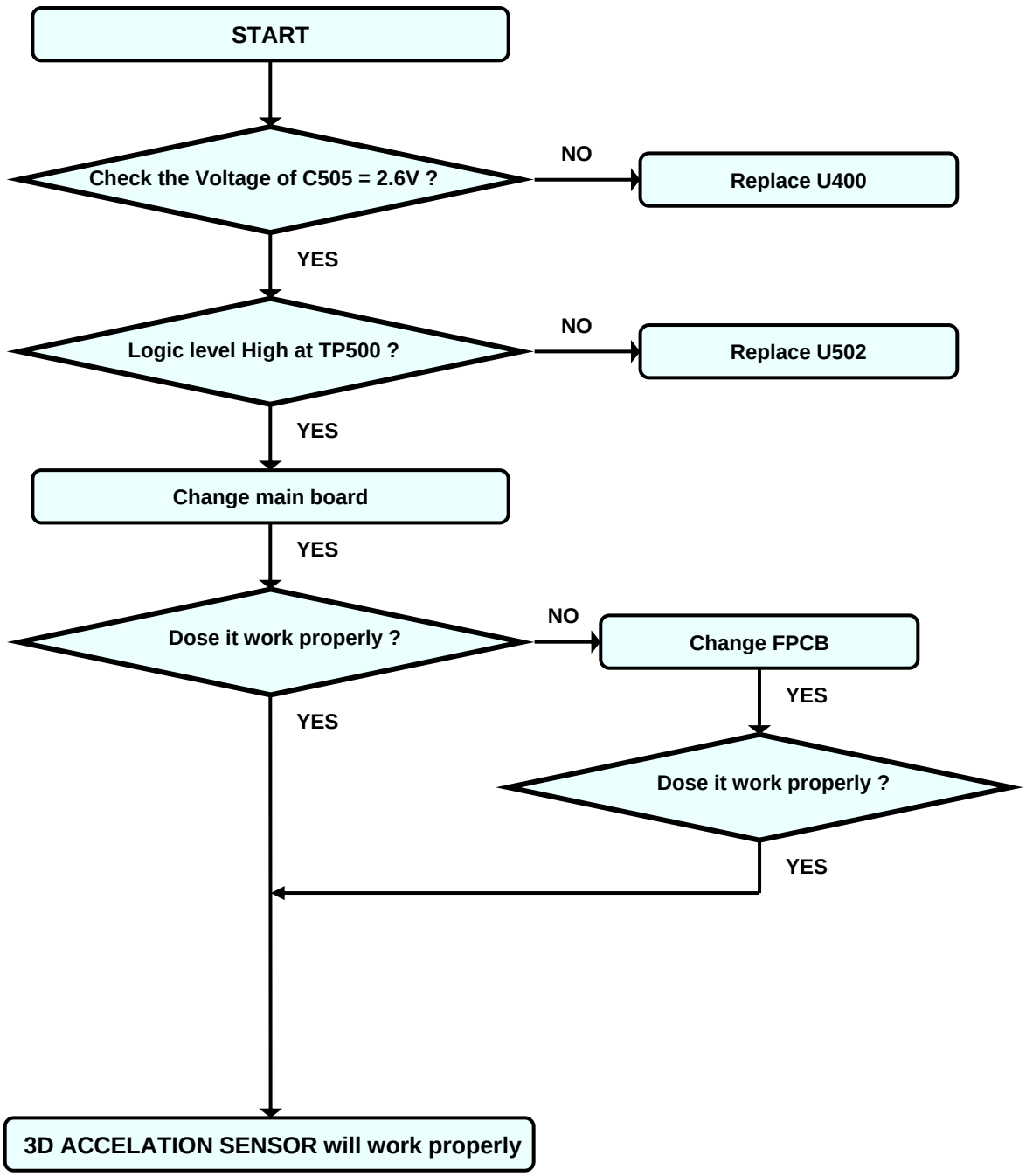
<3D ACCELATION SENSOR>



Test point



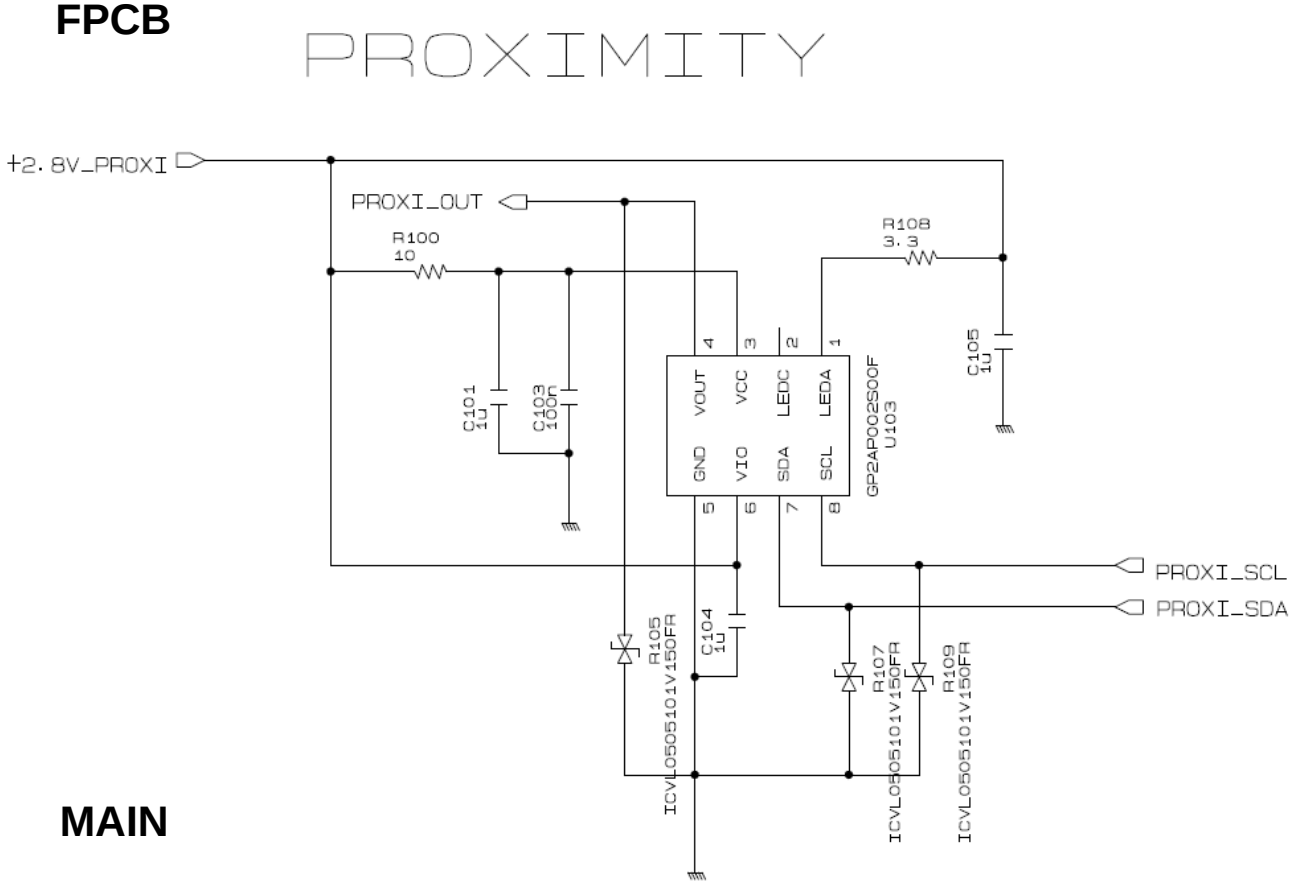
Checking Flow



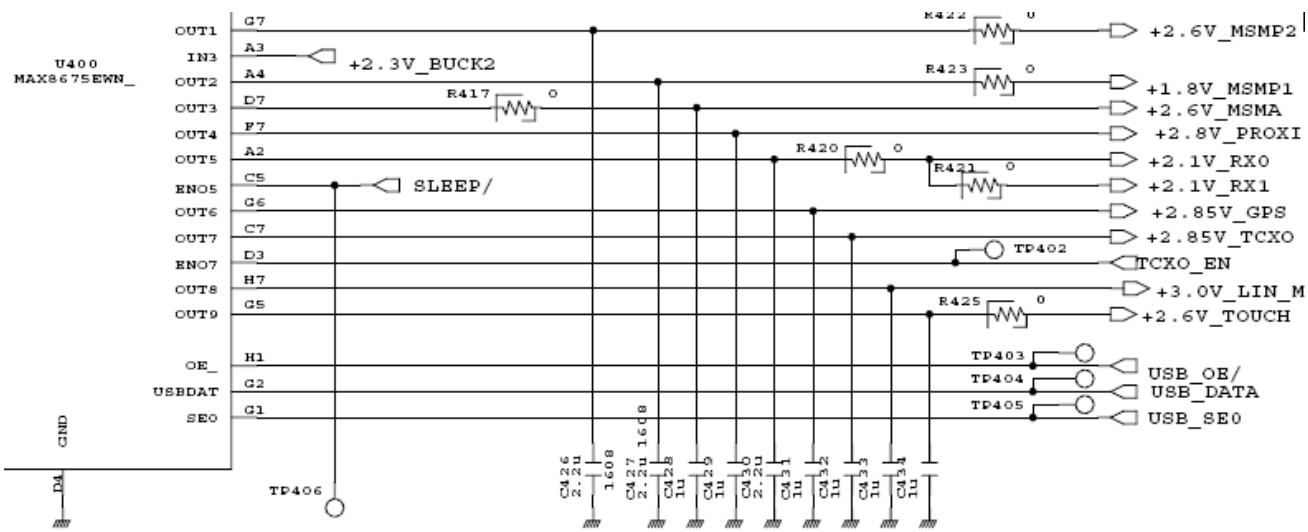
4.3.8 Proximity Sensor

Circuit Diagram

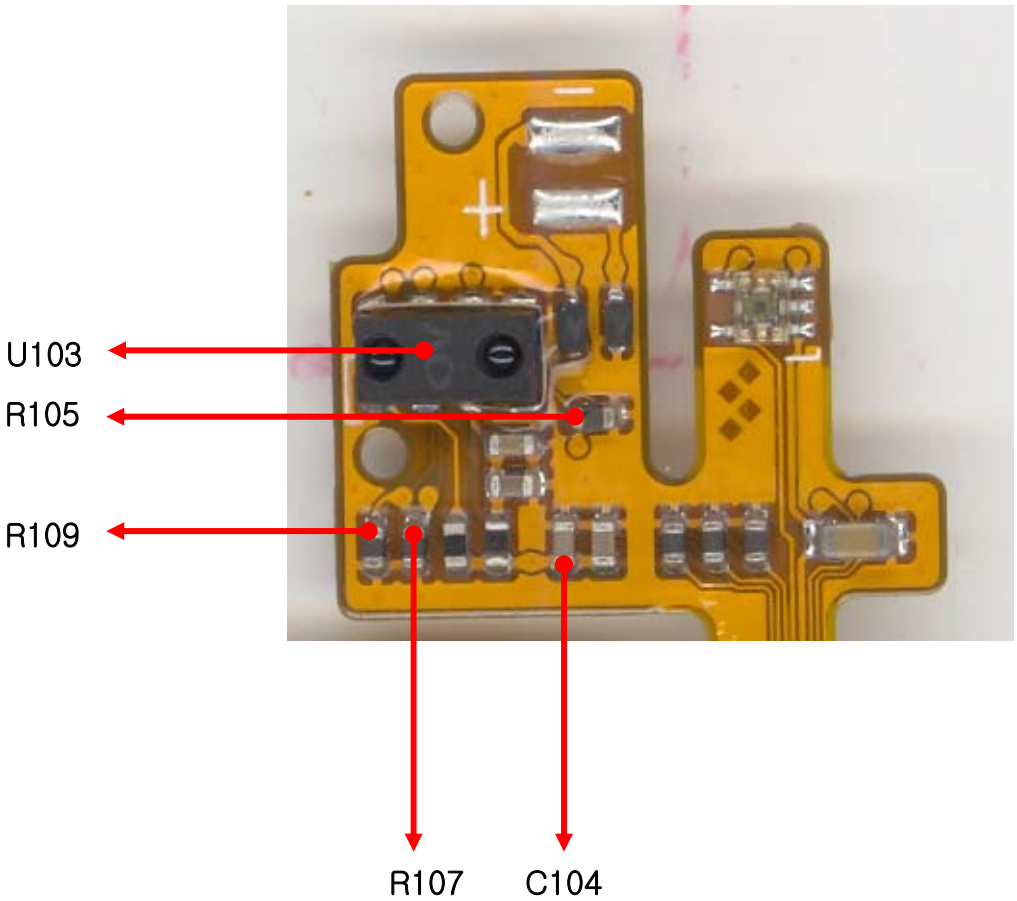
FPCB



MAIN

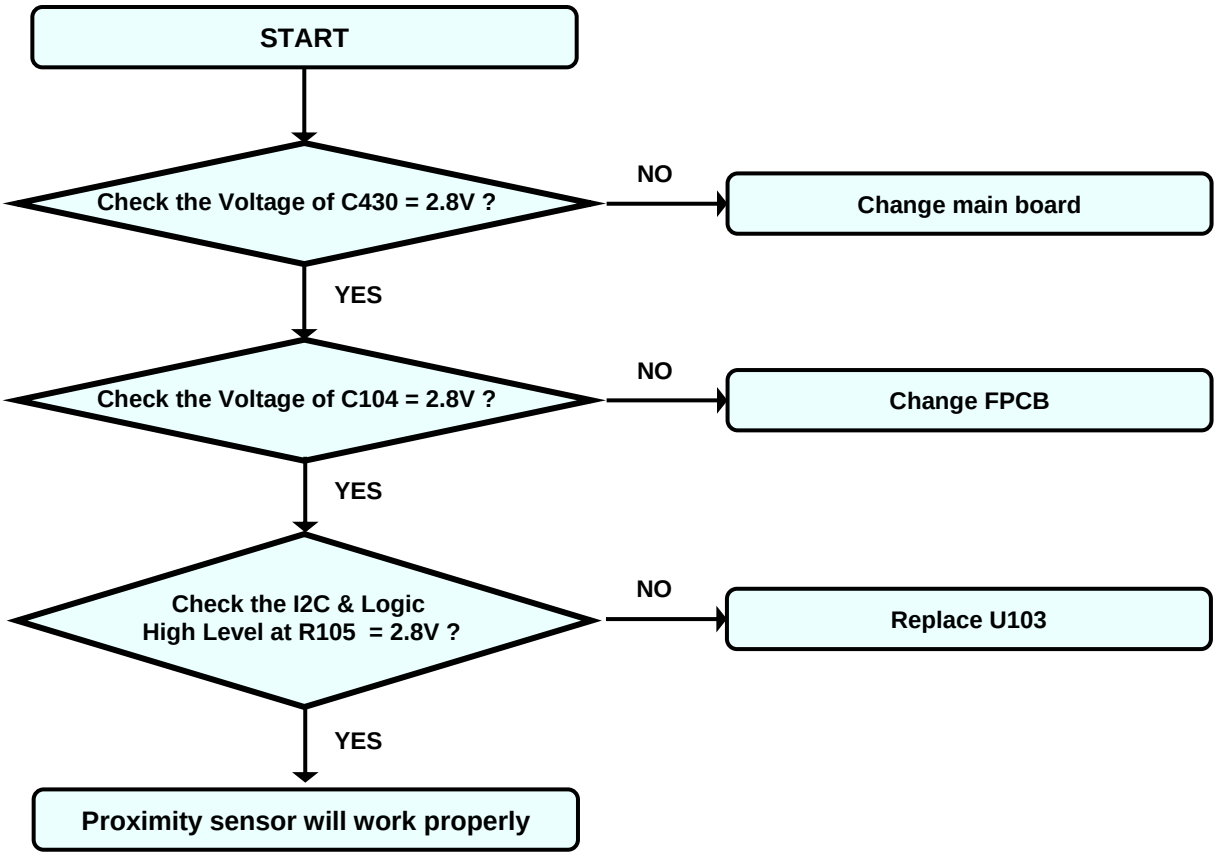


Test point



Checking Flow

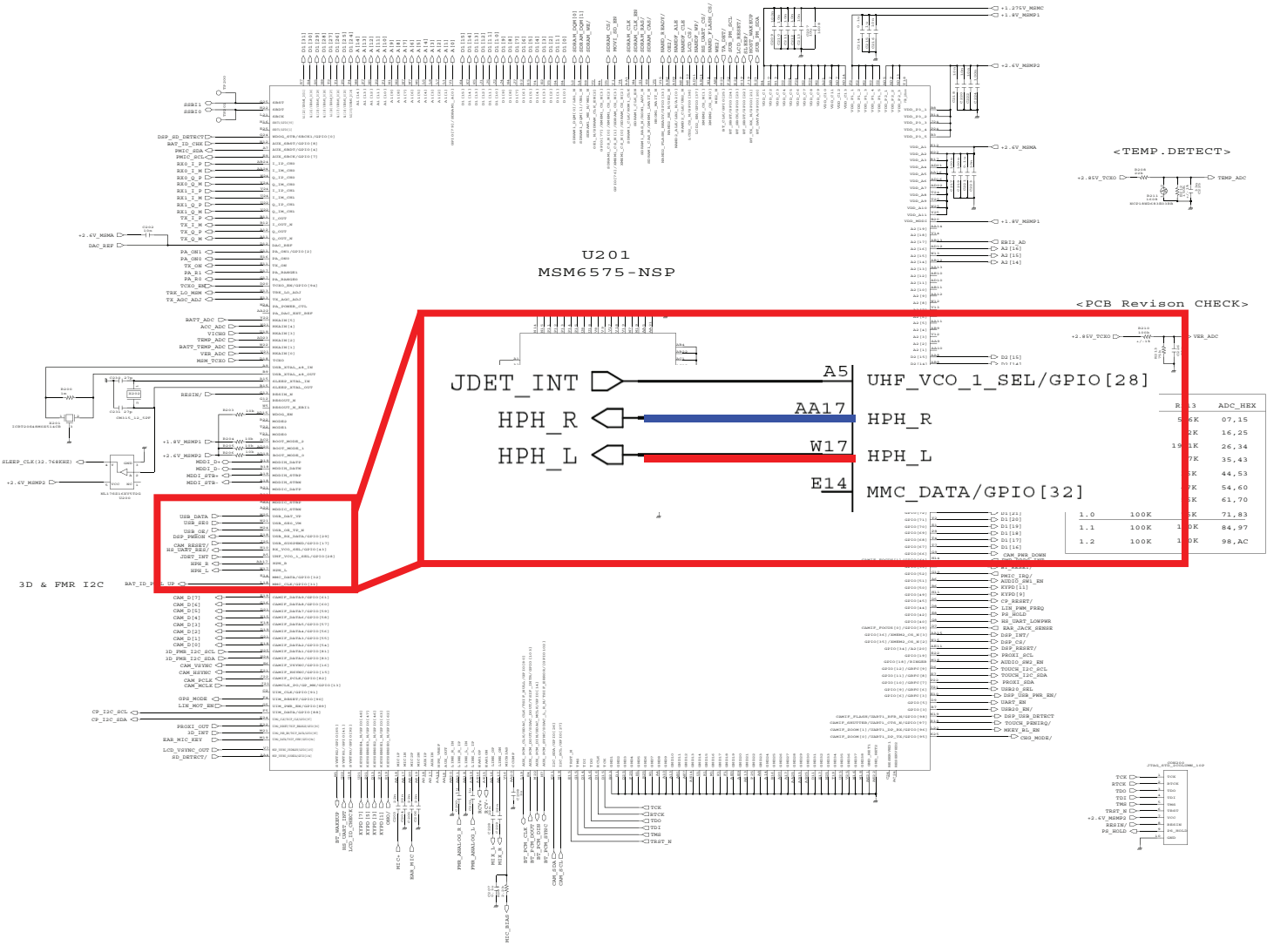
FPCB



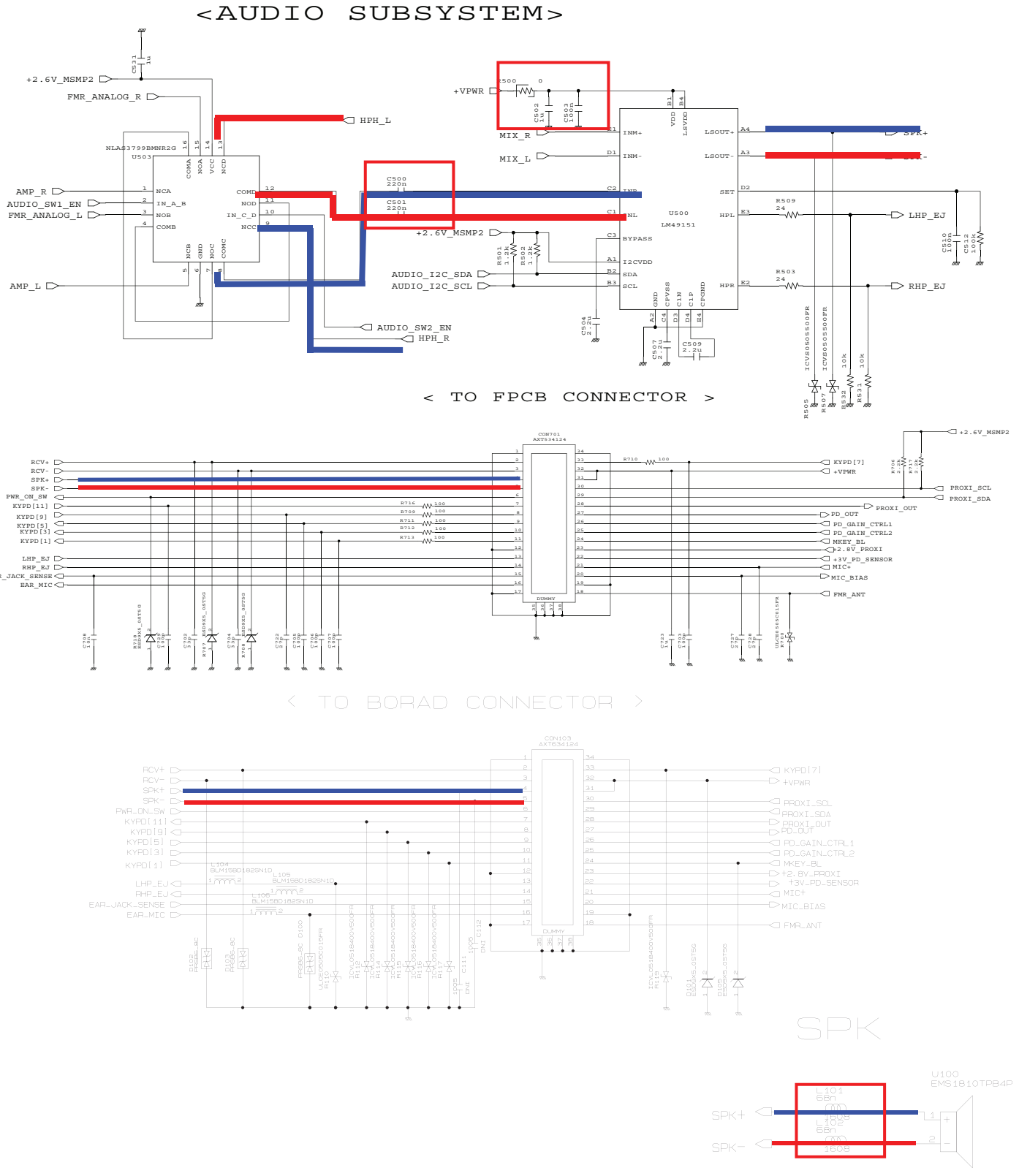
4.3.9 Audio

4.3.9.1 Speaker Trouble

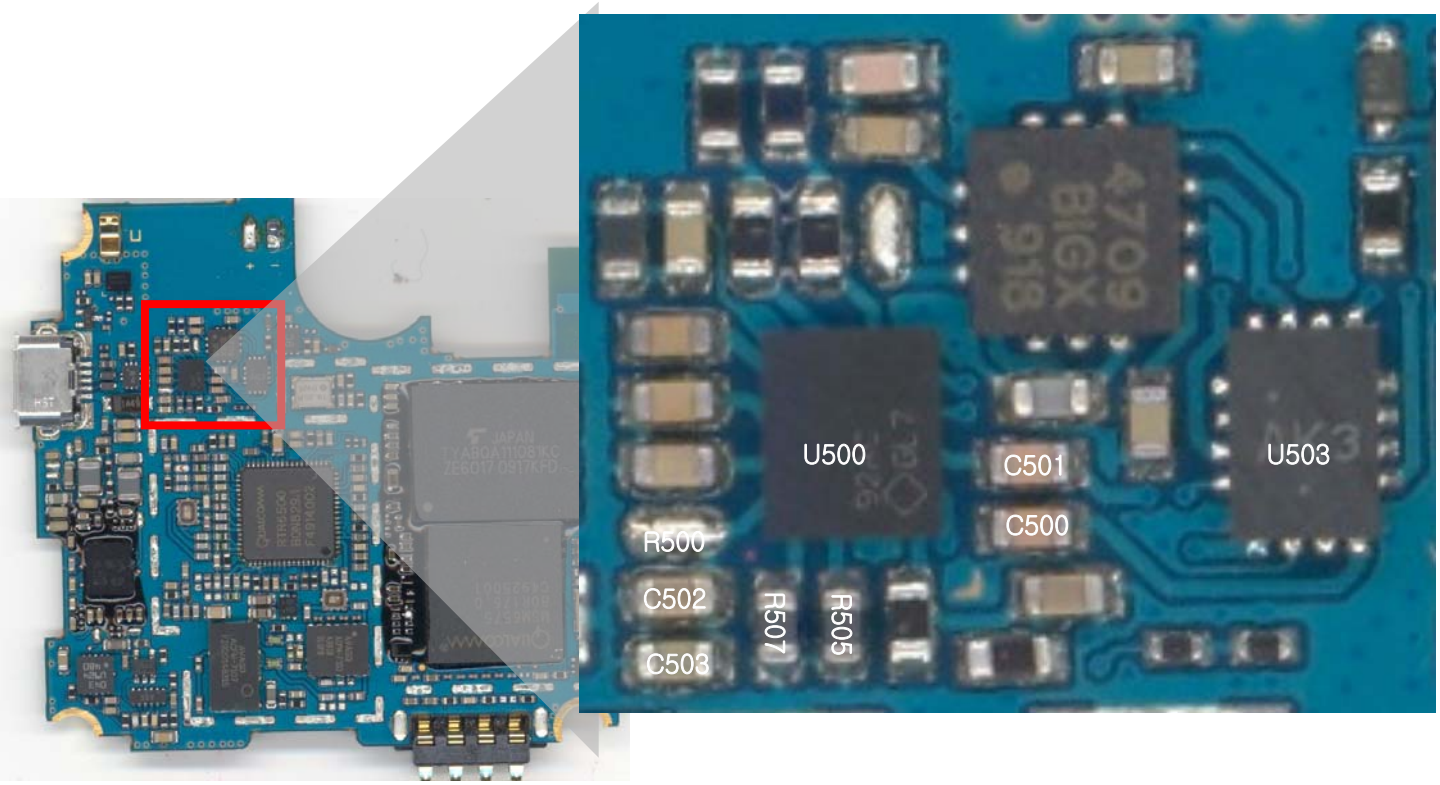
Circuit Diagram



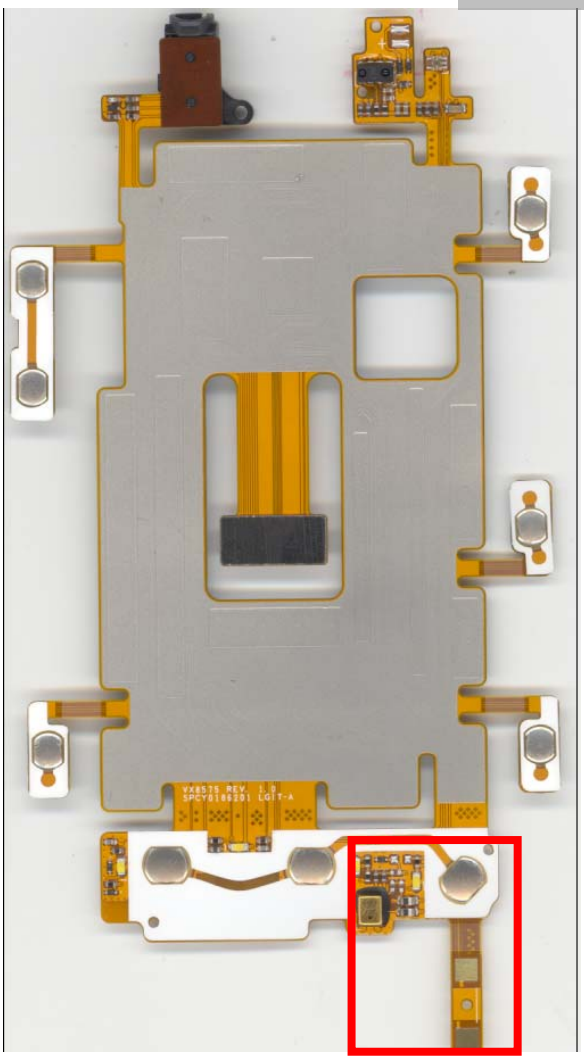
Circuit Diagram

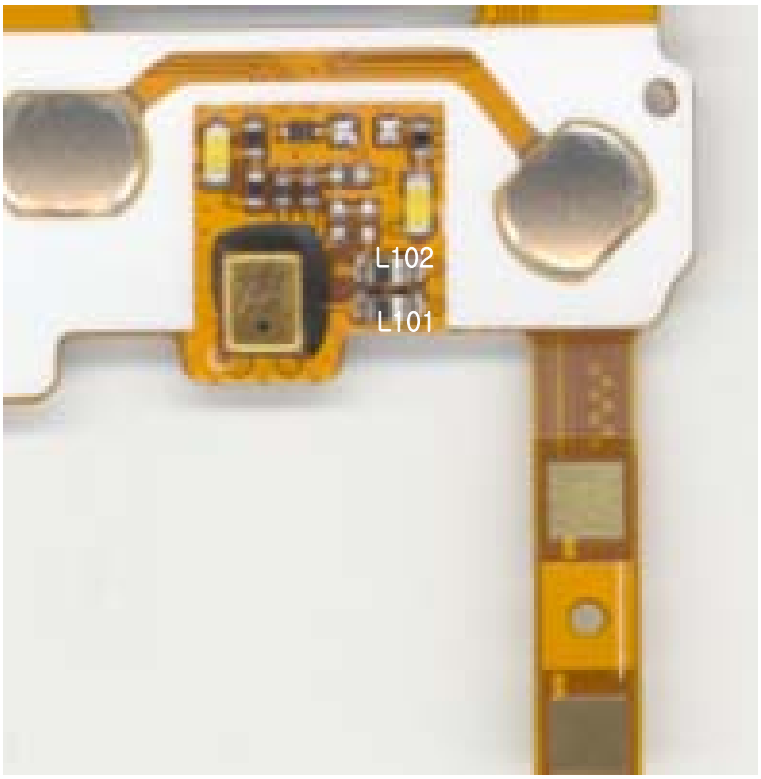


Test point



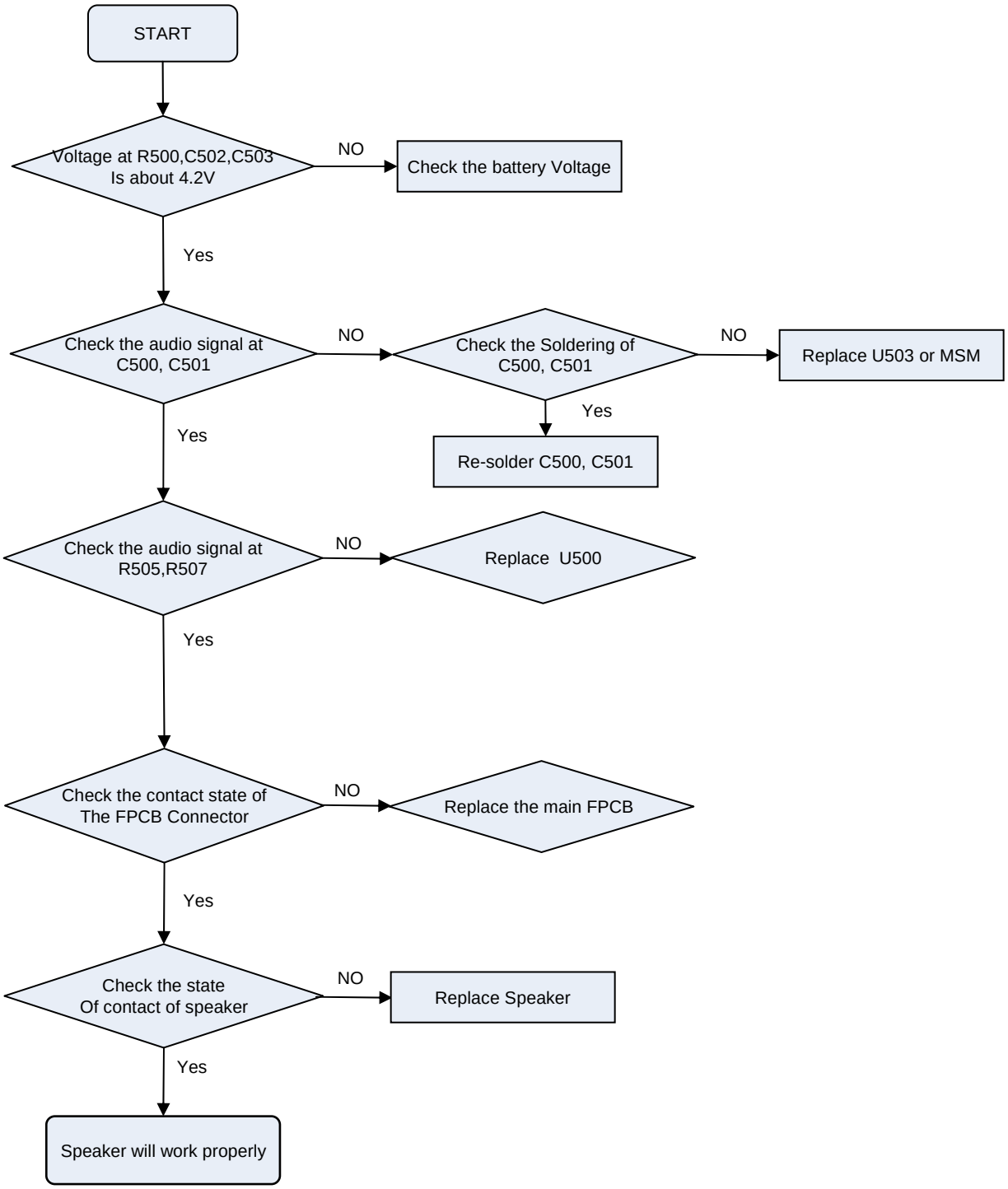
Test point





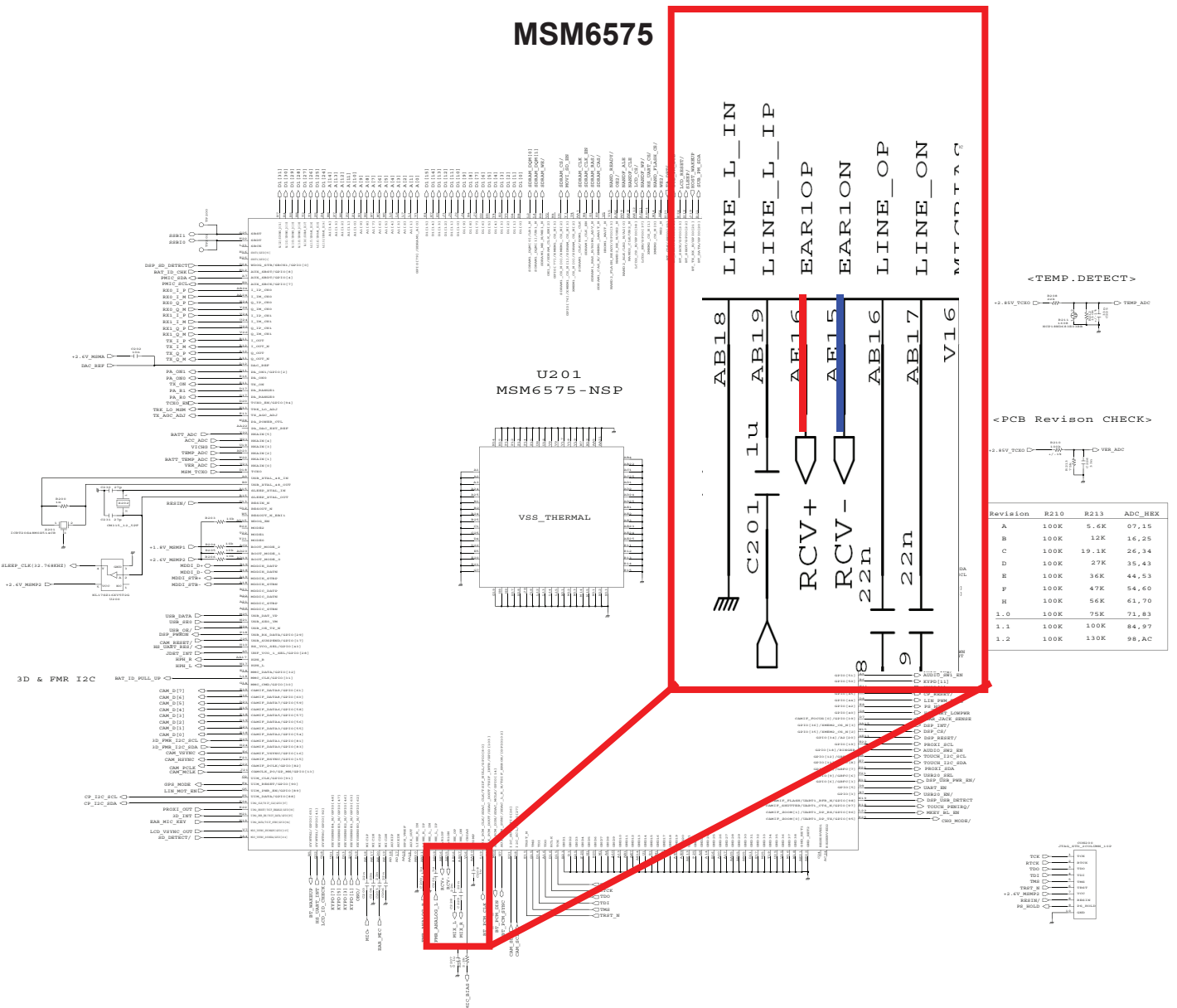
Checking Flow

SETTING : “Melody on” at sounds of test menu.



4.3.9.2 Receiver Trouble

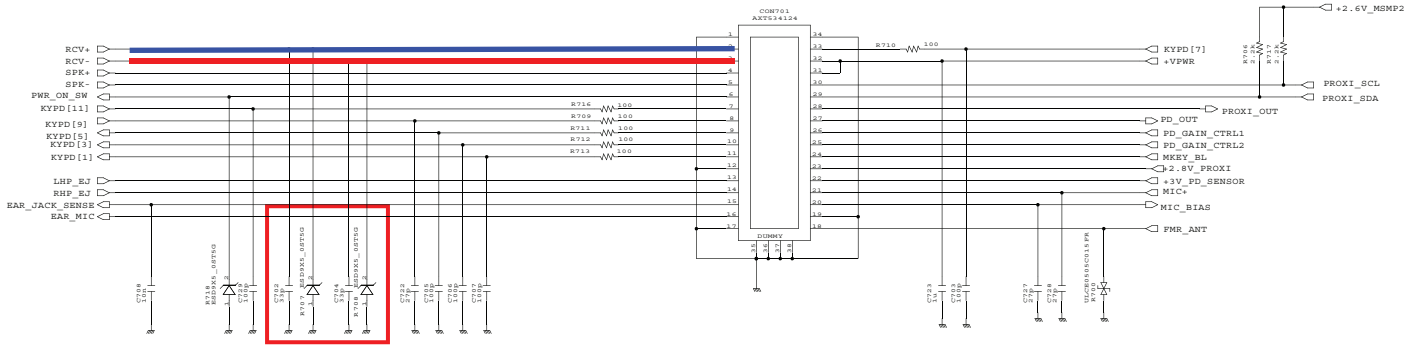
Circuit Diagram



Revision	R210	R213	ADC_HEX
A	100K	5.6K	07,15
B	100K	12K	16,25
C	100K	19.1K	26,34
D	100K	27K	35,43
E	100K	36K	44,53
F	100K	47K	54,60
H	100K	56K	61,70
1.0	100K	75K	71,83
1.1	100K	100K	84,97
1.2	100K	130K	98,AC

Circuit Diagram

< TO FPCB CONNECTOR >



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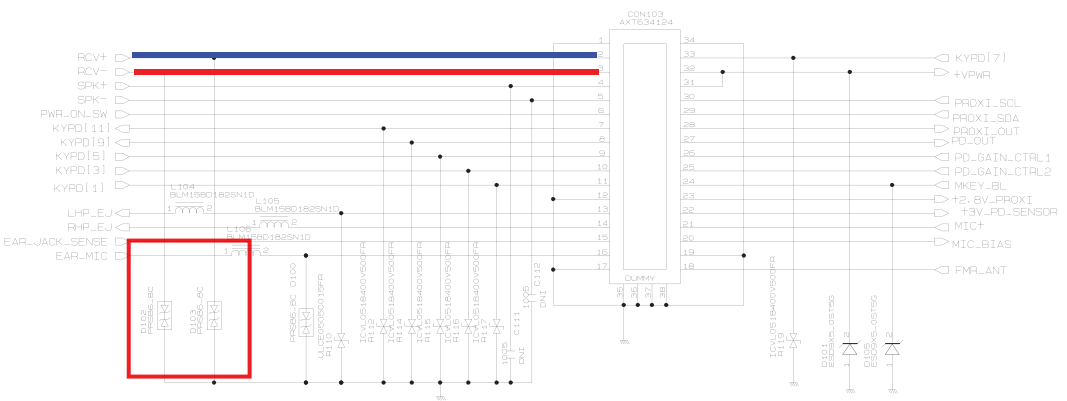
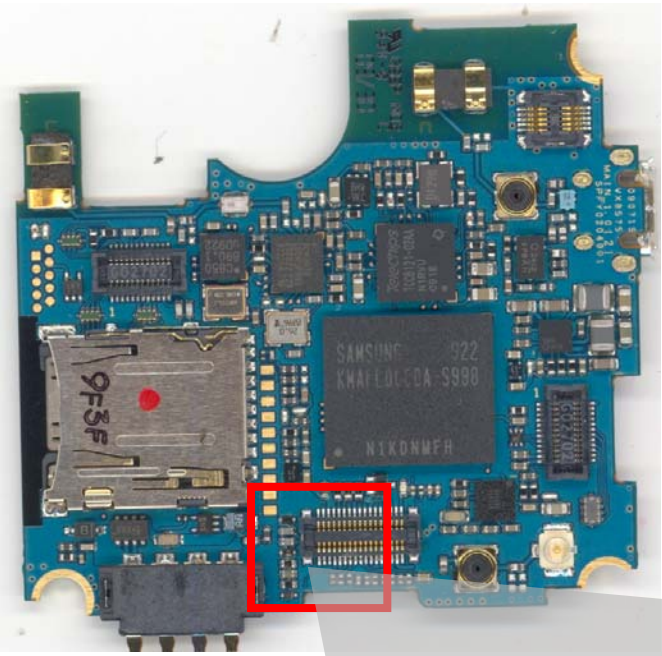
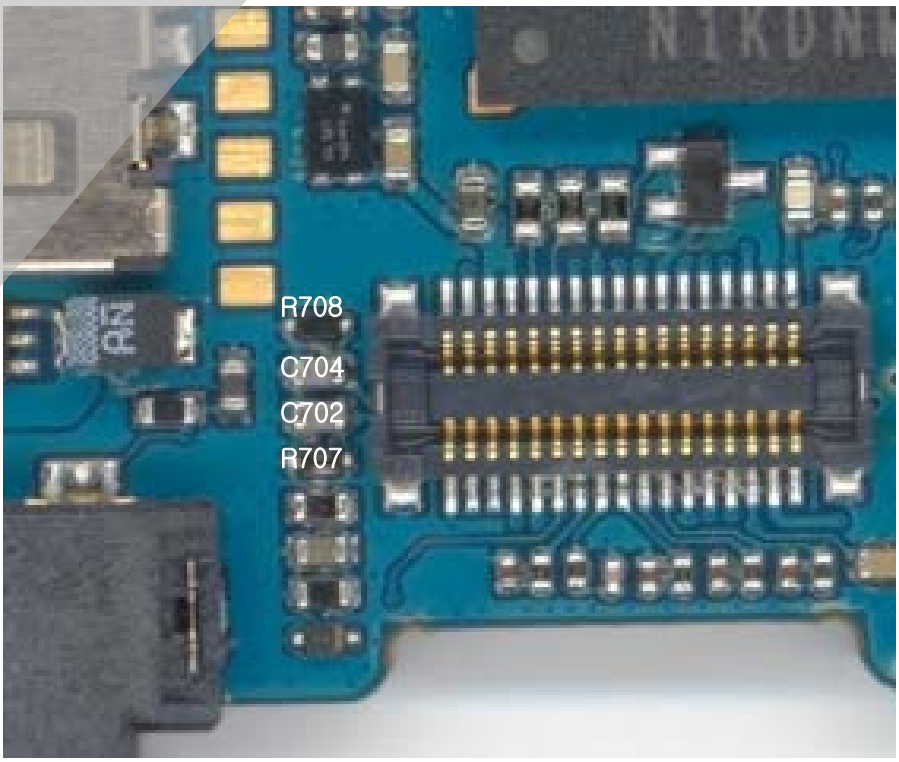


RCV

Test point





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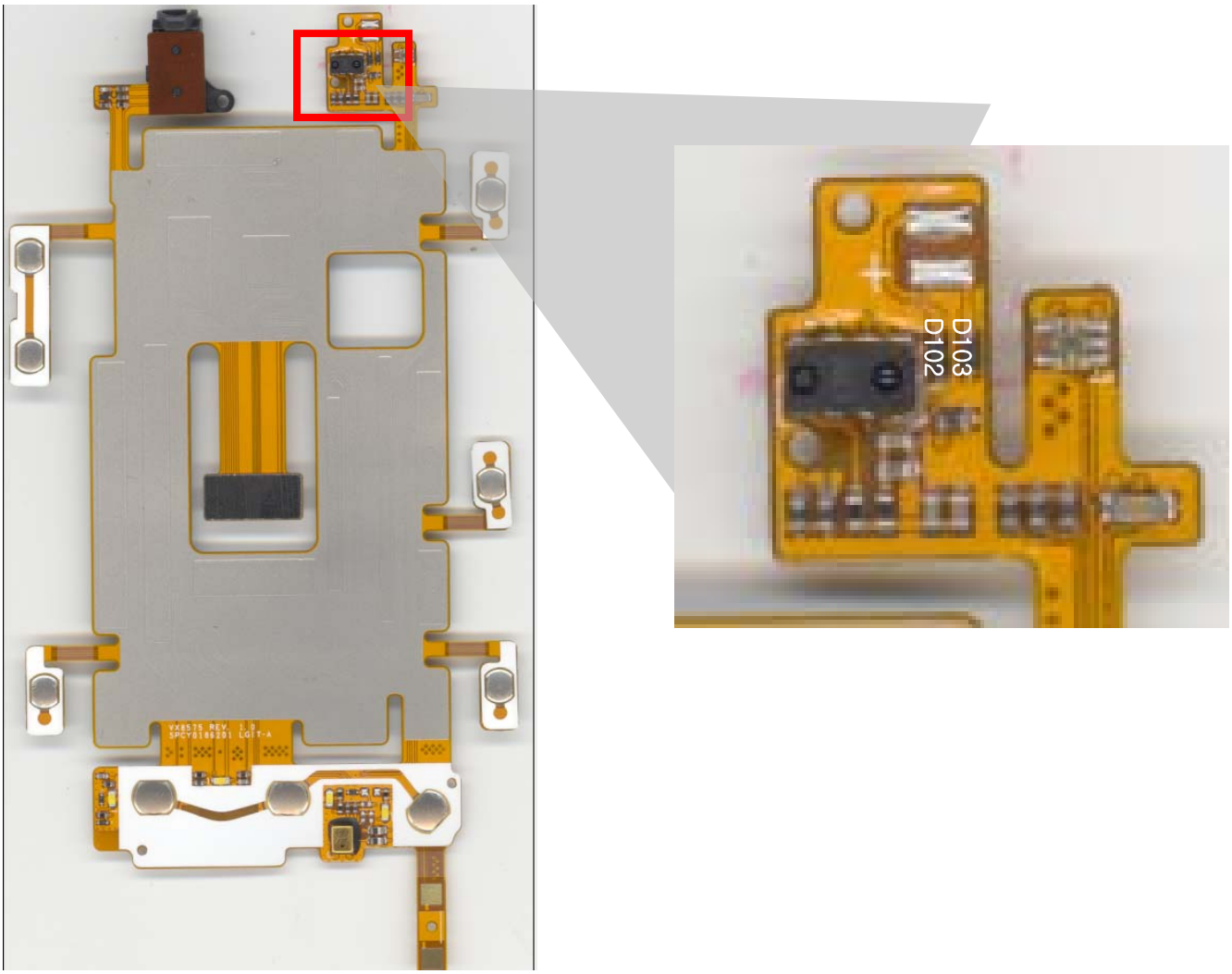
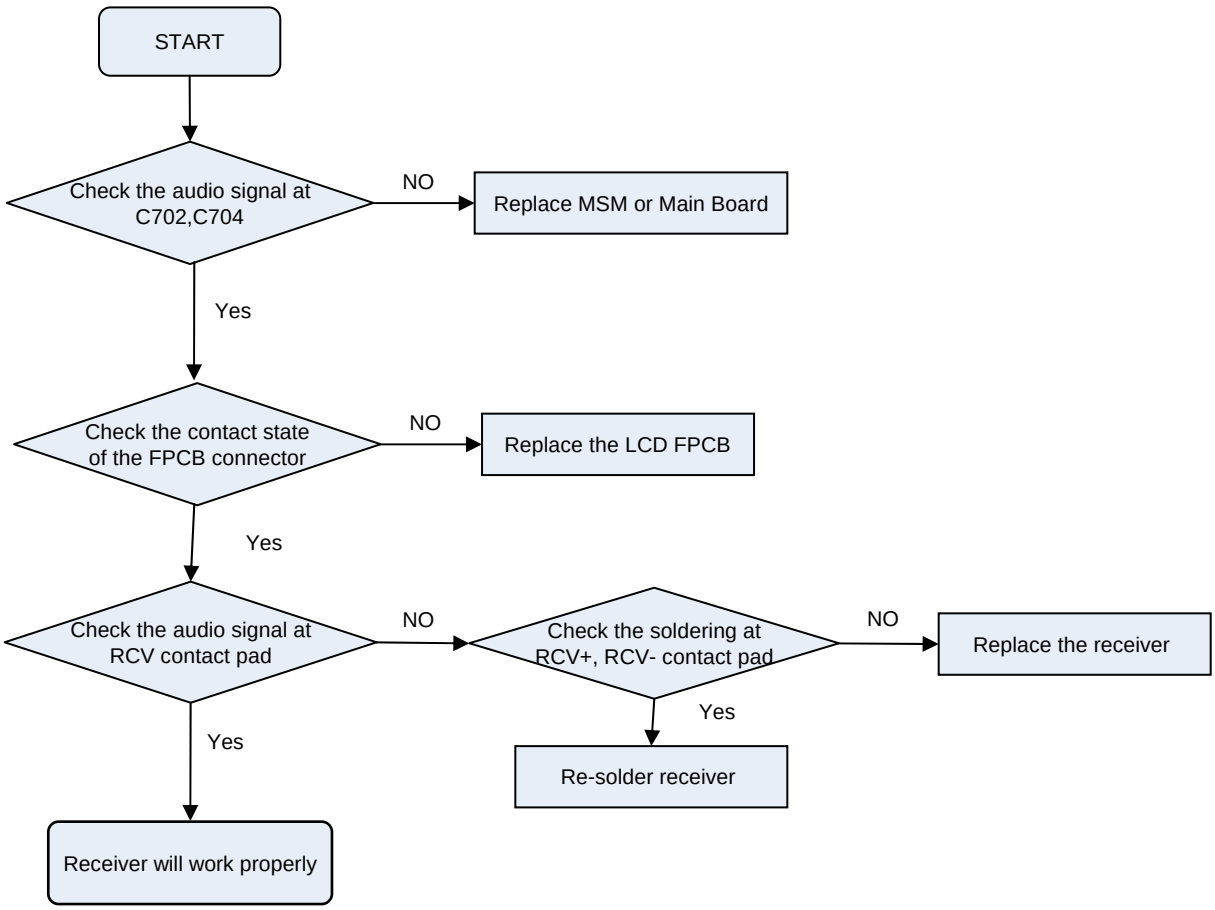
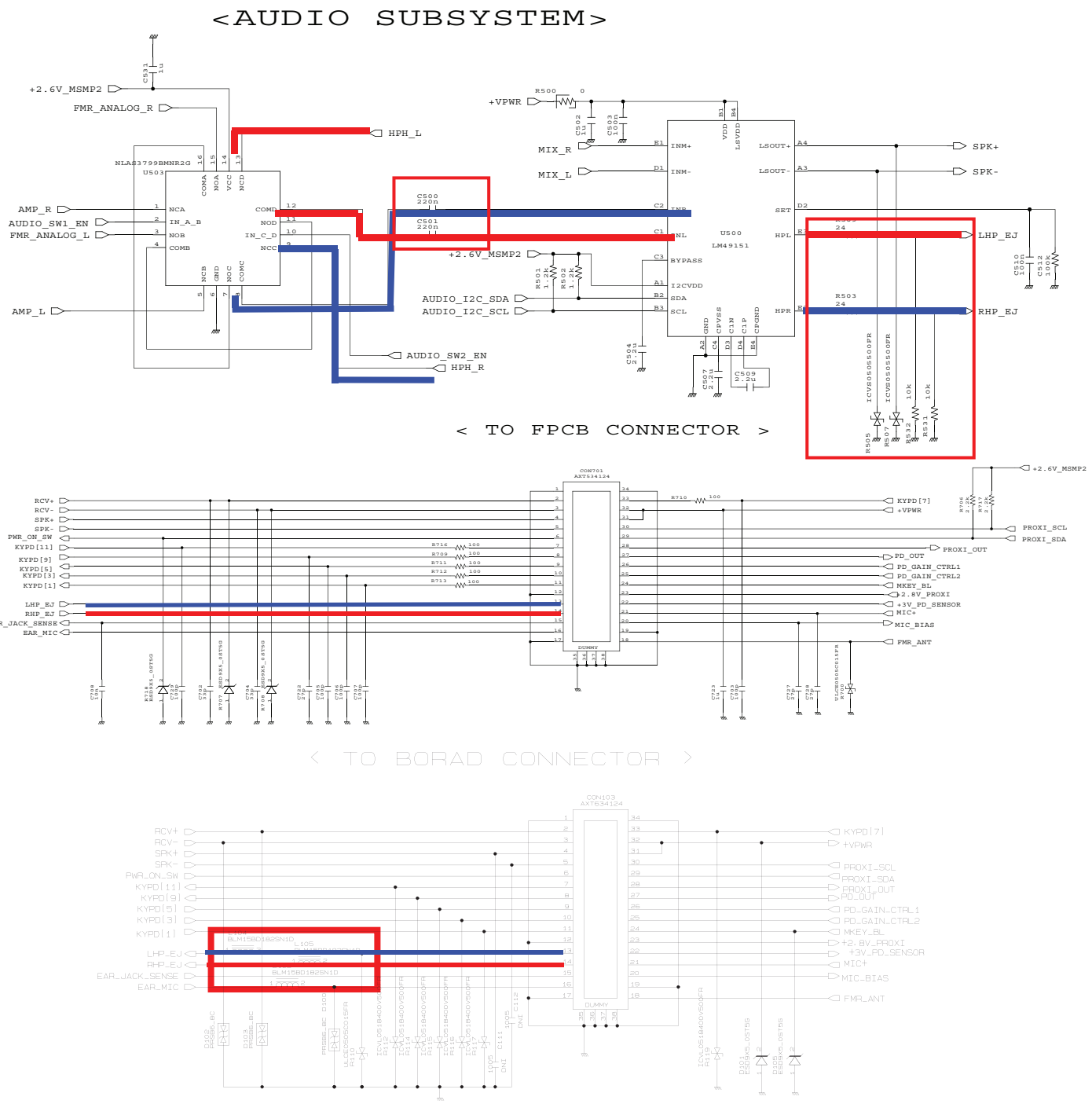


Checking Flow



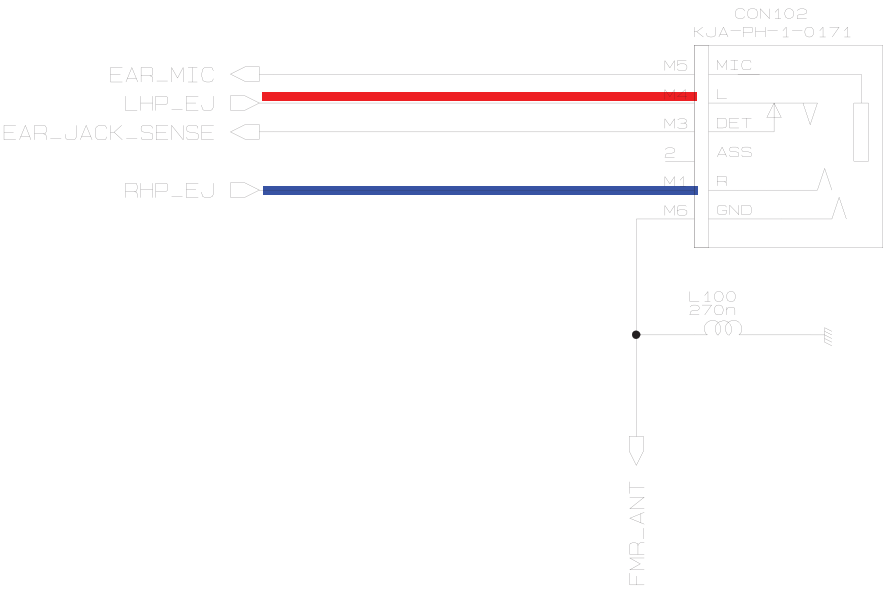
4.3.9.3 Headset Trouble

Circuit Diagram



Circuit Diagram

< 3.5 Pi EAR JACK>



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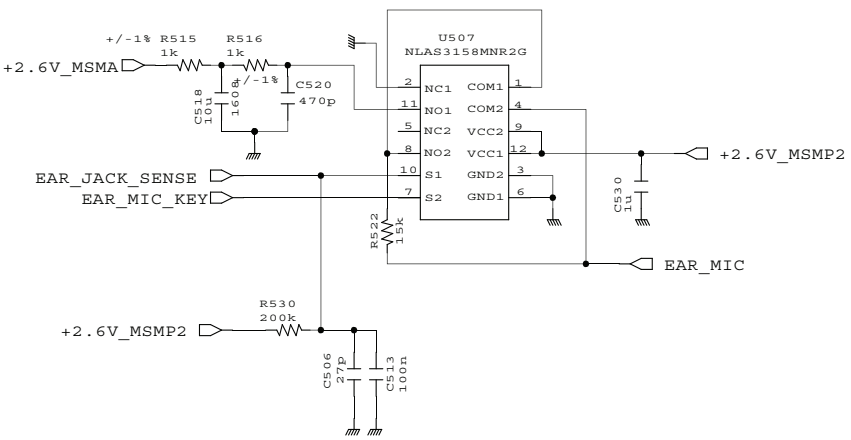
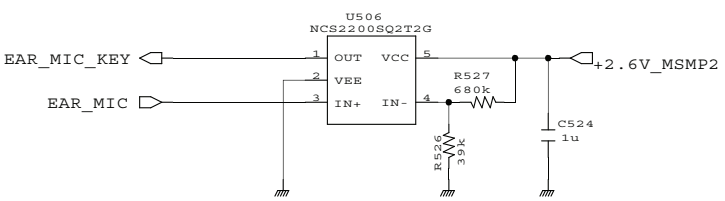


3/4POLE DETECT



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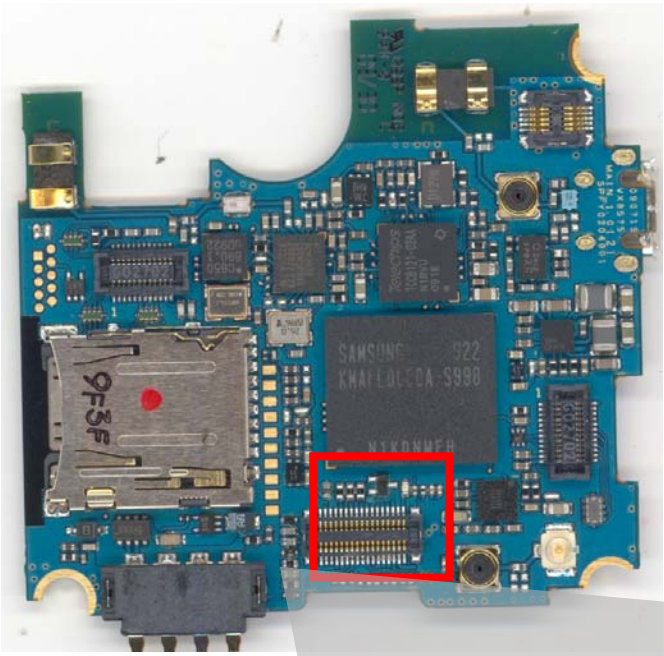
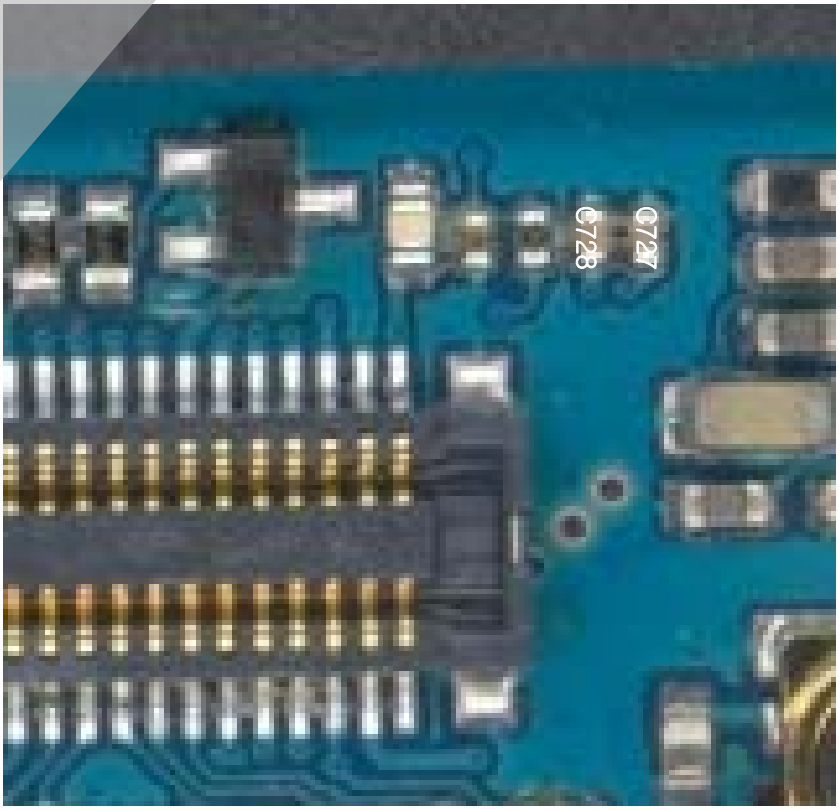
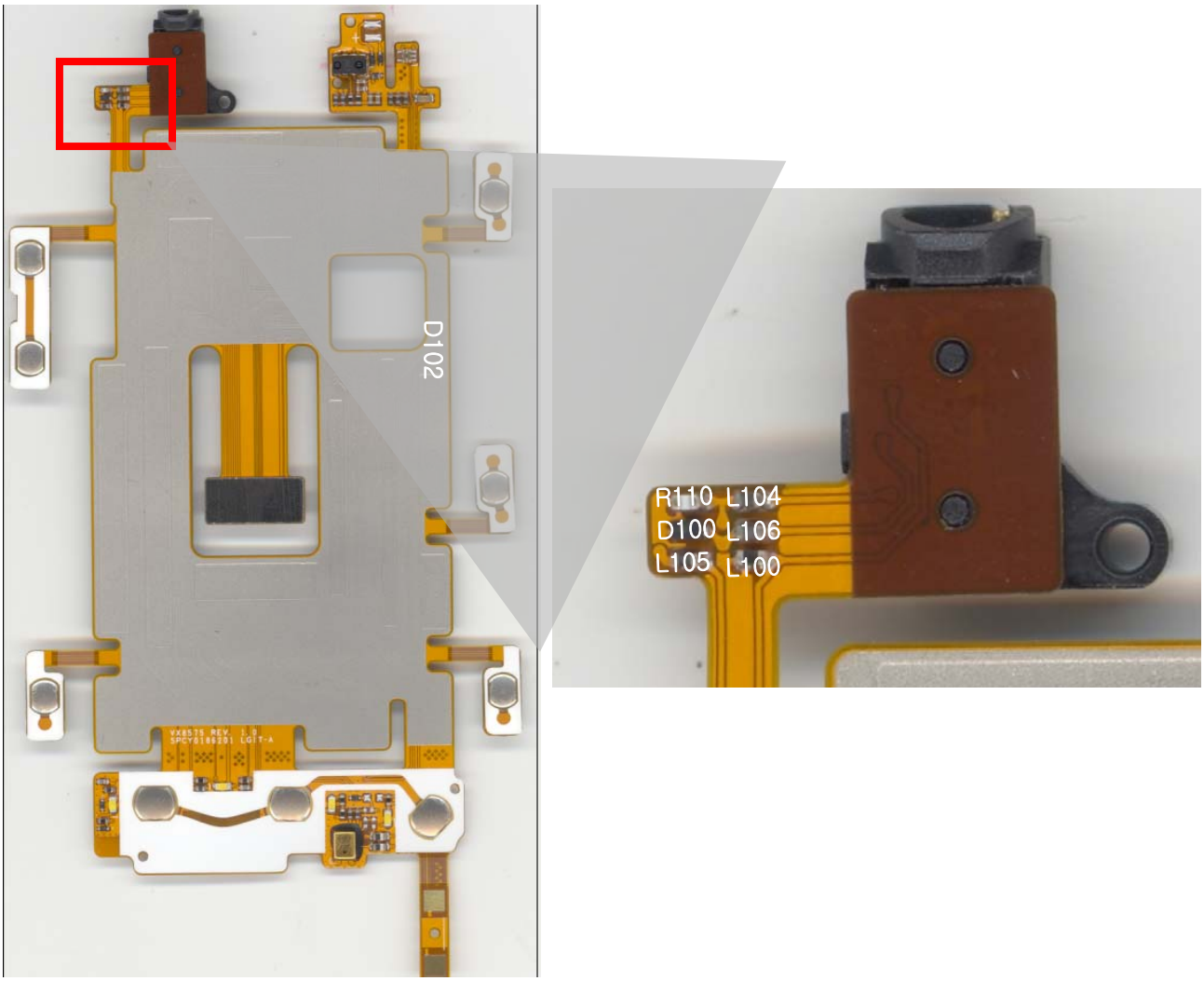
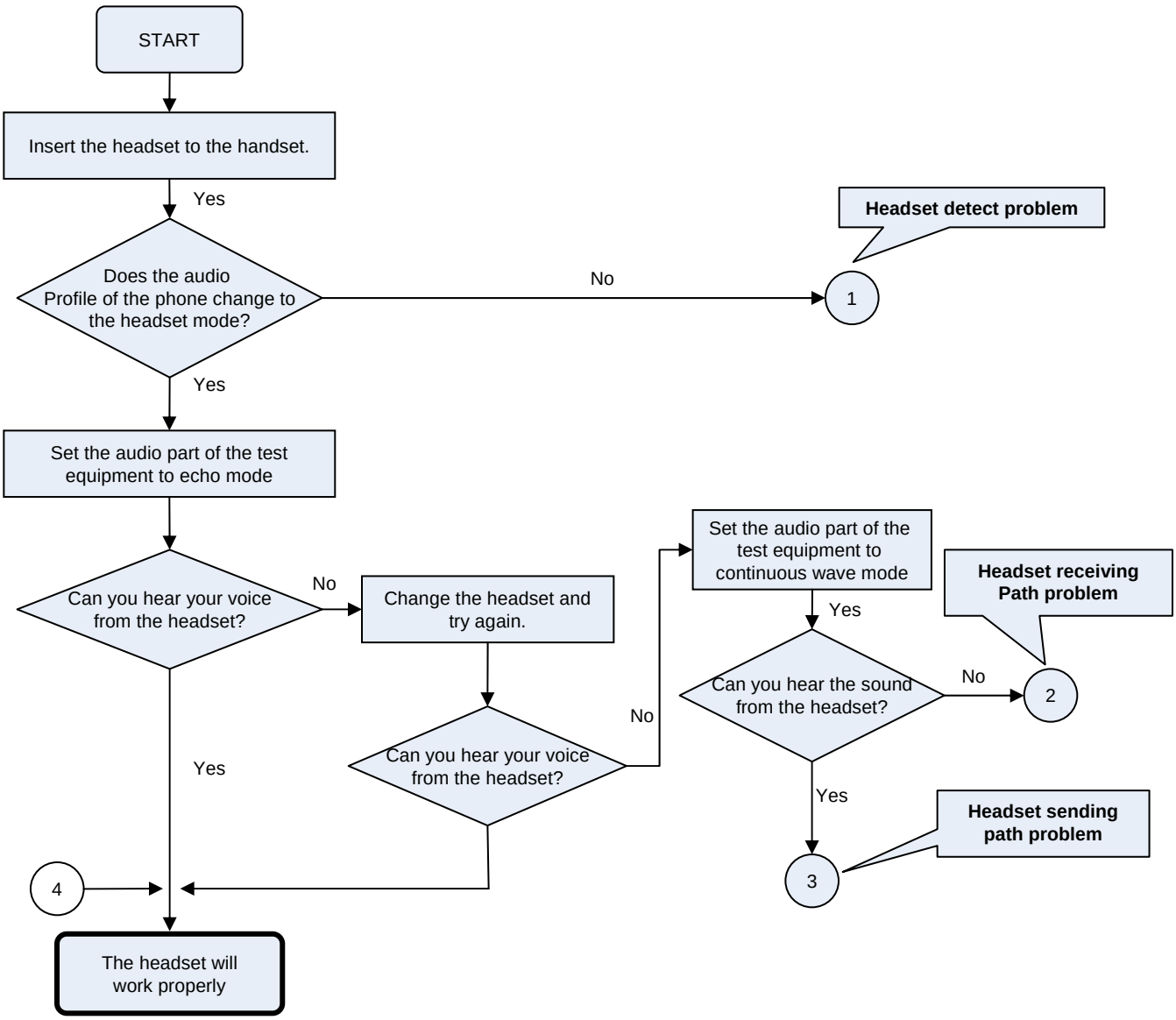




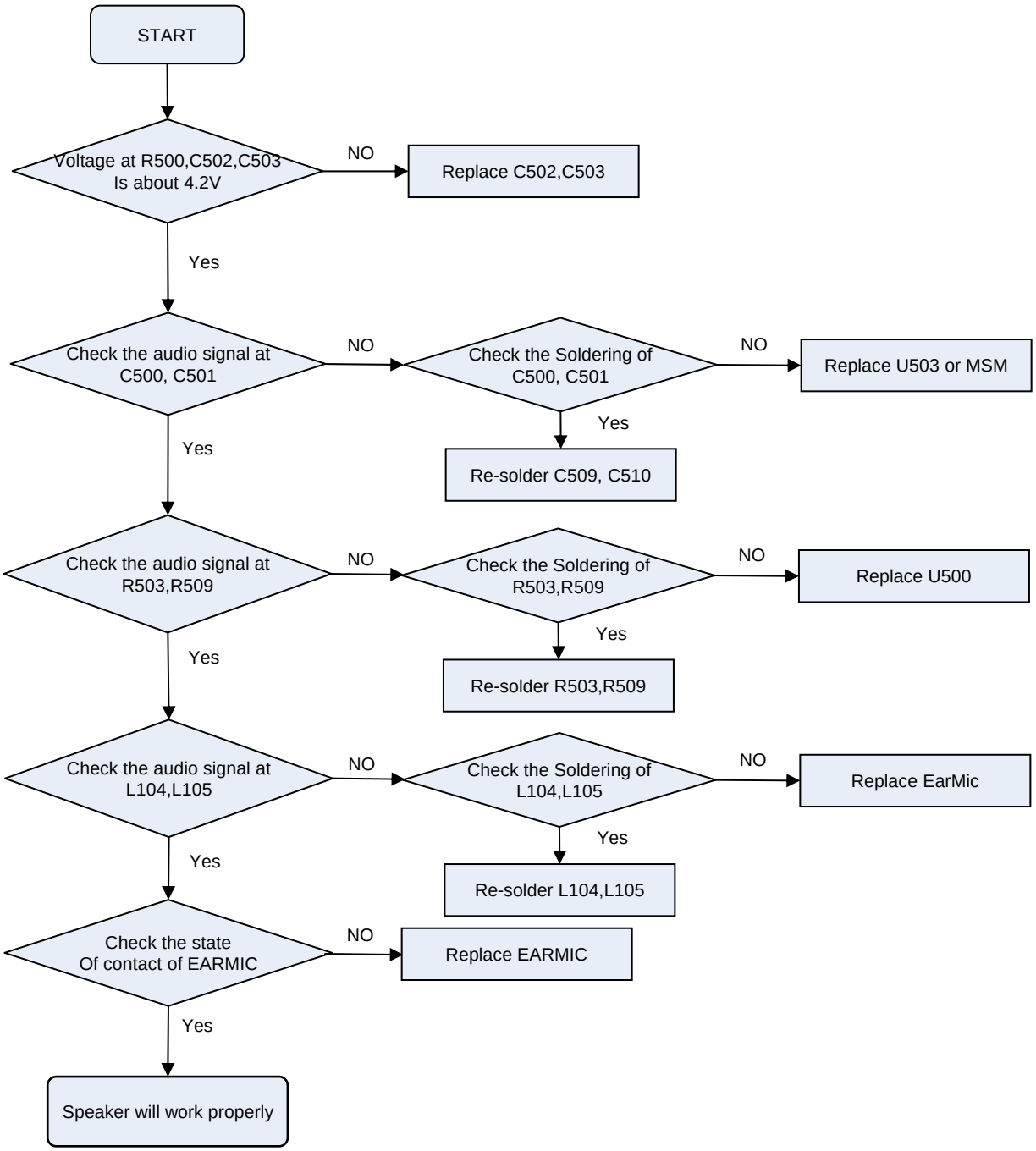
Test point



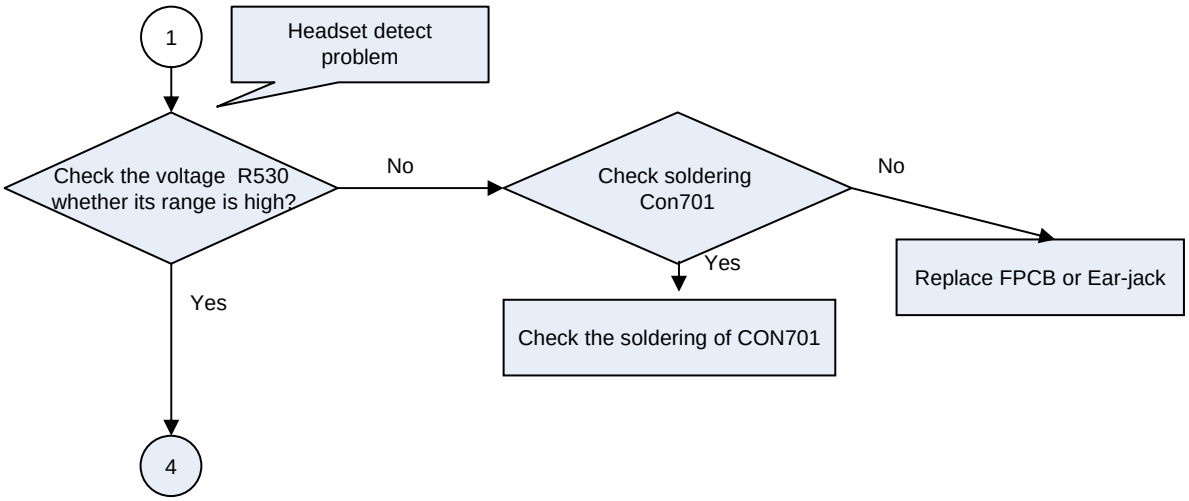
Checking Flow



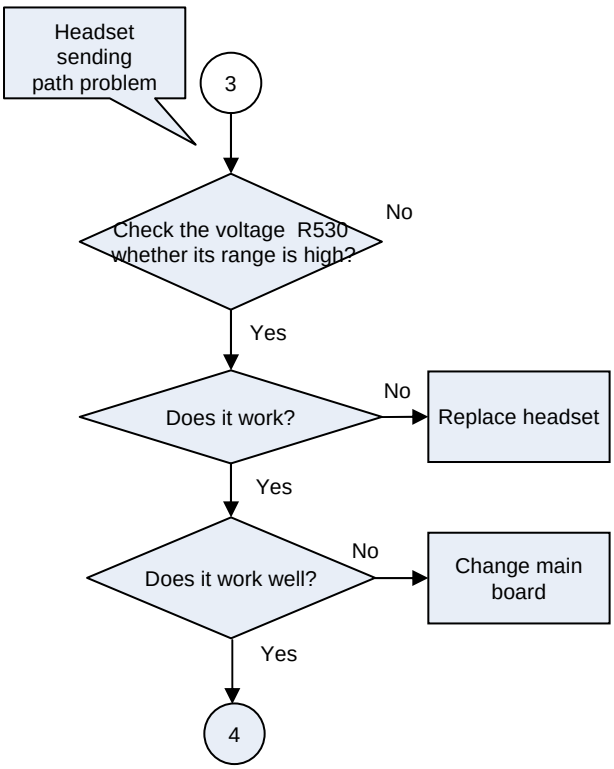
Headset receiving path problem



Headset detect problem

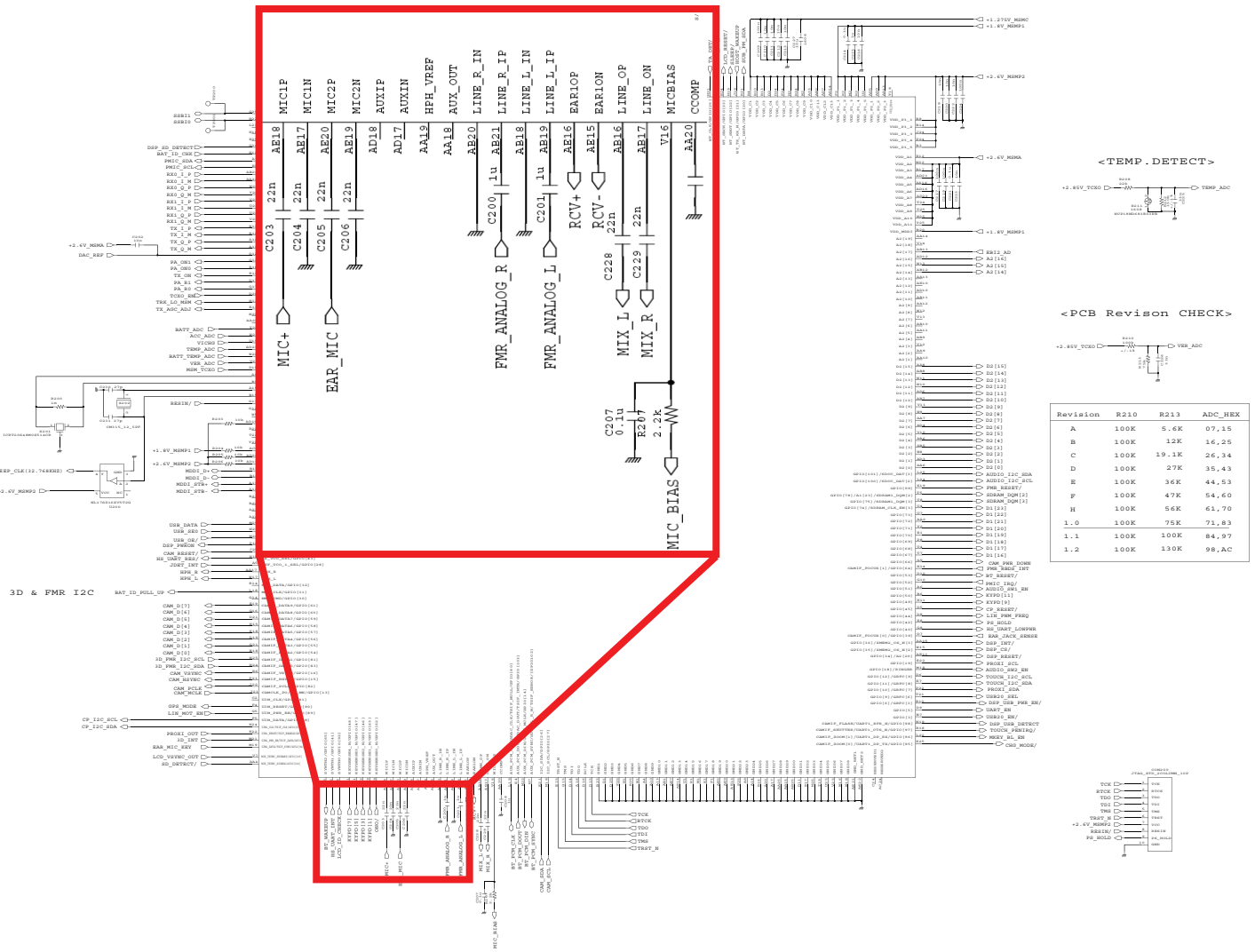


Headset sending path problem



4.3.9.4 Mic Trouble

Circuit Diagram



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D	100K	27K	35,43
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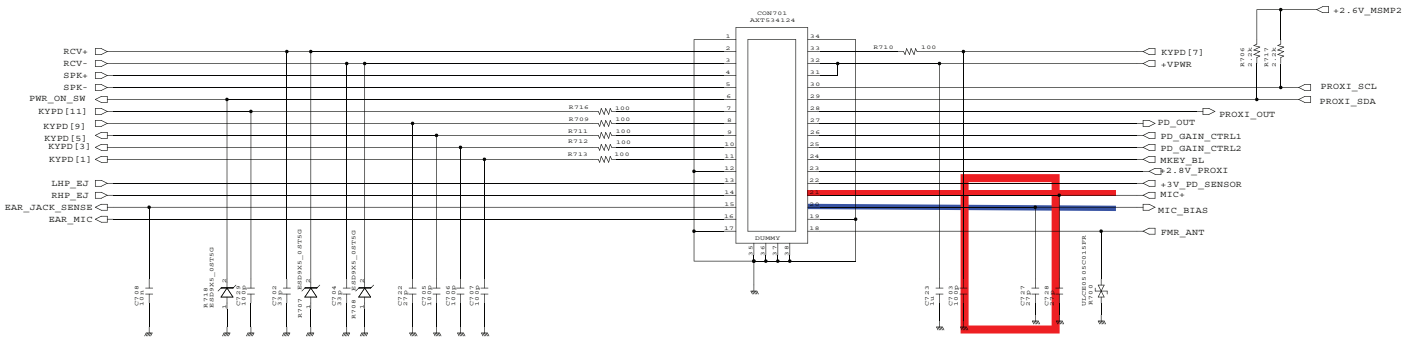
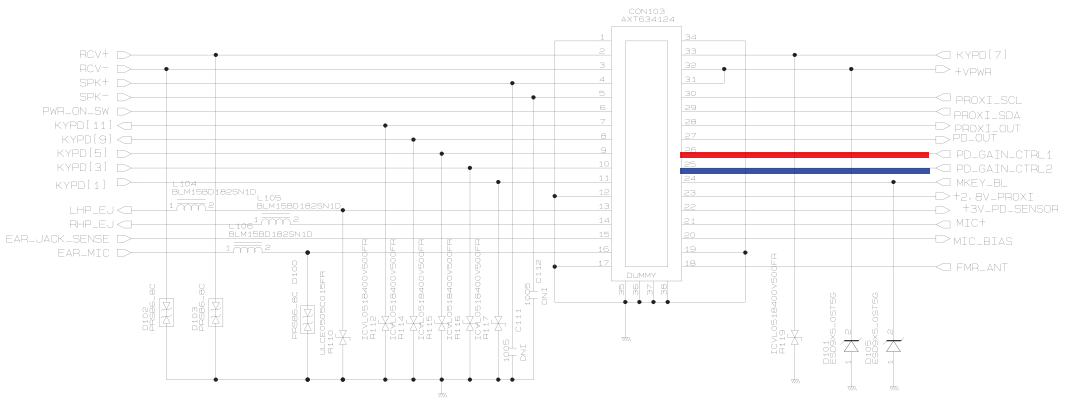
F	100K	47K	54,60
H	100K	56K	61,70
1.0	100K	75K	71,83
1.1	100K	100K	84,97
1.2	100K	130K	98,AC

Circuit Diagram

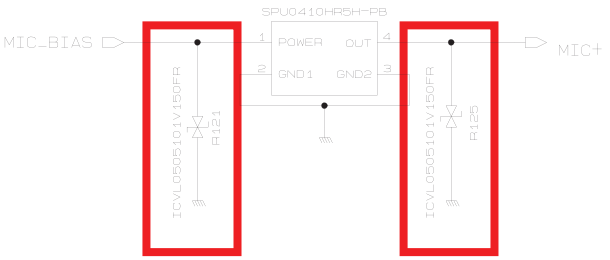
< TO FPCB CONNECTOR >



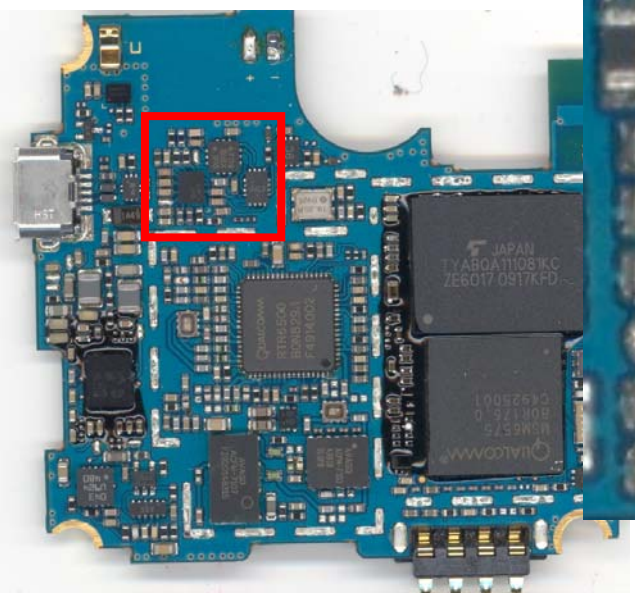
< TO BORAD CONNECTOR >

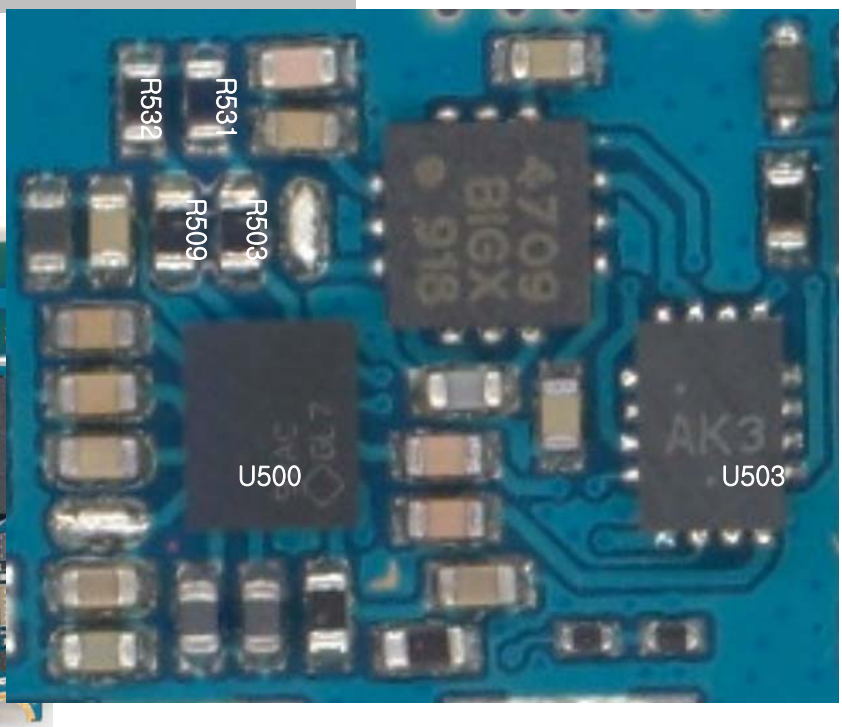


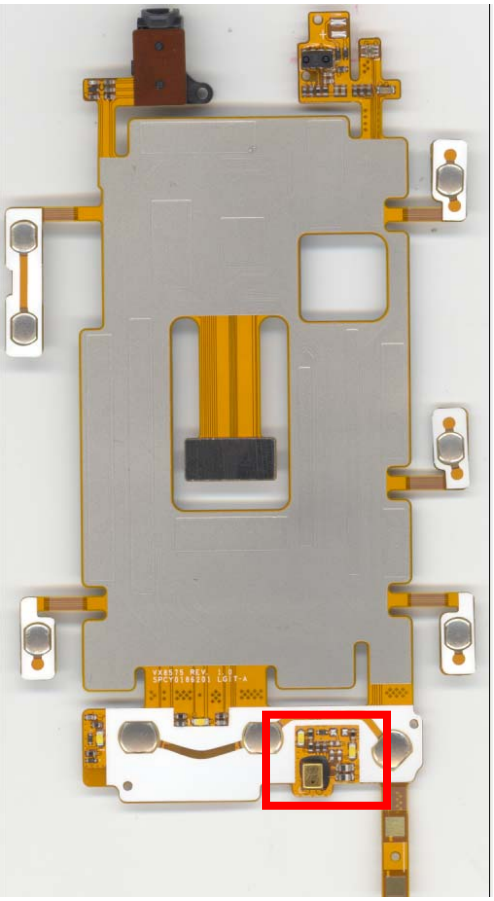
MIC

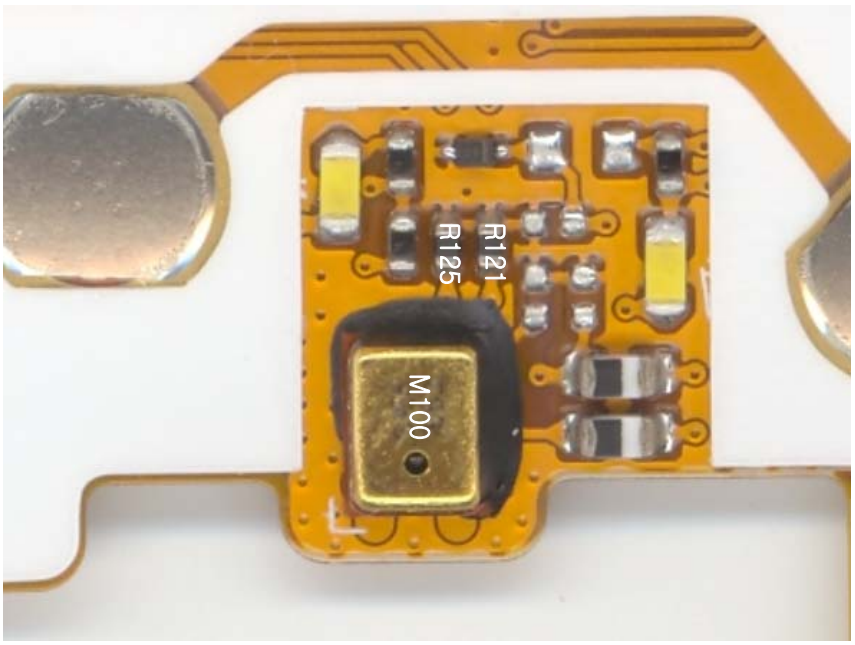


Circuit Diagram

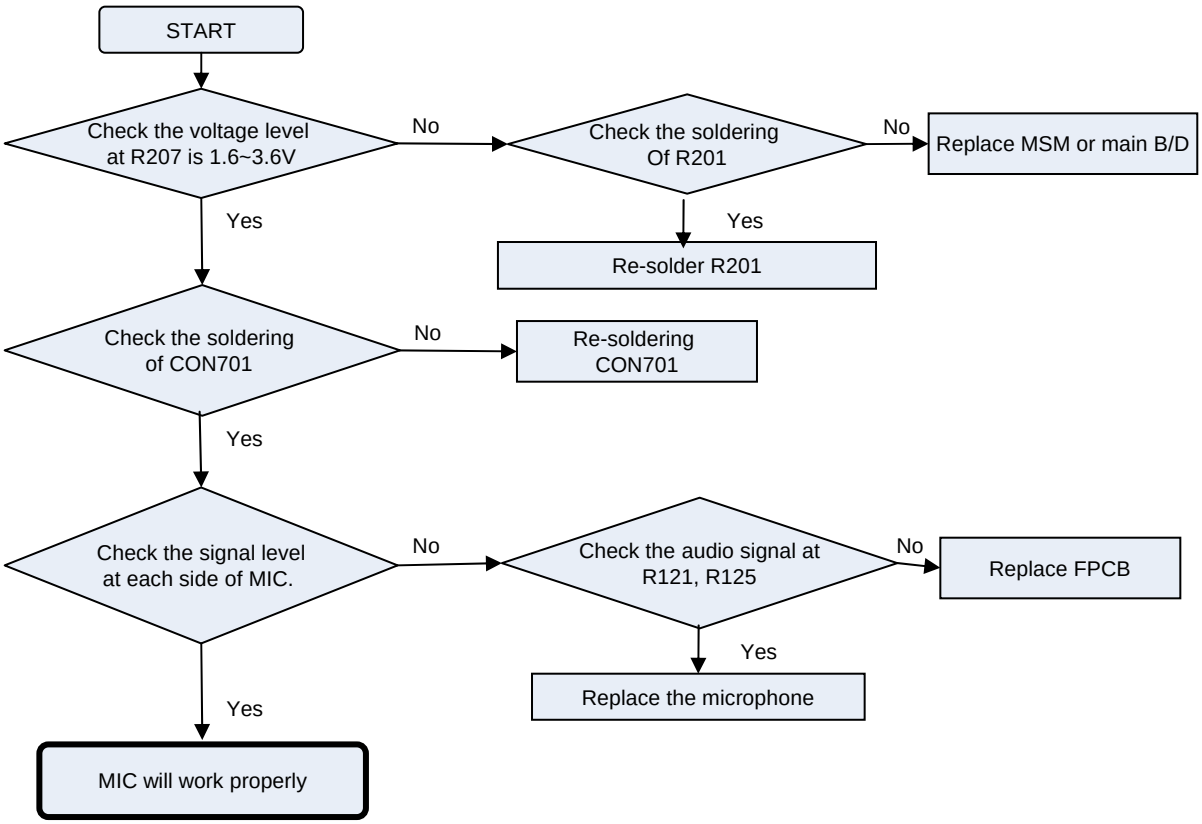






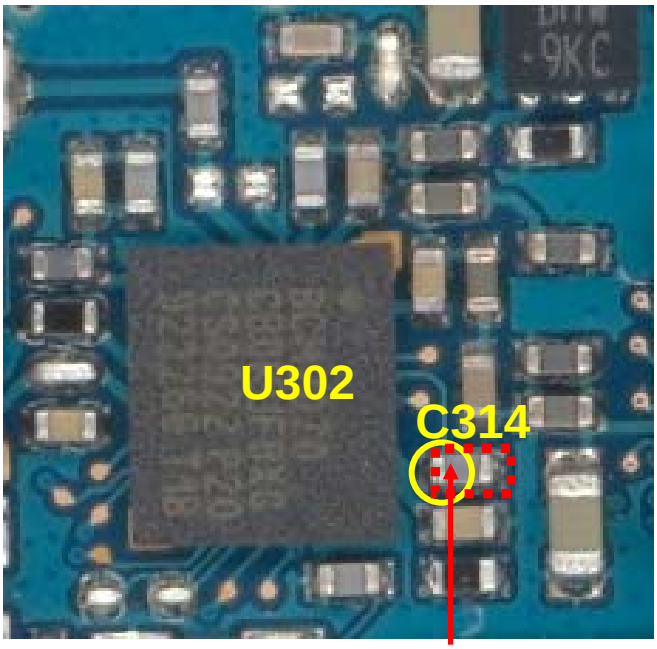


Checking Flow



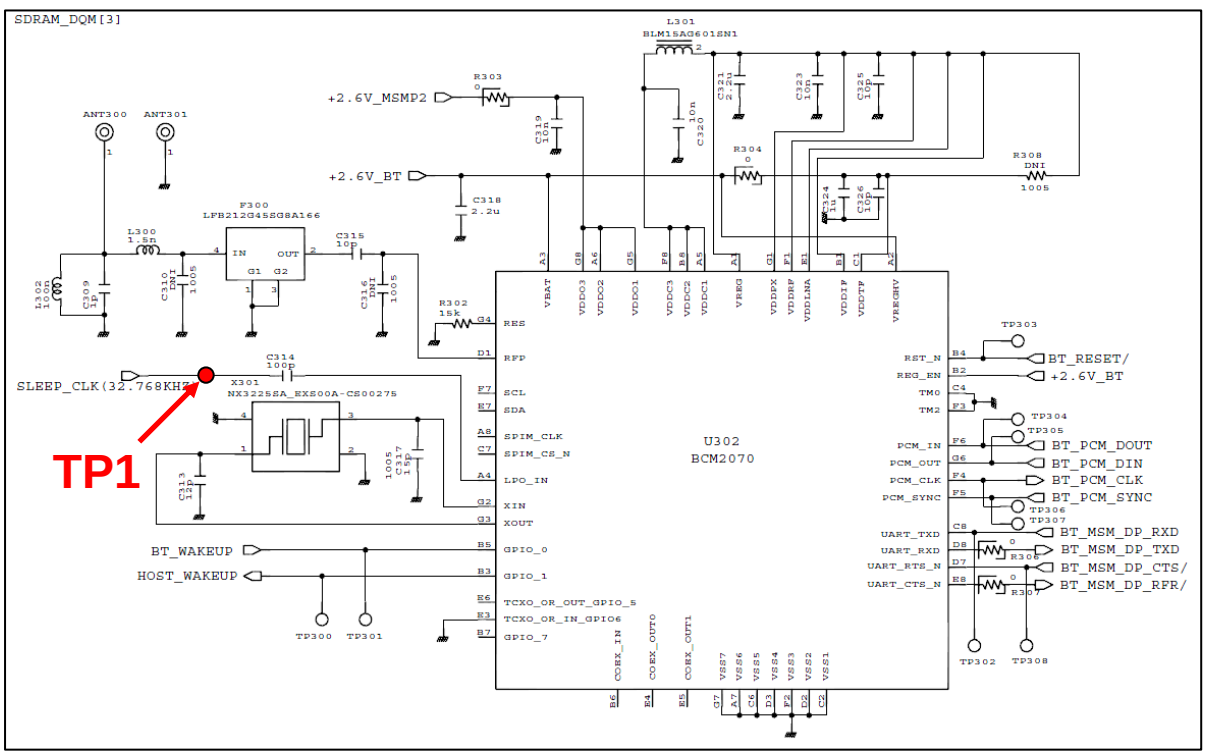
4.3.10 FM RADIO

Test Point

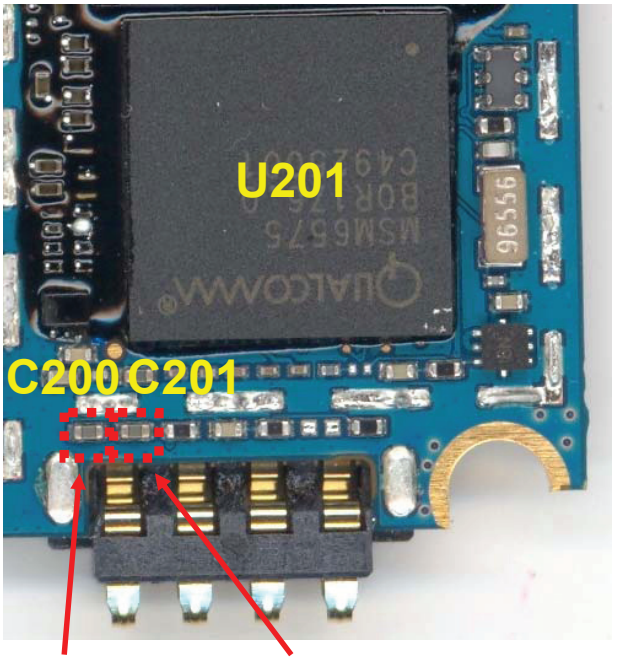


SLEEP_CLK(32.768KHZ)

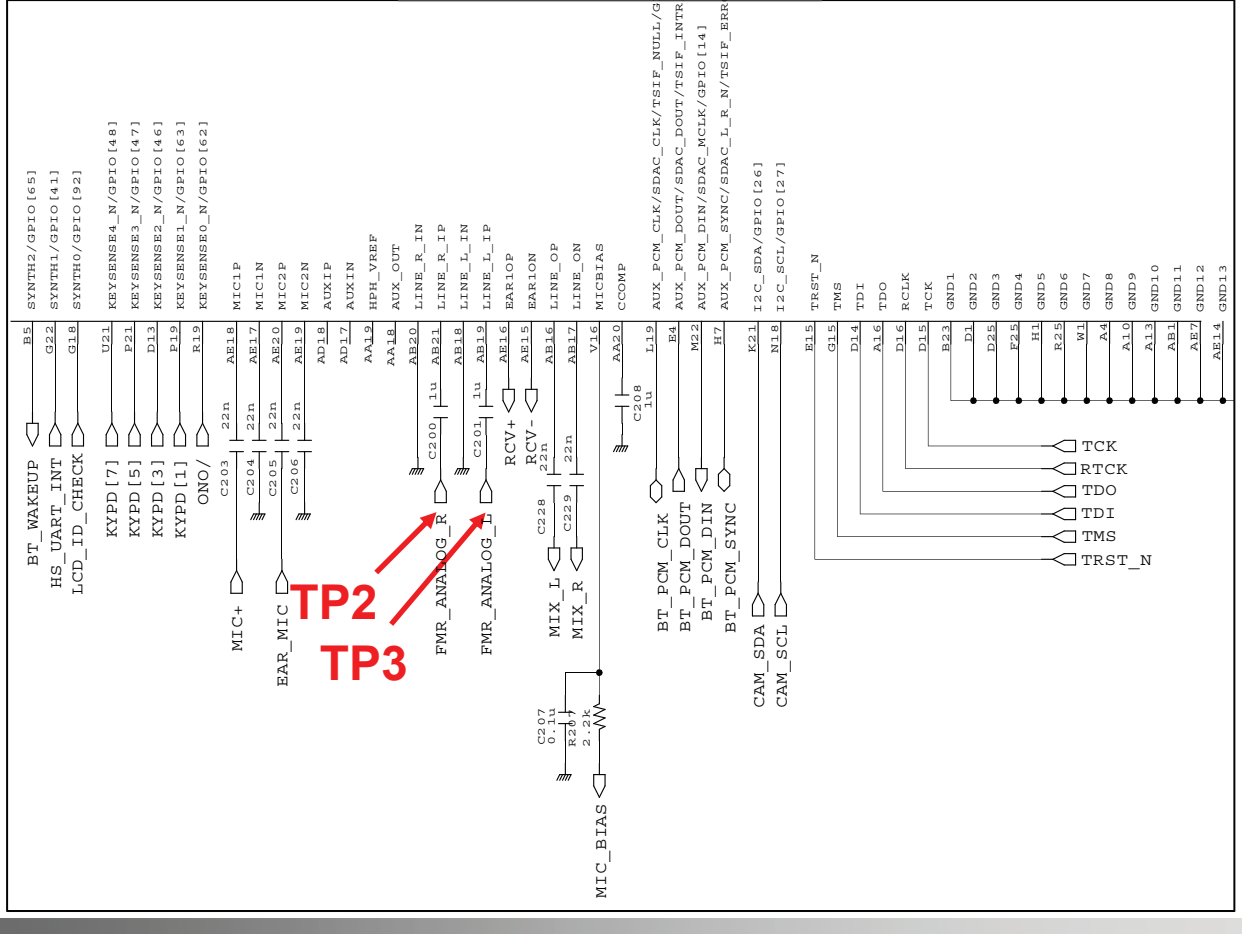
Circuit Diagram



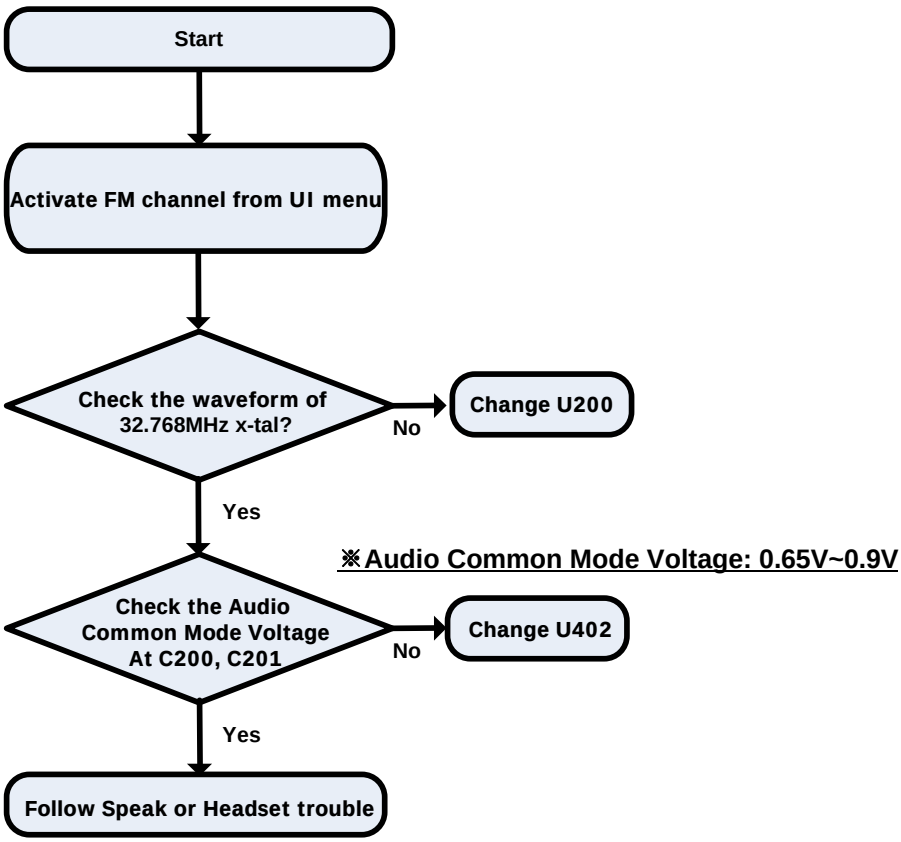
Test Point



Circuit Diagram



Checking Flow



Waveform

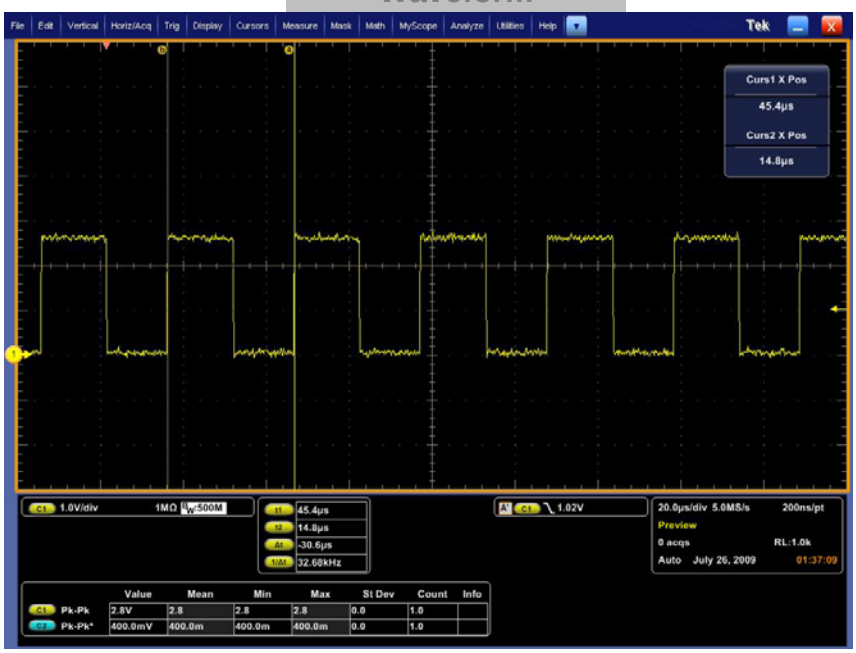


Fig. 4.3.9 (a)

CHAPTER 5. Safety

▣ IMPORTANT

Read This Information Before Using Your Hand-Held Portable Cellular Telephone

First introduction in 1984, the hand-held portable Cellular telephone is one of the most exciting and innovative electronic products ever developed.

With it you can stay in contact with your office, your home, emergency service, and others. For the safe and efficient operation of your phone, observe these guidelines.

Your Cellular phone is a radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) energy. The phone operates in the frequency range of 824 MHz to 894 MHz and employs commonly used frequency modulation (FM) techniques. When you use your phone, the Cellular system handling your calls controls the power level at which your phone transmits. The power level can range from 0.006 of a watt to .6 of a watt.

▣ Exposure to Radio Frequency Energy

In 1991 the Institute of Electrical and Electronics Engineers (IEEE), and in 1992 the American National Standards Institute (ANSI) updates the 1982 ANSI Standard for safety levels with respect to human exposure to RF energy. Over 120 scientists, engineers, and physicians from universities, government health agencies, and industry, after reviewing the available boy of research, developed this updated Standard. In March, 1993, the US Federal Communications Commission (FCC) proposed the adoption of this updated Standard.

The design of your phone complies with this updated Standard. Of course, if you want to limit RF exposure even further than the updated ANSI Standard, you may choose to control the duration of your calls and operation your phone in the most power efficient manner.

▣ Efficient Phone Operation

For your phone to operate at the lowest power level, consistent with satisfactory call quality, please observe the following guidelines:

If your phone has an extendable antenna, extend it fully. Some models allow you to place a call with the antenna retracted. However, your phone operates more efficiently with the antenna fully extended.

Hold the phone as you would any other telephone. While speaking directly into the mouthpiece, position the antenna up and over your shoulder.

Do not hold the antenna when the phone is “IN USE”. Holding the antenna affects call quality and may cause the phone to operated at a higher power level than needed.

▣ Antenna Care and Replacement

Do not use the phone with a damaged antenna. If a damaged antenna comes into contact with skin, a minor bum may result. Replace a damaged antenna immediately. Consult your manual to see if you may change your antenna yourself. If so, use only a manufacture approves antenna. Otherwise, take your phone to a qualifies service center for repair.

Use only the supplied or approved antenna. Non-approved antennas, modifications, or attachments, could impair call quality, damage the phone, and violate FCC regulations.

▣ Driving

Check the laws and regulations on the use of Cellular telephones in the areas where you drive. Always obey them.
Also, when using your phone while driving, please:
Give full attention to the driving. Use hands-free operation, if available, and pull off the road and park before making or answering a call if driving conditions require.

▣ Electronic Devices

Most modem electronic equipment is shielded from RF energy. However, RF energy from Cellular telephones may affect inadequately shielded electronic equipment.
RF energy may effect improperly installed or inadequately shielded electronic operating and entertainment system in motor vehicles. Check with the manufacturer or its representative to determine if these systems are adequately shielded from external RF energy. You should check with the manufacturer of any equipment that has been added to your vehicle.
Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy.
Turn your phone OFF in health care facilities. When any regulations posted in the areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

▣ Aircraft

Turn your phone OFF before boarding any aircraft.
Use it on the ground only with crew permission. Do not use it in the air.
To prevent possible interference with aircraft systems, US Federal Aviation Administration (FAA) regulations require you to have permission from a crew member to use your phone while the plane is on the ground. Using your phone while the plane is in the air.

▣ Children

Do not allow children to play with your phone. It is not a toy. Children could hurt themselves or others (by poking themselves or others in the eye with the antenna, for example). Children also could damage the phone, or make calls that increase your telephone bills.

▣ Blasting Areas

To avoid interfering with blasting operations, turn you unit OFF when in a “blasting area” or in areas posted “Turn off two-way radio”. Construction crews often use remote control RF devices to set off explosives.

▣ Potentially Explosive Atmospheres

Turn your phone OFF when in any area with a potentially explosive atmosphere. It is rare, but your phone or accessories could generate sparks. Sparks in such area could cause an explosion or fire resulting in bodily injury or even death.
Areas with a potentially explosive atmosphere are often, but not always, clearly marked. They include fueling areas such as gas station; below deck on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemical or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Do not transport or store flammable gas, liquid, or explosives in the compartment of your vehicle which contains your phone or accessories.

Vehicles using liquefied petroleum gas (such as propane or butane) must compl7y with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Battery march Park, Quincy, MA 02269, Attn: Publication Sales Division.

Rule of Thumb: Using common sense at all times when handling, installing or using the phone. Any questions should be directed to you nearest Service Center or authorized service technician or electrician.

CHAPTER 6. Glossary

General Terms

Abbreviated Alert. An abbreviated alert is used to remind the mobile station user that previously selected alternative routing features are still active.

AC. See Authentication Center.

Access Attempt. A sequence of one or more access probe sequences on the Access Channel containing the same message. See also Access Probe and Access Probe Sequence.

Access Channel. A Reserve CDMA Channel used by mobile stations for communicating to the base station. The Access Channel is used for short signaling message exchanges such as call origination's, responses to pages, and registrations. The Access Channel is a slotted random access channel.

Access Channel Message. The information part of an access probe consisting of the message body, length field, and CRC.

Access Channel Message Capsule. An Access Channel message plus the padding.

Access Channel Preamble. The preamble of an access probe consisting of a sequence of all-zero frames that is sent at the 4800bps rate.

Access Channel Request Message. An Access Channel message that is autonomously generated by the mobile station. See also Access Channel Response Message.

Access Channel Response Message. A message on the Access Channel generated to reply to a message received from the base station.

Access Channel Slot. The assigned time interval for an access probe. An Access Channel slot consists of an integer number of frames. The transmission of an access probe is performed within the boundaries of an Access Channel slot.

Access Probe. One Access Channel transmission consisting of a preamble and a message. The transmission is an integer number of frames in length and transmits one Access Channel message. See also Access Probe Sequence and Access Attempt.

Access Probe Sequence. A sequence of one or more access probes on the Access Channel. The same Access Channel message is transmitted in every access probe of an access attempt. See also Access Probe and Access Attempt.

Acknowledgement. A Layer 2 response by the mobile station or the base station confirming that a signaling message was received correctly.

Action Time. The time at which the action implied by a message should take effect.

Active Set. The set of pilots associated with the CDMA Channels containing Forward Traffic Channels assigned to a particular mobile station.

Aging. A mechanism through which the mobile station maintains in its Neighbor Set the pilots that have been recently sent to it from the base station and the pilots whose handoff drop timers have recently expired.

A-key. A secret, 64-bit pattern stored in the mobile station. It is used to generate update the mobile station's Shared Secret Data. The A-key is used in the mobile station authentication process.

Analog Access Channel. An analog control channel used by a mobile station to access a system to obtain service.

Analog Color-Code. An analog signal (see Supervisory Audio Tone) transmitted by a base station on an analog voice channel and used to detect capture of a mobile station by an interfering base station or the capture of a base station by an interfering mobile station.

Analog Control Channel. An analog channel used for the transmission of digital control information from a base station to a mobile station or from a mobile station to a base station.

Analog Paging Channel. A forward analog control channel that is used to page mobile stations and send orders.

Analog Voice Channel. An analog channel on which a voice conversation occurs and on which brief digital messages may be sent from a base station to a mobile station or from a mobile station to a base station.

Authentication. A procedure used by a base station to validate a mobile station's identity.

Authentication Center (AC). An entity that manages the authentication information related to the mobile station.

Authentication Response (AUTHR). An 18-bit output of the authentication algorithm. It is used, for example, to validate mobile station registrations, origination and terminations. A method of registration in which the mobile station registers without an explicit command from the base station.

AWGN. Additive White Gaussian Noise.

Bad Frames. Frames classified as erasures (frame category 10) or9600bps frames, primary traffic only with bit errors (frame category 9). See also Good Frames.

Base Station. A station in the Domestic Public Cellular Radio Telecommunications Service, other than a mobile station, used for communicating with mobile stations. Depending upon the context, the term base station may refer to a cell, a sector within a cell, an MSC, or other part of the Cellular system. See also MSC.

Base Station Authentication Response (AUTHBS). An 18-bit pattern generated by the authentication algorithm. AUTHBS is used to confirm the validity of base station orders to update the Shared Secret Data.

Base Station Random Variable (RANDBS). A 32-bit random number generated by the mobile station for authenticating base station orders to update the Shared Secret Data.

BCH Code. See Bose-Chaudhuri-Hocquenghem Code.

Busy-Idle Bits. The portion of the data stream transmitted by a base station on a forward analog control channel that is used to indicate the current busy-idle status of the corresponding reverse analog control channel.

Call Disconnect. The process that releases the resources handling a particular call. The disconnect process beings either when the mobile station user indicates the end of the call by generating an on-hook condition or other call release mechanism, or when the base station initiates a release.

Call History Parameter (COUNT). A modulo-64 event counter maintained by the mobile station and Authentication Center that us used for clone detection.

Candidate Set. The set of pilots that have been received with sufficient strength by the mobile station to be successfully demodulated, but have not been placed in the Active Set by the base station. See also Active Set. Neighbor Set, and Remaining Set.

. See Code Division Multiple Access

CDMA Channel. The set of channels transmitted between the base station within a given CDMA frequency assignment. See also Forward CDMA Channel and Reverse CDMA Channel.

CDMA Channel Number. An 11-bit number corresponding to the center of the CDMA frequency assignment.

CDMA Frequency Assignment. A 1.23MHz segment of spectrum centered on one of the 30KHz channels of the existing analog system.

Code Channel. A subchannel of a Forward CDMA Channels. A Forward CDMA Channel contains 64 code channels. Code channel zero is assigned to the Pilot Channel. Code channels 1 through 7 may be assigned to the either Paging Channels or the Traffic Channels. Code Channel 32 may be assigned to either a Sync Channel or a Traffic Channel. The remaining code channels may be assigned to Traffic Channels.

Code Division Multiple Access (CDMA). A technique for spread-spectrum multiple-access digital communications that creates channels through the use of unique code sequences.

Code Symbol. The output of an error-correcting encoder. Information bits are input to the encoder and code symbols are output from the encoder. See Convolutional Code.

Continuous Transmission. A mode of operation in which Discontinuous Transmission is not permitted.

Control Mobile Attenuation Code (CMAC). A 3-bit field in the Control-Filler Message that specifies the maximum authorized power level for a mobile transmitting on an analog reverse control channels.

Convolution Code. A type of error-correcting code. A code symbol can be considered as the convolution of the input data sequence with the impulse response of a generator function.

CRC. See Cyclic Redundancy Code.

Cyclic Redundancy Code (CRC). A class of linear error detecting codes which generate parity check bits by finding the remainder of a polynomial division.

Data Burst Randomizer. The function that determines which power control groups within a frame are transmitted on the Reverse Traffic Channel when the data rate is lower than 9600 bps. The data burst randomizer determines, for each mobile station, the pseudo random position of the transmitted power control groups in the frame while guaranteeing that every modulation symbol is transmitted exactly once.

DBc. The ratio (in dB) of the sideband power of a signal, measured in a given bandwidth at a given frequency offset from the center frequency of the same signal, to the total inband power of the signal. For CDMA, the total inband power of the signal is measured in a 1.23MHz bandwidth around the center frequency of the CDMA signal.

DBm. A measure of power expressed in terms of its ration (in dB) to one milliwatt.

DBm/Hz. A measure of power spectral density. DBm/Hz is the power in one Hertz of bandwidth. Where power is expressed in units of dBm.

DBW. A measure of power expressed in terns of its ration (in dB) to one Watt.

Dedicated Control Channel. An analog control channel used for the transmission of digital control information from either a base station or a mobile station.

Deinterleaving. The process of unpermuting the symbols that were permuted by the interleaver..
Deinterleaving is performed on received symbols prior to decoding.

Digital Color Code (DCC). A digital signal transmitted by a base station on a forward analog control channel that is used to detect capture of a base station by an interfering mobile station.

Dim-and-Burst. A frame in which primary traffic is multiplexed with either secondary traffic or signaling traffic.

Discontinuous Transmission (DTX). A mode of operation in which a mobile station transmitter autonomously switches between two transmitter power levels while the mobile station is in the conversation state on an analog voice channel.

Distance-Based Registration. An autonomous registration method in which the mobile station registers whenever it enters a cell whose distance from the cell in which the mobile station last registered exceeds a given threshold.

DTMF. See Dual Tone Multifrequency.

Dual-Tone Multifrequency (DTMF). Signaling by the simultaneous transmission of two tones, one from a group of low frequencies and another from a group of high frequencies. Each group of frequencies consists of four frequencies.

Eb. The energy of an information bit.

Ec/I0. The ratio in (dB) between the pilot energy accumulated over one PN chip period (Ec) to the power spectral density in the received bandwidth (Io).

Effective Radiated Power (ERP). The transmitted power multiplied by the antenna gain referenced to a half wave dipole.

Electronic Serial Number (ESN). A 32-bit number assigned by the mobile station manufacturer, uniquely identifying the mobile station equipment.

Encoder Tail Bits. A fixed sequence of bits added to the end of a block of data to reset the convolutional encoder to a known state.

ERP. See Effective Radiated Power.

ESN. See Electronic Serial Number.

Extended Protocol. An optional expansion of the signaling message between the base station and mobile station to allow for the addition of new system features and operational capabilities.

Fade Timer. A timer kept by the mobile station as a measure of Forward Traffic Channel continuity. If the Fade timer expires, the mobile station drops the call.

Flash. An indication sent on an analog voice channel or CDMA Traffic Channel indicating that the user Directed the mobile station to invoke special processing.

Foreign NID Roamer. A mobile station operating in the same system (SID) but a different network (NID)Form the one in which service was subscribed. See also Foreign SID Roamer and Roamer.

Foreign SID Roamer. A mobile station operating in a system (SID) other than the one from which service was subscribed. See also Foreign NID Roamer and Roamer.

Forward Analog Control Channel (FOCC). An analog voice channel used from a base station to a mobile station.

Forward Analog Voice Channel (FVC). An analog voice channel used from a base station to a mobile station.

Forward CDMA Channel. A CDMA Channel form a base station to mobile stations. The Forward CDMA Channel contains one or more code channels that are transmitted on a CDMA frequency assignment using a Particular pilot PN offset. The code channels are associated with the Pilot Channel, Sync Channel, Paging Channels, and Traffic Channels. The Forward CDMA Channel always carries a Pilot Channel and may carry up to one Sync Channel, up to seven Paging Channels, and up to 63 Traffic Channels, as long as the total number of channels, including the Pilot Channel, is no greater than 64.

Forward Traffic Channel. A code channel used to transport user and signaling traffic from the base station to the mobile station.

A basic timing interval in the system. For the Access Channel, Paging Channel, and Traffic Channel, a frame is 20 ms long. For the Sync Channel, a frame is 26.666…ms long.

Frame Category. A classification of a received Traffic Channel frame based upon transmission data rate, the Frame contents (primary traffic, secondary traffic, or signaling traffic), and whether there are detected error in the frame.

Frame Offset. A time skewing of Traffic Channel frames from System Time in integer multiples of 1.25 ms. The maximum frame offset is 18..75 ms..

Frame Quality Indicator. The CRC check applied to 9600 bps and 4800 bps Traffic Channel frames.

Global Positioning System (GPS). A US government satellite system that provides location and time Information to users. See Navstar GPS Space segment / Navigation User interfaces ICD-GPS-200 for Specifications.

Half Frame. A 10 ms interval on the paging Channel. Two half frames comprise a frame, the first half frame begins at the same time as the frame.

Handoff. The of transferring communication with a station mobile station from one base station to another.

Hard Handoff. A handoff characterized by a temporary disconnection of the Traffic Channel. Hard handoffs Occur when the mobile station is transferred between disjoint Active Sets, the CDMA frequency assignment changes, the frame offset changes, or the mobile station is directed from a CDMA Traffic Channel to an analog voice channel, See also Soft Handoff.

Hash Function. A function used by the mobile station to select one out of N available resource. The hash function distributes the available resources uniformly among a random sample of mobile stations.

HLR. See Home Location Register.

Home Location Register (HLR). The location register to which a MIN is assigned for record purposes such as subscriber information.

Home System. The Cellular system in which the mobile station subscribes for service.

Idle Handoff. The act of transferring reception of the Paging Channel from one bass station to another, when the mobile station is in the ***Mobile Station Idle State.***

Implicit Registration. A registration achieved by a successful transmission of an origination or page response on the Access Channel.

Interleaving. The process of permuting a sequence of symbols.

kHz. Kilohertz (103 Hertz).

ksps. Kilo-symbols per second (103 symbols per second).

Layer 1. See Physical Layer.

Layer 2. Layer 2 provides for the correct transmission and reception of signaling messages, including partial duplicate detection. See also Layering and Layer 3.

Layer 3. Layer 3 provides the control of the Cellular telephone systems. Signaling messages originate and terminate at layer 3. See also Layering and Layer 2.

Local Control. An optional mobile station feature used to perform manufacturer-specific functions.

A PN sequence with period 242-1 that is used for scrambling on the Forward CDMA Channel and spreading on the Reverse CDMA Channel. The long code uniquely identifies a mobile station on both the Reverse Traffic Channel and the Forward Traffic Channel. The long code provides limited privacy. The long code also separates multiple Access Channels on the same CDMA channel. See also Public Long Code and Private Long Code.

Long Code Mask. A 42-bit binary number that creates the unique identity of the long code. See also Public Long Code, Private Long Code, Public Long Code Mask, and Private Long Code Mask.

LSB. Least significant bit.

Maximal Length Sequence (m-Sequence). A binary sequence of period 2n-1, n a positive integer, with no internal periodicities. A maximal length sequence can be generated by a tapped n-bit shift register with linear feedback.

Mcps. Megachips per second (106 chips per second).

Mean Input Power. The total received calorimetric power measured in a specified bandwidth at the antenna connector, including all internal and external signal and noise sources.

Mean Output Power. The total transmitted calorimetric power measured in a specified bandwidth at the antenna connector when the transmitter is active.

Message. A data structure that conveys control information or application information. A message consists of a length field (MSG_LENGTH), a message body (the part conveying the information), and a CRC.

Message Body. The part of the message contained between the length field (MSG_LENGTH) and the CRC field.

Message Capsule. A sequence of bits comprising a single message and padding. The padding always follows the message and may be of zero length.

Message CRC. The CRC associated with a message. See also Cyclic Redundancy Check.

Message Field. A basic named element in a message. A message field may consist of zero or more bits.

Message Record. An entry in a message consisting of one or more field that repeats in the message.

MHz. Megahertz.(106 Hertz)

MIN. See Mobile Station Identification Number.

Mobile Protocol Capability Indicator (MPCI). A 2-bit field used to indicate 속 mobile station's capabilities.

Mobile Station. A station in the Domestic Public Cellular Radio Telecommunications Service intended to be used while in motion or during halts at unspecified points. Mobile station include portable units (e.g., handheld personal units) and units installed in vehicles.

Mobile Station Class. Mobile station classes define mobile station characteristics such as slotted operation and transmission power.

Mobile Station Identification Number (MIN). The 34-bit number that is a digital representation of the 10-digit directory telephone number assigned to a mobile station.

Mobile Station Originated Call. A call originating from a mobile station.

Mobile Station Terminated Call. A call received by a mobile station (not to be confused with a disconnect or call release).

Mobile Switching Center (MSC). A configuration of equipment that provides Cellular radiotelephone service. Also called the Mobile Telephone Switching Office (MTSO)

Modulation Symbol. The output of the data modulator before spreading. On the Reverse Traffic Channel, 64-ary orthogonal modulation is used and six code symbol (when the data rate is 9600bps) or each repeated code symbol (when the data rate is less than 9600bps) is one modulation symbol.

Ms. Millisecond.

MSB. Most significant bit.

MSC. See Mobile Switching Center.

Multiplex Option. The ability of the multiplex sublayer and lower layer to be tailored to provide special capabilities. A multiplex option defines such characteristics as the frame format and the rate decision rules. See also Multiplex Sublayer.

Multiplex Sublayer. One of the conceptual layers of the system that multiplexes and demultiplexes primary traffic, secondary traffic, and signaling traffic.

NAM. See Number Assignment Module.

Narrow Analog. A type of voice channel that uses 10kHz channel spacing and subaudible signaling.

Neighbor Set. The set of pilots associated with the CDMA Channel that are probable candidates for handoff. Normally, the Neighbor Set consists of the pilots associated with CDMA Channel that cover geographical areas near the mobile station. See also Active Set, Candidate Set, and Remaining Set.

A network is a subset of a Cellular system, such as an area-wide Cellular network, a private group of base stations, or a group of base stations set up to handle a special requirement. A network can be as small or as large as needed, as long as it is fully contained within a system. See also System.

Network Identification (NID). A number that uniquely identifies a network within a Cellular system. See also System Identification.

NID. See Network Identification.

Non-Autonomous Registration. A registration method in which the base station initiates registration. See also Autonomous Registration.

Non-Slotted Mode. An operation mode of the mobile station in which the mobile station continuously monitors the Paging Channel when in the Mobile Station Idle State.

Ns. Nanosecond.

NULL. Not having any value.

Null Traffic Channel Data. One or more frames of 16 '1's followed by eight '0's sent at the 1200bps rate. Null Traffic Channel data is sent when no service option is active and no signaling message is being sent. Null Traffic Channel data serves to maintain the connectivity between the mobile station and the base station.

Number Assignment Module (NAM). A set of MIN-related parameters stored in the mobile station.

Numeric Information. Numeric information consists of parameters that appear as numeric fields in message exchanged by the base station and the mobile station and information used to describe the operation of the mobile station.

OLC. See Overload Class (CDMA) or Overload Control (analog).

Optional Field. A field defined within a message structure that is optionally to the message recipient.

Order. A type of message that contains control codes for either the mobile station or the base station.

Ordered Registration. A registration method in which the base station orders the mobile station to send registration related parameters.

Overhead Message. A message sent by the base station on the Paging Channel to communicate base-station-specific and system-wide information to mobile station.

Overload Class. The means used to control system access by mobile stations, typically in emergency or other overload conditions. Mobile station are assigned one (or more) of sixteen overload classed, Access to the CDMA system can then be controlled on a per class basis by persistence values transmitted by the base station.

Overload Control (OLC). A means reverse analog control channel accesses by mobile stations. Mobile station are assigned one(or more) of sixteen control levels. Access is selectively restricted by a base station setting one or more OLC bits in the Overload Control Global Action Message.

Packet. The unit of information exchanged between the service option applications of the base station and the mobile station.

Padding. A sequence of bits used to fill from the end of a message to the end of a message capsule, typically to the end of the frame or half frame. All bits in the padding are '0'.

Paging. The act of seeking a mobile station when a call has been placed to that mobile station.

Paging Channel (Analog). See Analog Paging Channel.

Paging Channel (CDMA). A code channel in a Forward CDMA Channel used for transmission of control information and pages from a base station to a mobile station.

Paging Channel Slot. An 80ms interval on the Paging Channel. Mobile station operating in the slotted mode are assigned specific slots in which day monitor messages from the base station.

Parameter-Change Registration. A registration method in which the mobile station registers when certain of its stored parameters change.

Parity Check Bits. Bits added to a sequence of information bits to provide error detection, correction, or both.

Persistence. A probability measure used by the mobile station to determine if it should transmit in a given Access Channel Slot.

Physical Layer. The part of the communication protocol between the mobile station and the base station that is responsible for the transmission and reception of data. The physical layer in the transmitting station is presented a frame by the multiplex sublayer and transforms it into an over-the-air waveform. The physical layer in the receiving station transforms the waveform back into a frame and presents it to the multiplex sublayer above it.

Pilot Channel. An unmodulated, direct-sequence spread spectrum signal transmitted continuously by each CDMA base station. The Pilot Channel allows a mobile station to acquire the timing of the Forward CDMA Channel, provides a phase reference for coherent demodulation, and provides a means for signal strength comparisons between base station for determining when to handoff.

Pilot PN Sequence. A pair of modified maximal length PN sequences with period 215 used to spread the Forward CDMA Channel and the Reserve CDMA Channel. Different base station are identified by different pilot PN sequence offsets.

Pilot PN Sequence Offset Index. The PN offset in units of 64 PN chips of a pilot, relative to the zero offset pilot PN sequence.

PN Chip. One bit in the PN sequence.

PN Sequence. Pseudonoise sequence. A periodic binary sequence.

Power Control Bit. A bit sent in every 1.25ms interval on the Forward Traffic Channel to signal the mobile station to increase or decrease its transmit power.

Power Control Group. A 1.25ms interval on the Forward Traffic Channel and the Reverse Traffic Channel.

See also Power Control Bit.

Power-Down Registration. Au autonomous registration method in which the mobile station registers on power up.

PPM. Parts per million.

Preamble. See Access Channel Preamble and Traffic Channel Preamble.

Primary CDMA Channel. A CDMA Channel at a pre-assigned frequency assignment used by the mobile station for initial acquisition. See also Secondary CDMA Channel.

Primary Paging Channel (CDMA). The default code channel (code channel 1) assigned for paging on a CDMA Channel.

Primary Traffic. The main traffic stream carried between the mobile station and the base station, supporting the active primary service option, on the Traffic Channel. See also Secondary Traffic, Signaling Traffic, and Servic3e Option.

Private Long Code. The long code characterized by the private long code mask. See also Long Code.

Private Long Code Mask. The long code mask used to form the private long code. See also Public Long Code Mask and Long Code.

Public Long Code. The long code characterized by the public long code mask.

Public Long Code Mask. The long code mask used to form the private long code. The mask contains the ESN of the mobile station. See also Private Long Code Mask and Long Code.

Punctured Code. An error-correcting code generated from another error-correcting code by deleting (i.e., puncturing) code symbols from the code output.

Quick Repeats. Additional transmissions of identical copies of a message within a short interval to increase the probability that the message is received correctly.

Receive Objective Loudness Rating (ROLR). A perceptually weighted transducer gain of telephone receivers relating electrical excitation from a reference generator to sound pressure at the earphone. The receive objective loudness tating is normally specified in dB relative to one Pascal per millivolt. See IEEE Standard 269-1992, IEEE Standard 661-1979, CCITT Recommendation P.76, and CCITT Recommendation P.79.

Registration. The process by which a mobile station identifies its location and parameters to a base station.

Registration Zone. A collection of one or more base stations treated as a unit when determining whether a mobile station should perform zone-based registration.

Release. A process that the mobile station and base station use to inform each other of call disconnect.

The set of all allowable pilot offsets as determined by PILOT_INC, excluding the pilot offsets of the pilots in the Active Set, Candidate Set, and Neighbor Set. See also Active Set, Candidate Set, and Neighbor Set.

Request. A layer 3 message generated by either the mobile station or the base station to retrieve information, ask for service, or command an action.

Response. A layer 3 message generated as a result of another message, typically a request.

Reverse Analog Control (RECC). The analog control channel used from a mobile station to a base station.

Reverse Analog Voice Channel (RVC). The analog voice channel used from a mobile station to a base station.

Reverse CDMA Channel. The CDMA Channel from the mobile station to the base station. From the base station's perspective, the Reverse CDMA Channel is the sum of all mobile station transmissions on a CDMA frequency assignment.

Reverse Traffic Channel. A Reverse CDMA Channel used to transport user and signaling traffic from a single mobile station to one or more base stations.

Roamer. A mobile station operating in a Cellular system (or network) other than the one from which service was subscribed. See also Foreign NID Roamer and Foreign SID Roamer.

ROLR. See Receive Objective Loudness Rating.

SAT. See Supervisory Audio Tone.

Scan of Channels. The procedure by which a mobile station examines the signal strength of each forward analog control channel.

SCI. Synchronized Capsule Indicator bit.

Search Window. The range of PN sequence offsets that a mobile station searches for a pilot.

Secondary CDMA Channel. A CDMA Channel at a preassigned frequency assignment used by the mobile station for initial acquisition. See also Primary CDMA Channel.

Secondary Traffic. An additional traffic stream that can be carried between the mobile station and the base station on the Traffic Channel. See also Primary Traffic and Signaling Traffic.

Seizure Precursor. The initial digital sequence transmitted by a mobile station to a base station on a reverse analog control channel.

Seizure Option. A service capability of the system. Service options may be applications such as voice, data, or facsimile.

Shard Secret Data (SSD). A 128-bit pattern stored in the mobile station (in semi-permanent memory) and known by the base station. SSD is a concatenation of two 64-bit subsets: SSD_A, which is used to support the authentication procedures and SSD_B, which serves as one of the inputs to the process generating the encryption mask and private long code.

Short Message Services (SMS). A suite of services which include SMS Text Delivery, Digital Paging (i.e., Call Back Number – CBN), and Voice Mail Notification (VMN).

SID. See System Identification.

Signaling Tone. A 10kHz tone transmitted by a mobile station on an analog voice channel to: 1) confirm orders, 2)signal flash requests, and 3) signal release requests.

Signal Traffic. Control message that are carried between the mobile station and base station on the Traffic Channel. See also Primary Traffic and Secondary Traffic.

Slot Cycle. A periodic interval at which a mobile station operating in the slotted monitors the Paging Channel.

Slotted Mode. An operation mode of the mobile station in which the mobile station monitors only selected slots on the Paging Channel when in the Mobile Station Idle State.

Soft Handoff. A handoff occurring while the mobile station is in the Mobile Station Control on the Traffic Channel State. This handoff is characterized by commencing communications with a new base station on the same CDMA frequency assignment before terminating communications with the old base station. See also Hard Handoff.

SOM. Start-of-Message Bit.

SPS. Symbols per second.

- An identification of certain characteristics of a mobile station. Classes are defined in Table 2.3.3-1.

Status Information. The following status information is used to describe mobile station operation when using the analog system.

■Serving-System Status. Indicates whether a mobile station is turned to channels associated with System A or System B.

■ First Registration ID Status. A status variable used by the mobile station in association with its processing of received Registration ID messages.

■ First Location Area ID Status. A status variable used by the mobile station in association with its processing of received Location Area ID messages.

■ Location Registration ID Status. A status variable used by the mobile station in association with its processing of power-up registration and location-based registration.

■ First Idle ID Status. A status variable used by the mobile station in association with its processing of the Idle Task.

■ Local Control Status. Indicates whether a mobile station must respond to local control messages.

■ Roam Status. Indicates whether a mobile station is in its home system.

■ Termination Status. Indicates whether a mobile station must terminate the call when it is on an analog voice channel.

Supervisory Audio Tone (SAT). One of three tones in the 6 kHz region that is transmitted on the forward analog voice channel by a base station and transponder on the reverse analog voice channel by as mobile station.

Supplementary Digital Color Code (SDCC1, SDCC2). Additional bits assigned to increase the number of color codes from four to sixty four, transmitted on the forward analog control channel.

Symbol. See Code Symbol and Modulation Symbol.

Sync Channel. Code channel 32 in the Forward CDMA Channel which transports the synchronization message to the mobile station.

Sync Channel Superframe. An 80ms interval consisting of three Sync Channel frames (each 26.666…ms in length).

System. A system is a Cellular telephone service that covers a geographic area such as a city. Metropolitan region, country, or group of countries. See also Network.

System Time. The time reference used by the system. System Time is synchronous to UTC time (except for leap seconds) and used the same time origin as GPS time. Offset by the propagation delay from the base station to the mobile station. See also Universal coordinated Time.

Timer-Based Registration. A registration method in which the mobile station registers whenever a counter reaches a predetermined value. The counter is incremented an average of once per 80 ms period.

Time Reference. A reference established by the mobile station that is synchronous with the earliest arriving multipath component used for demodulation.

TOLR. See Transmit Objective Loudness Rating.

Traffic Channel. A communication path between a mobile station and base station used for user and signaling traffic. The term Traffic Channel implies a Forward Traffic Channel and Reverse Traffic Channel pair. See also Forward Traffic Channel and Reverse Traffic Channel.

Traffic Channel Preamble. A sequence of all-zero frames that is sent at the 9600 bps rate by the mobile station on the Reverse Traffic Channel. The Traffic Channel preamble is sent during initialization of the Traffic Channel.

Transmit Objective Loudness Rating (TOLR). A perceptually weighted transducer gain of telephone transmitters relation sound pressure at the microphone to voltage at a reference electrical termination. It is normally specified in dB relative to one millivolt per Pascal. See IEEE Standard 269-1992, IEEE Standard 661-1979, CCITT Recommendation P.76 , and CCITT Recommendation. P.79

Unique Challenge-Response Procedure. An exchange of information between a mobile station and a base station for the purpose of confirming the mobile station's identity. The procedure is initiated by the base station and is characterized by the use of a challenge-specific random number (i.e., RANDU) instead of the random variable broadcast globally (RAND).

Unique Random Variable (RANDU). A 24-bit random number generated by the base station in support of the Unique Challenge-Response procedure.

Universal Coordinated Time (UTC). An internationally agreed-upon time scale maintained by the Bureau International de l'Heure (BIH) used as the time reference by nearly all commonly available time and frequency distribution systems i.e., WWW, WWVH, LORAN-C, Transit, Omega, and GPS.

UTC. Universal Temps Coordine. See Universal Coordinated Time.

Voice Channel. See Analog Voice Channel.

Voice Mobile Attenuation Code (VMAC). A 3-bit field in the Extended Address Word commanding the initial mobile power level when assigning a mobile station to an analog voice channel.

Voice Privacy. The process by which user voice transmitted over a CDMA Traffic Channel is a afforded a modest degree of protection against eavesdropping over the air.

Walsh Chip. The shortest identifiable component of a Walsh function. There are 2N Walsh chips in one Walsh function where N is the order of the Walsh function. On the Forward CDMA channel one Walsh chip equals 1/1.2288MHz, or 813.802…ns. On the Reverse CDMA Channel, one Walsh chip equals 4/1.2288MHz, or 3.255…μs.

Walsh Function. One of 2N time orthogonal binary functions (note that the functions are orthogonal after mapping '0' to 1 and '1' to –1).

Zone-Based Registration. An autonomous registration method in which the mobile station registers whenever it enters a zone that is not in the mobile station's zone list.

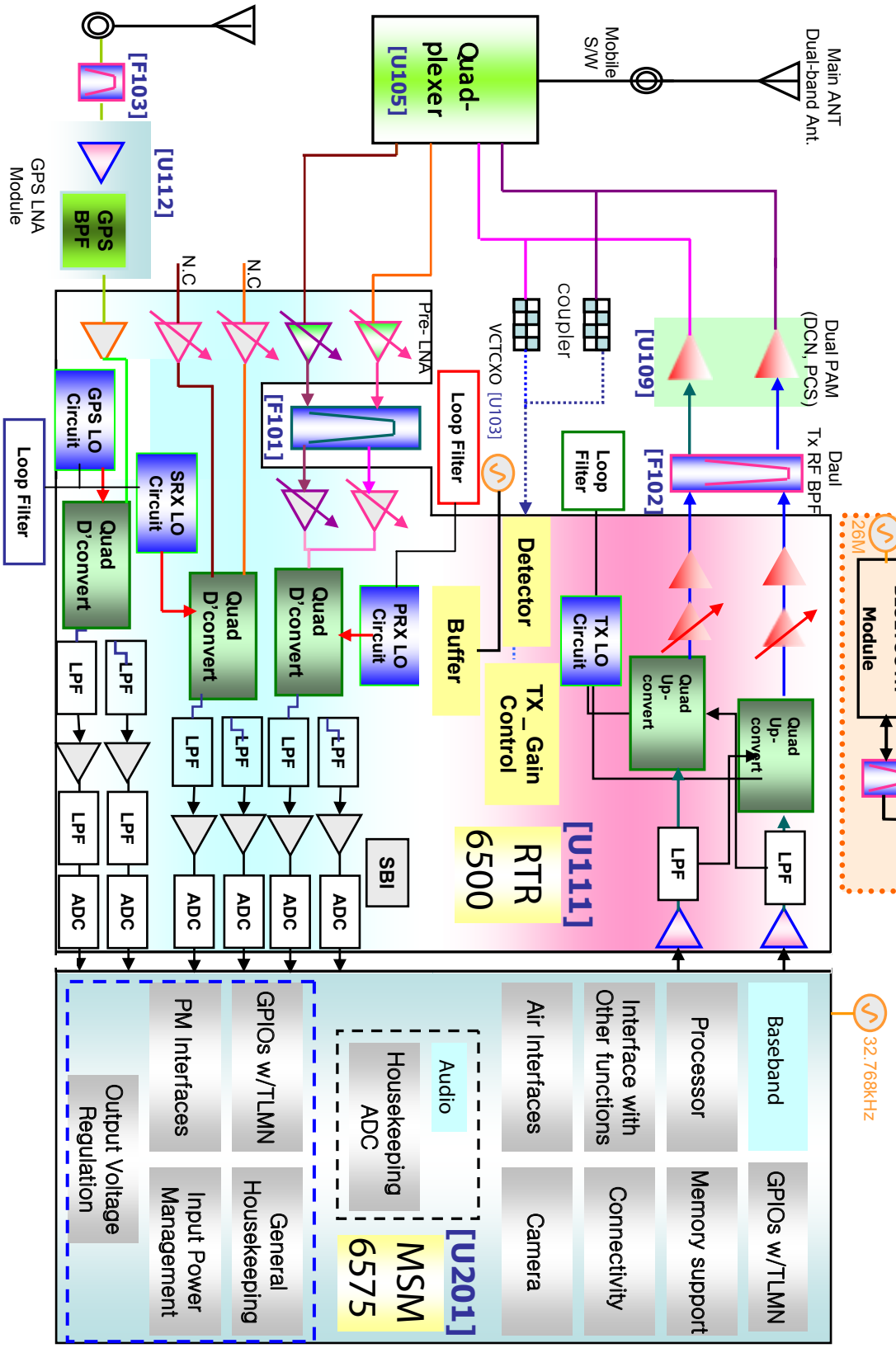
μs. Microsecond

Appendix

1. Block and Circuit Diagram
2. BGA Pin Map
3. Component Layout
4. Assembly and Disassembly diagram
5. Part List

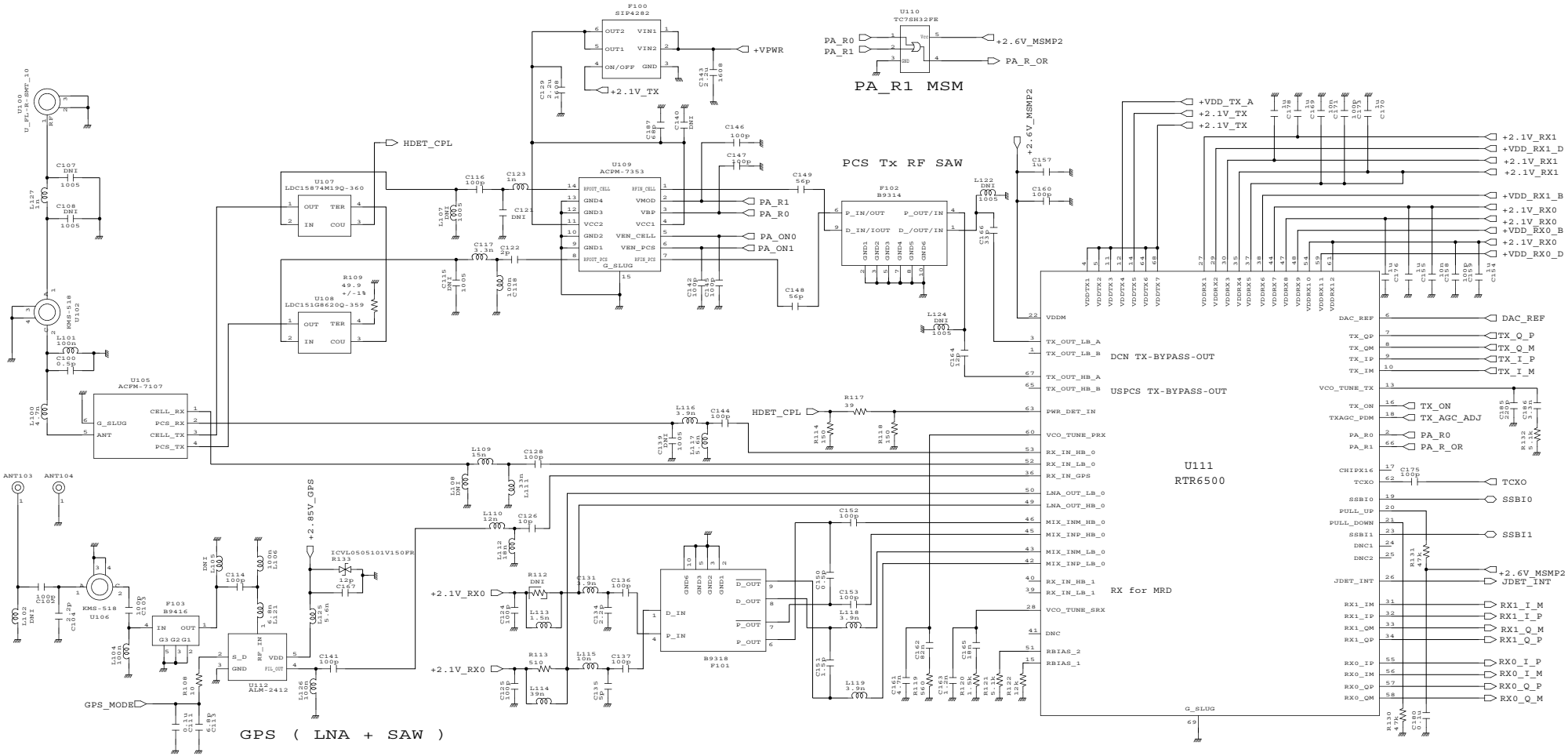
1. Block and Circuit Diagram

AX8575 Block Diagram

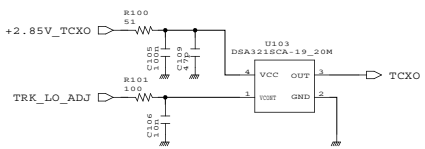


AX8575 Circuit diagram

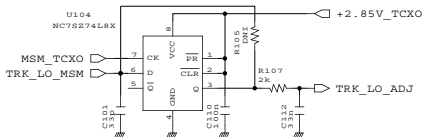
- MAIN PCB



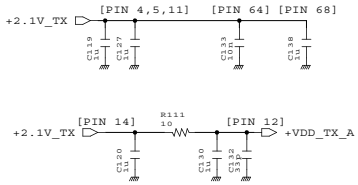
TCXO (19.2MHz)



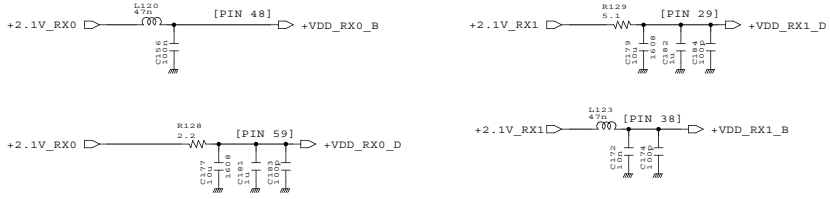
TRK_LO D-F/F

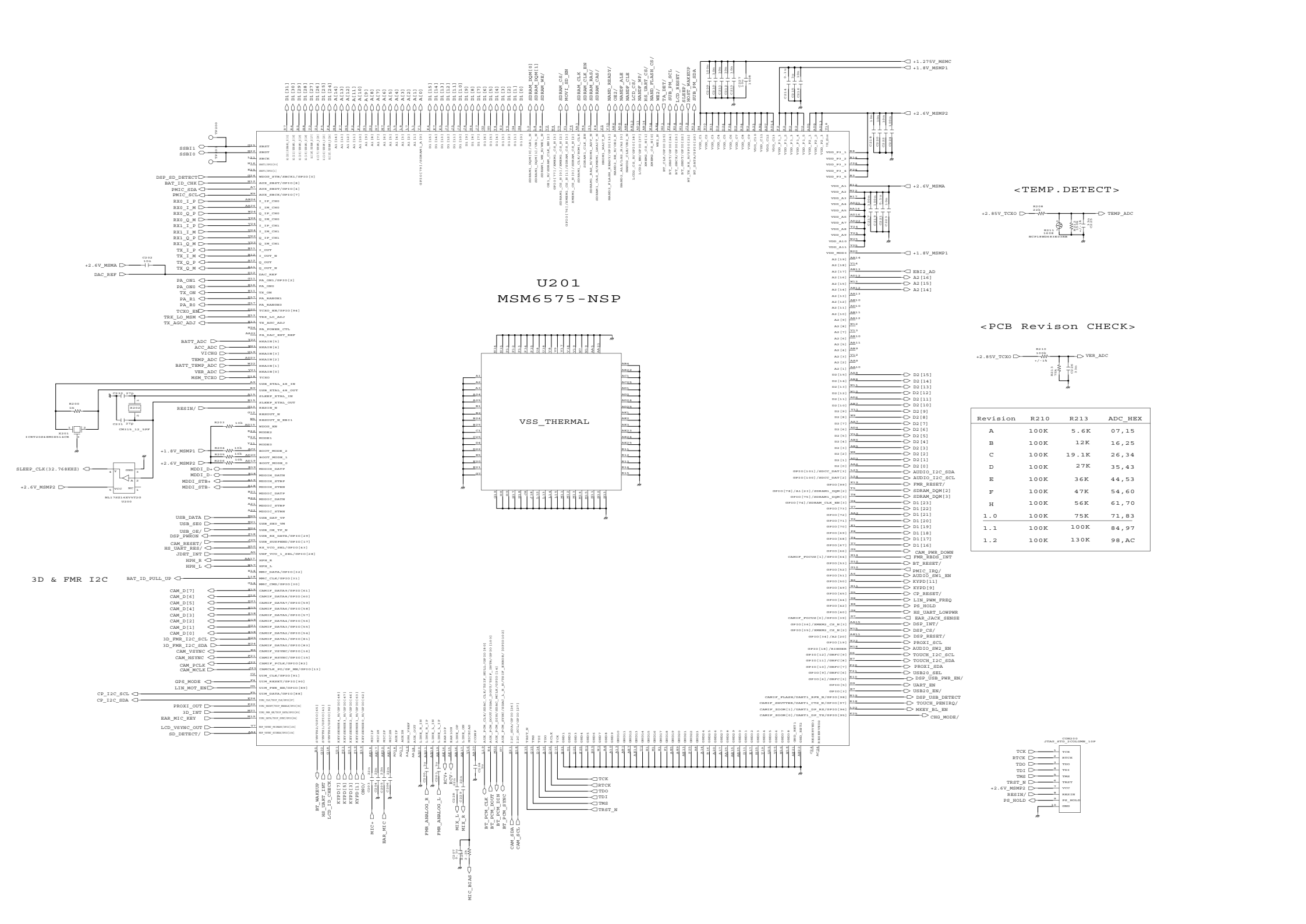


TX POWER DST.



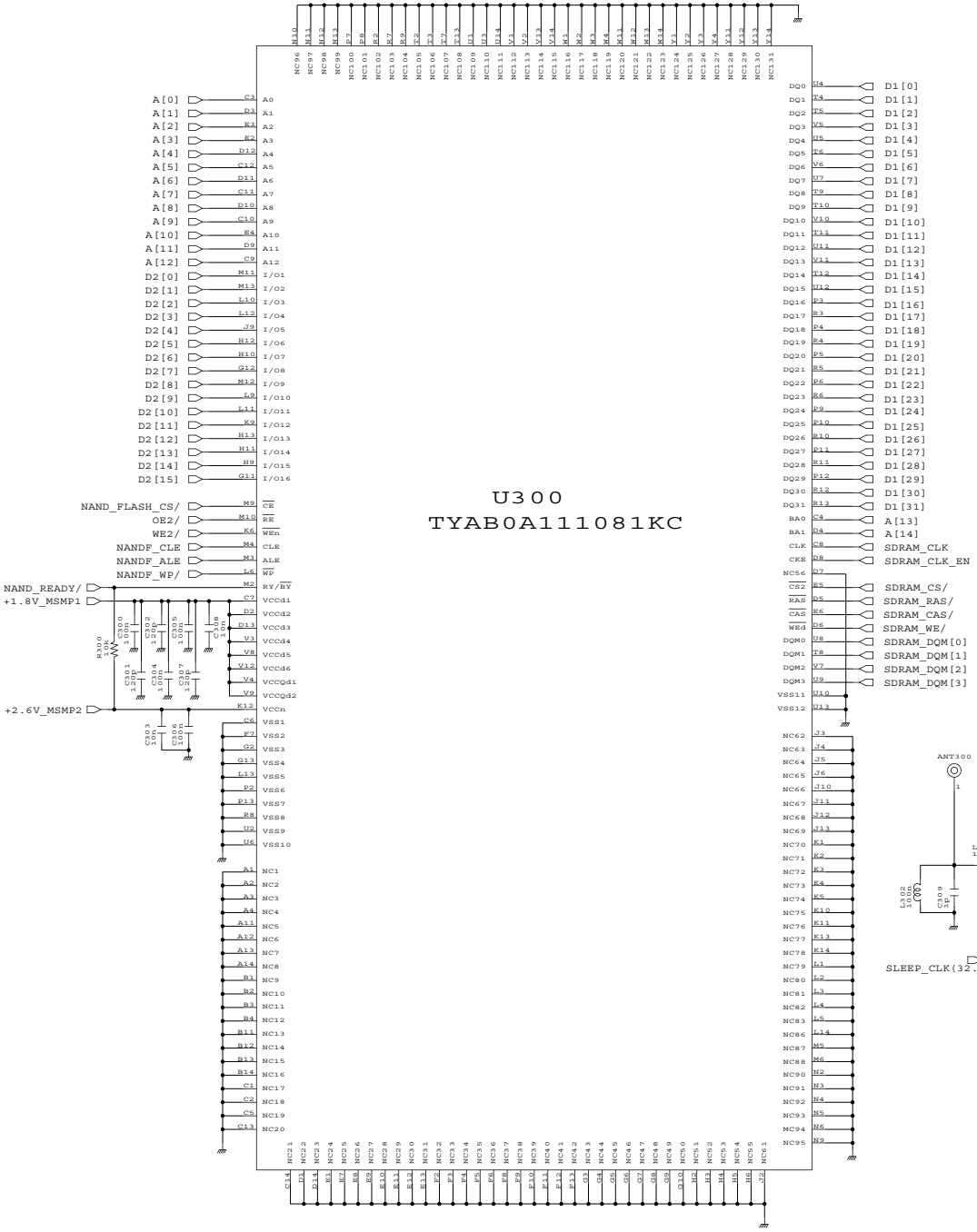
RX POWER DISTRIBUTION





Revision	R210	R213	ADC_HEX
A	100K	5.6K	07,15
B	100K	12K	16,25
C	100K	19.1K	26,34
D	100K	27K	35,43
E	100K	36K	44,53
F	100K	47K	54,60
H	100K	56K	61,70
1.0	100K	75K	71,83
1.1	100K	100K	84,97
1.2	100K	130K	98,AC

MCP(2G NAND+1G SDRAM)



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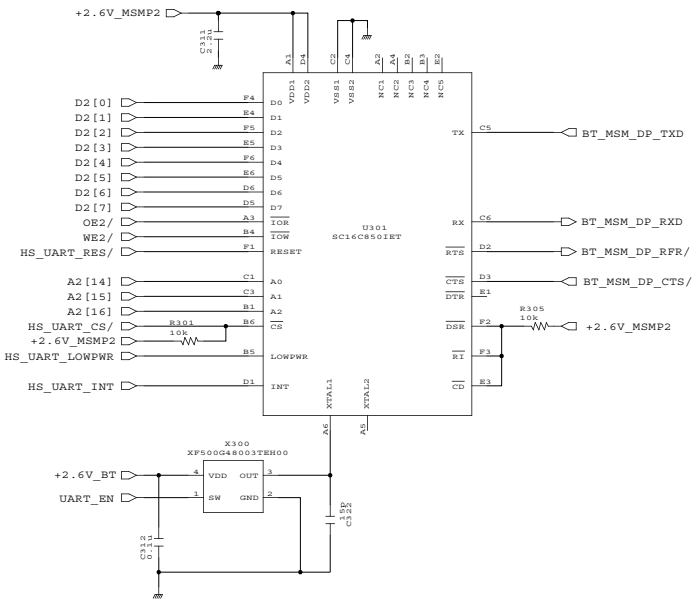
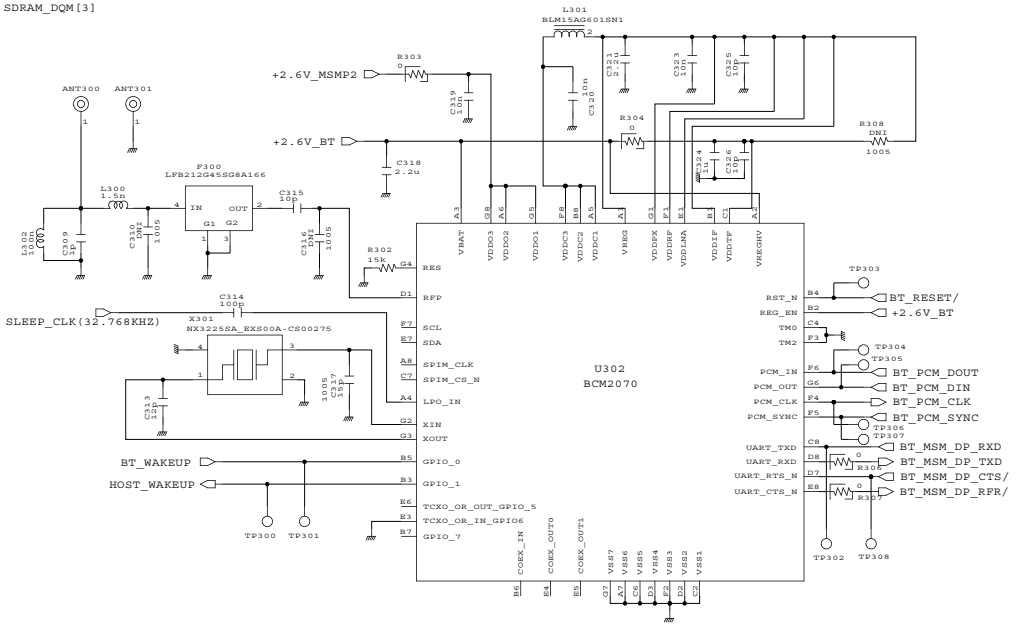


BLUETOOTH MODULE



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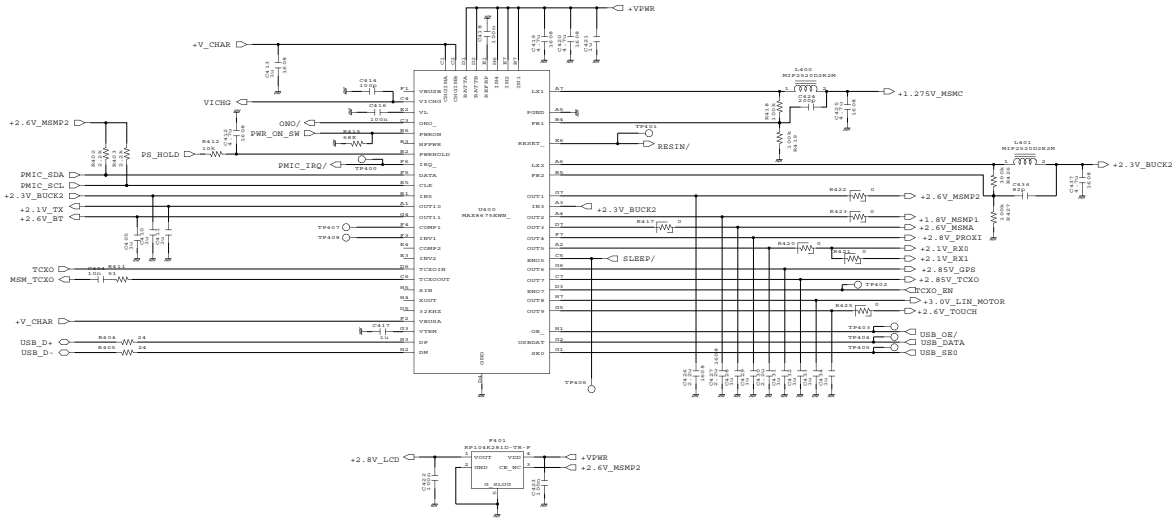

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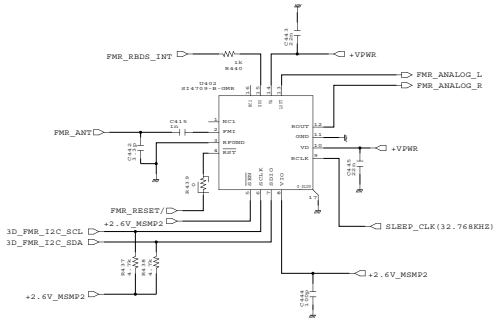

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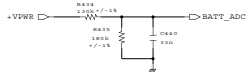
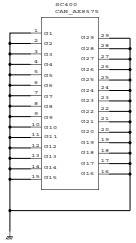
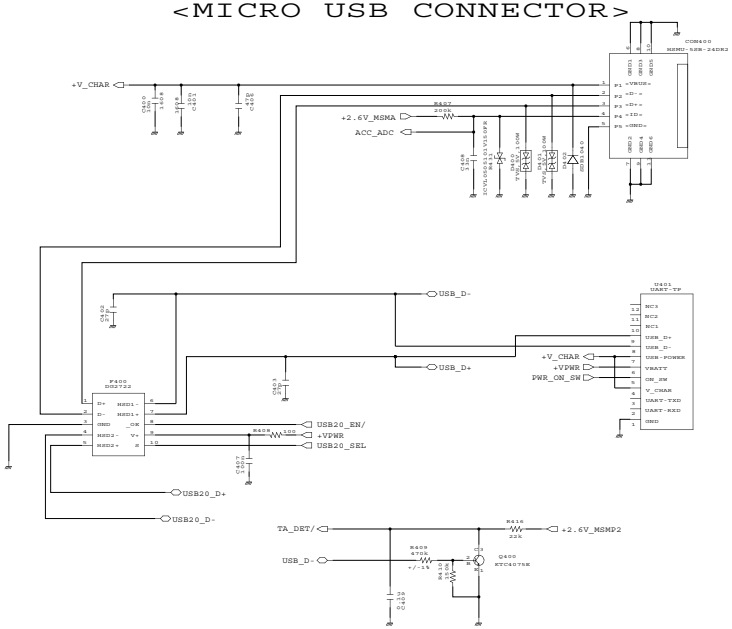


<Shield Can>

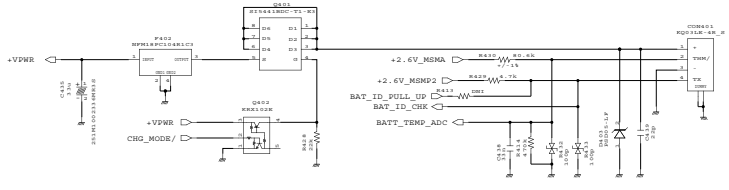


<MICRO USB CONNECTOR>

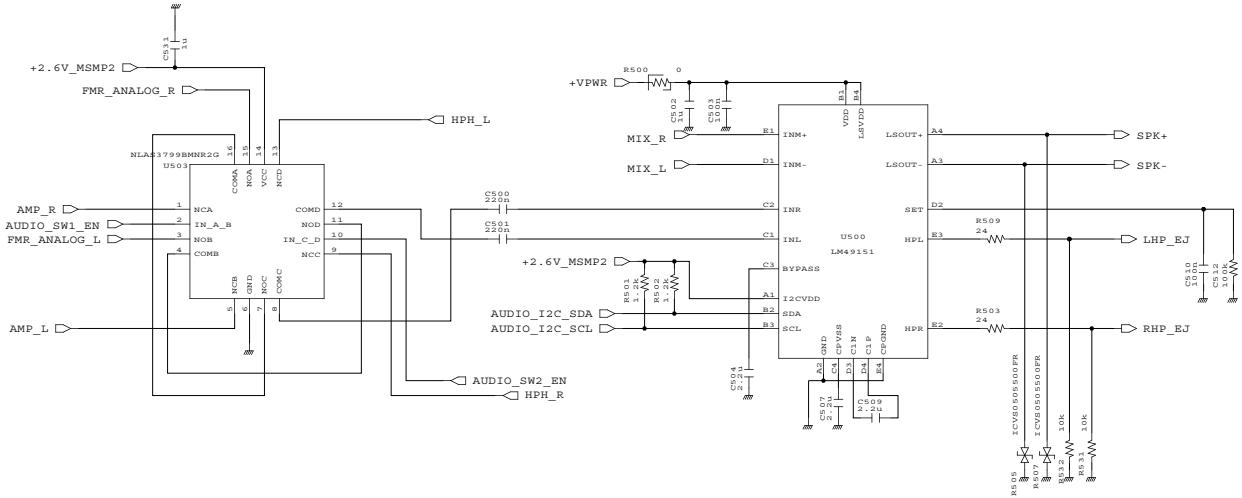


<Middle Part contact>

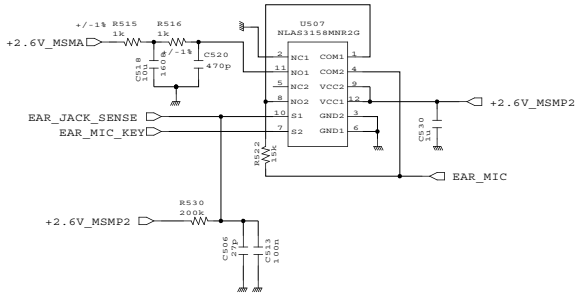
<BATTERY CONTACT>



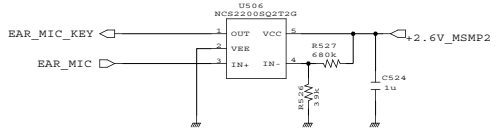
<AUDIO SUBSYSTEM>



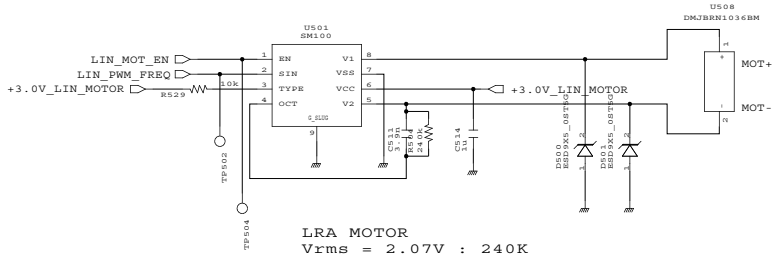
<EARPHONE JACK>



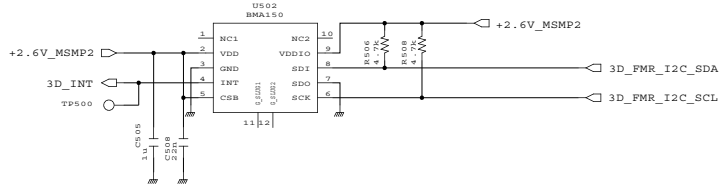
3/4POLE DETECT



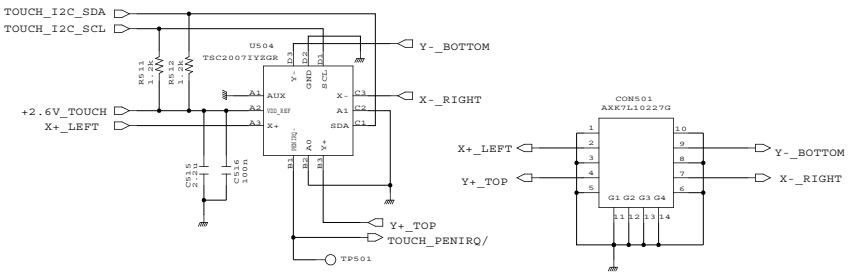
TOUCH VIBRATION



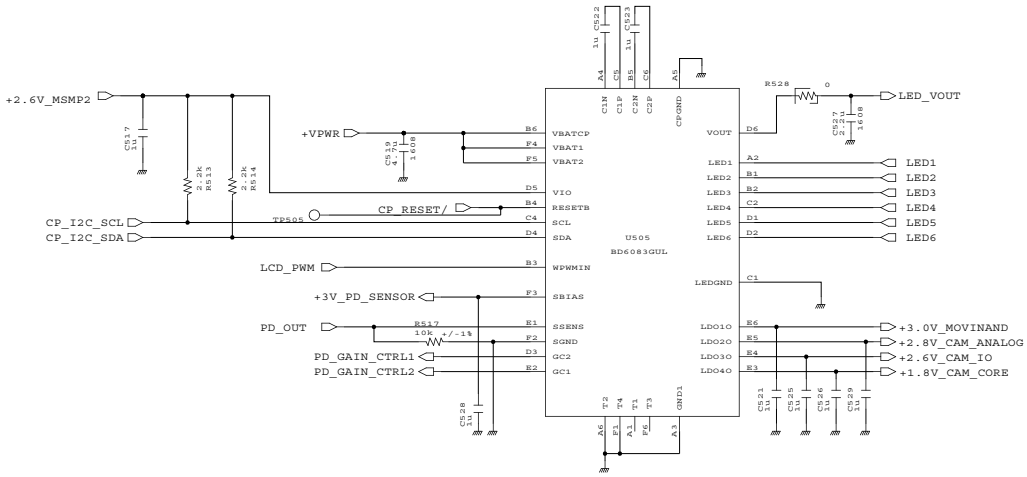
<3D ACCELATION SENSOR>



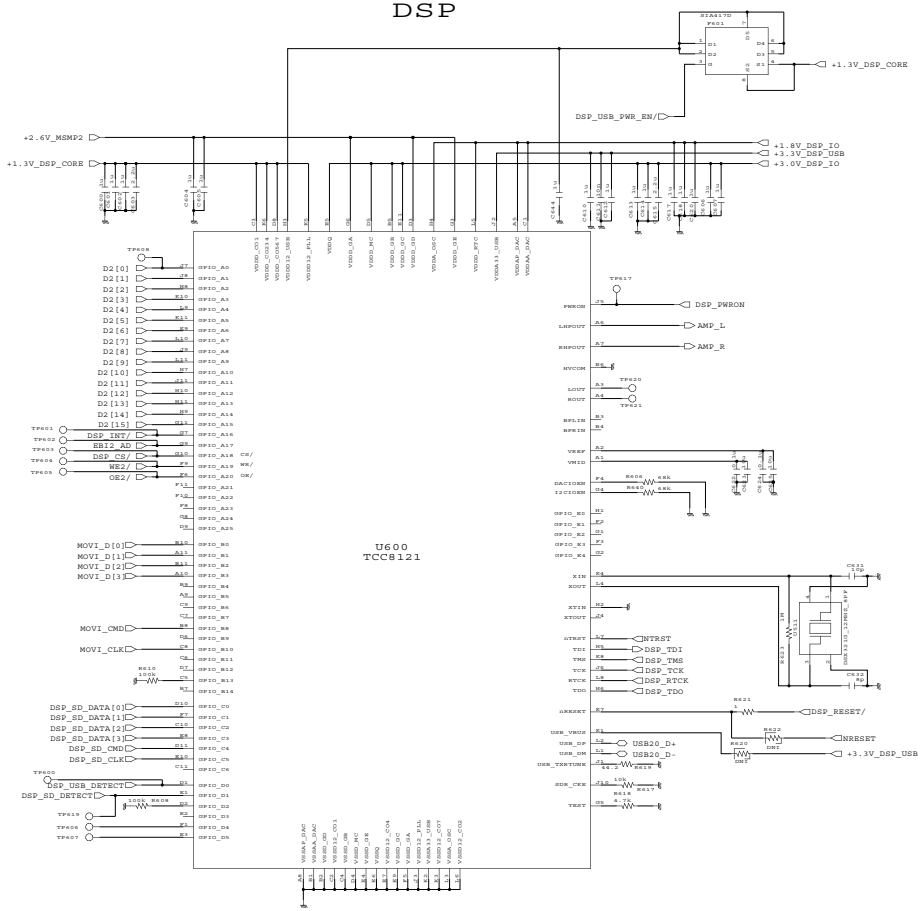
<TOUCH DRIVER IC>



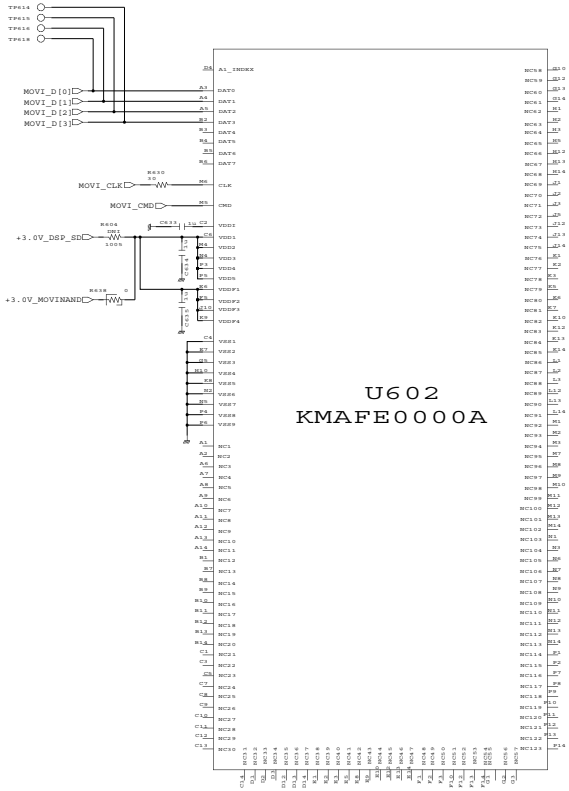
LCD CHARGE PUMP & CAM LDO



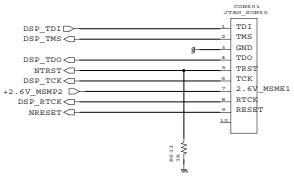
DSP



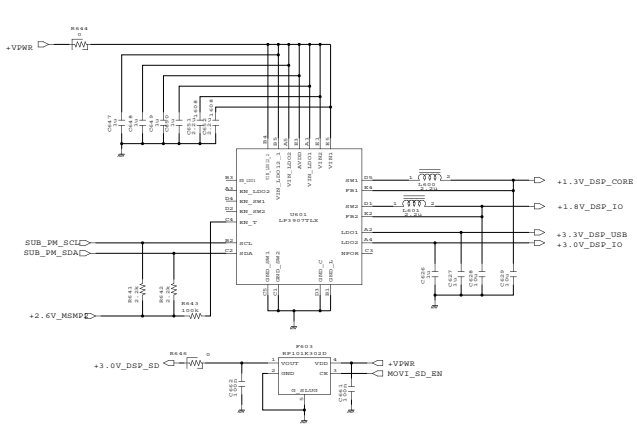
MOVINAND 1GBytes



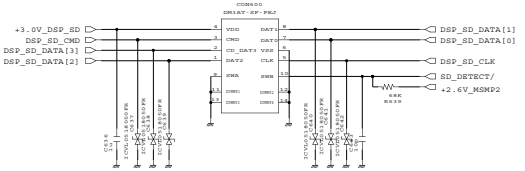
DSP JTAG



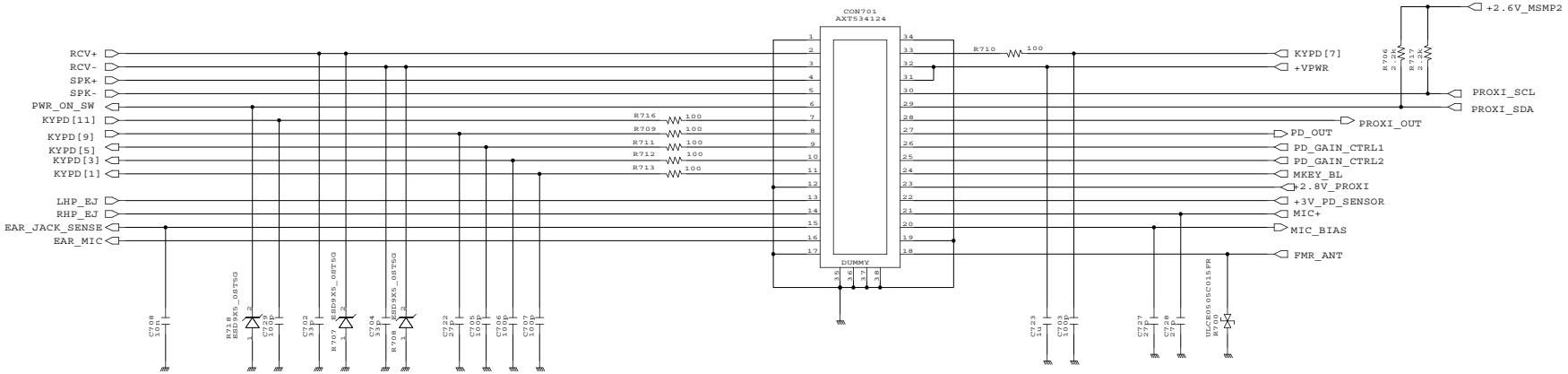
DSP POWER



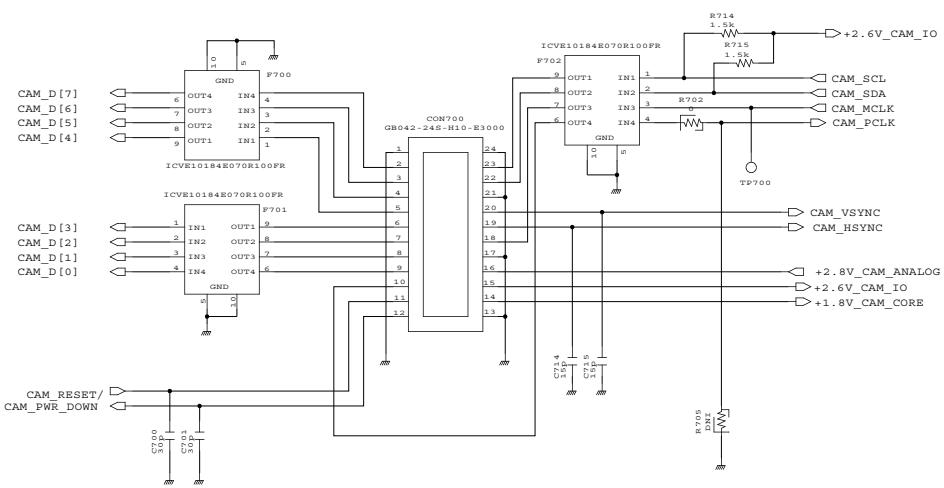
<microSD Socket>



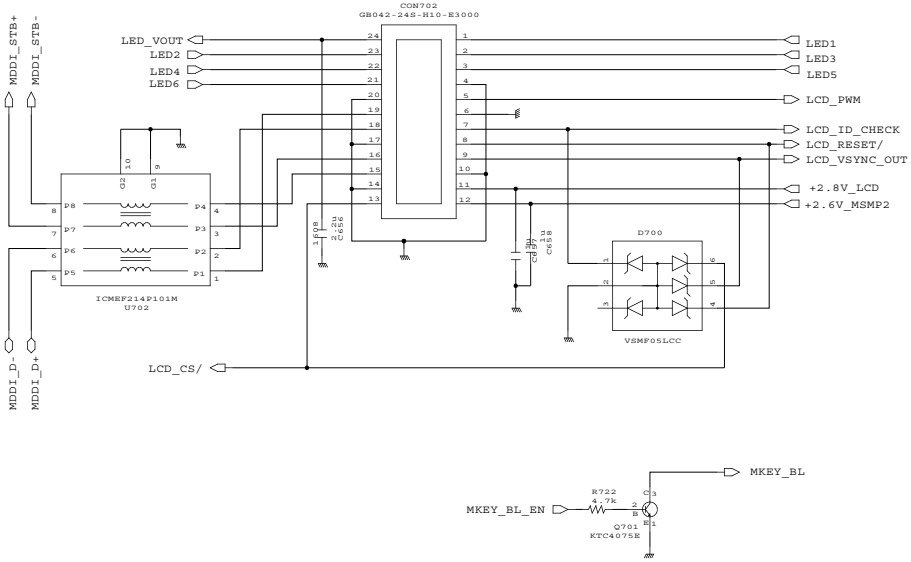
< TO FPCB CONNECTOR >



< TO CAMERA CONNETOR >



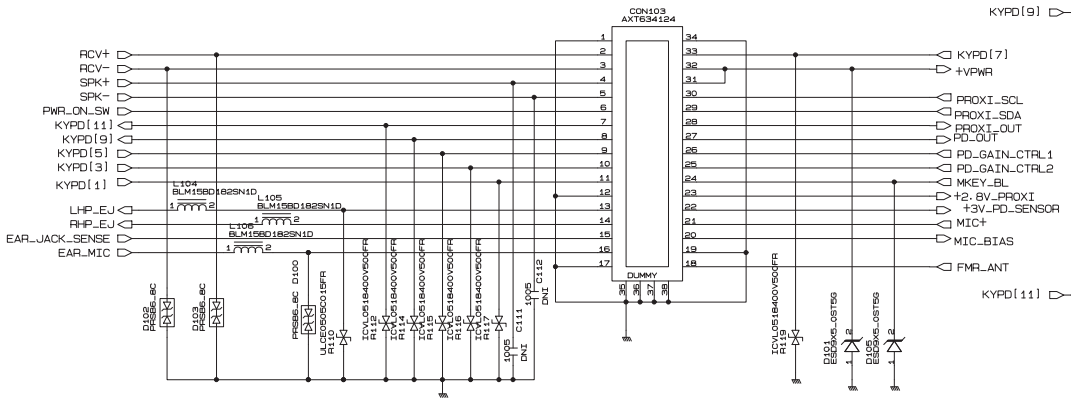
< TO LCD CONNECTOR >



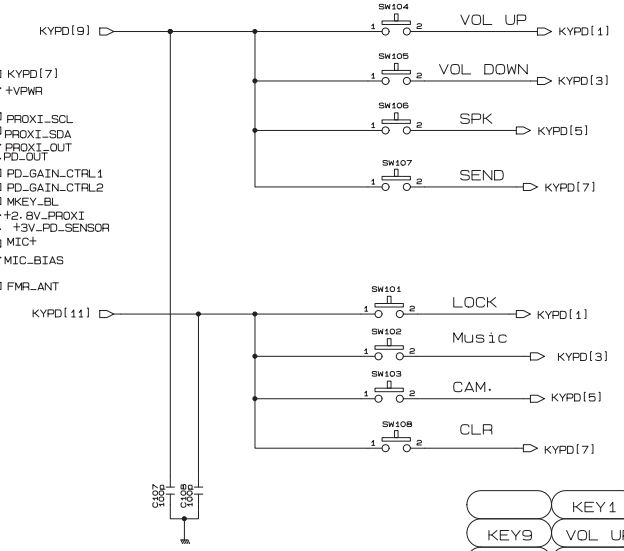
AX8575 Circuit diagram

- FPCB

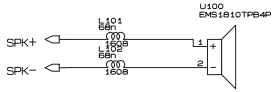
< TO BORAD CONNECTOR >



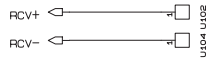
SIDE KEY



SPK

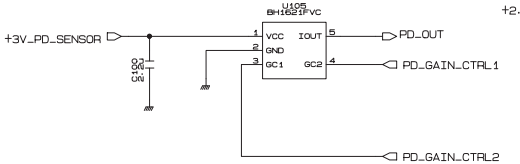


RCV

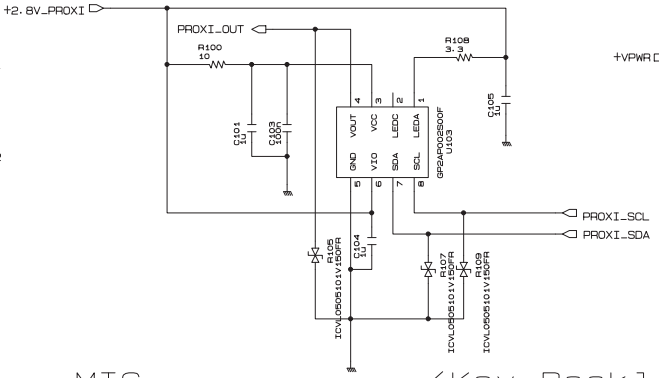


	KEY1	KEY3	KEY5	KEY7
KEY9	VOL UP	VOL DOWN	SPK	Send
KEY11	LOCK	Music	CAM	CLR

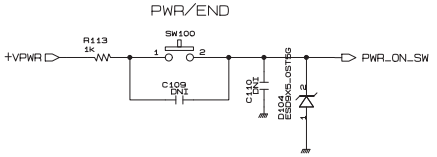
LIGHT SENSOR



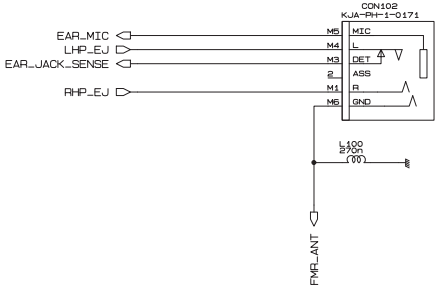
PROXIMITY

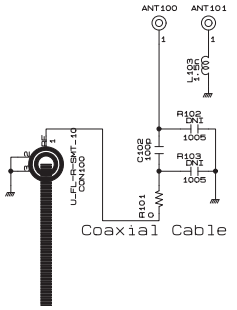


< PWR/END >

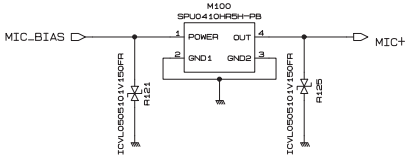


< 3.5 Pi EAR JACK>

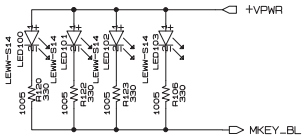




MIC



<Key Backlight>



2. BGA Pin Map

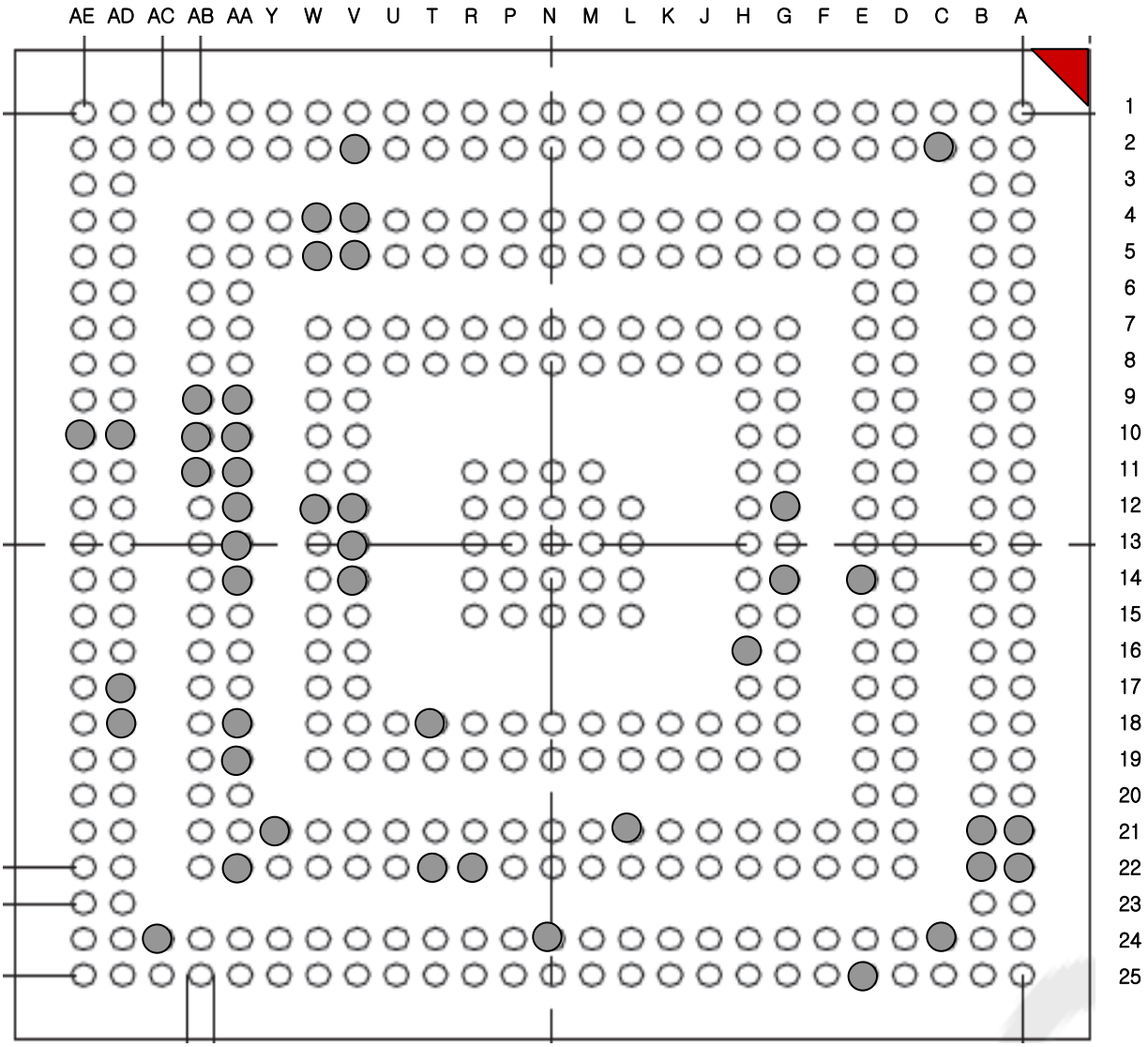
(Top View)

1. MSM6575-NSP (U201) – MSM

USED

NOT USED

PIN #1

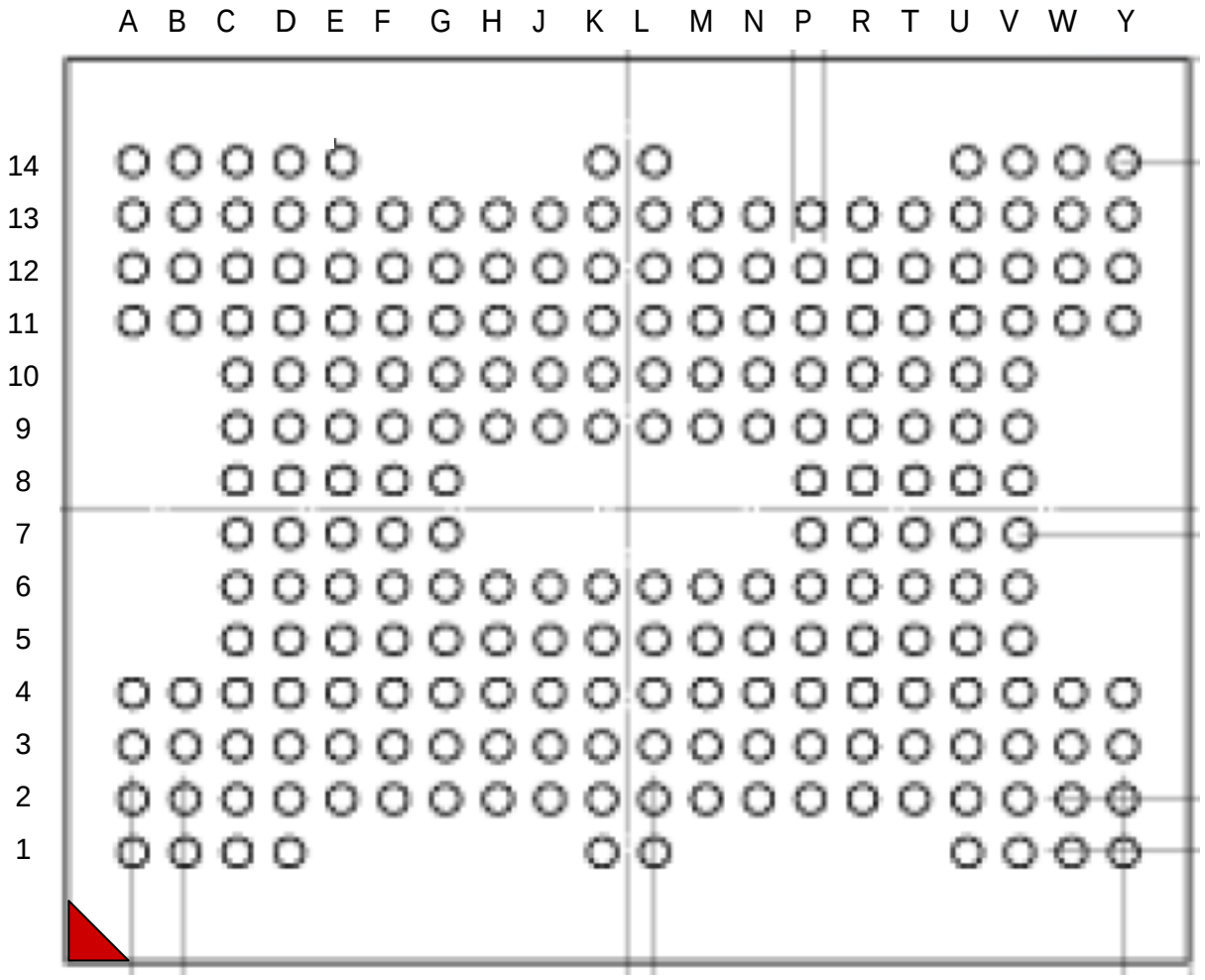


2. TYAB0A111081KC (U300) - Memory

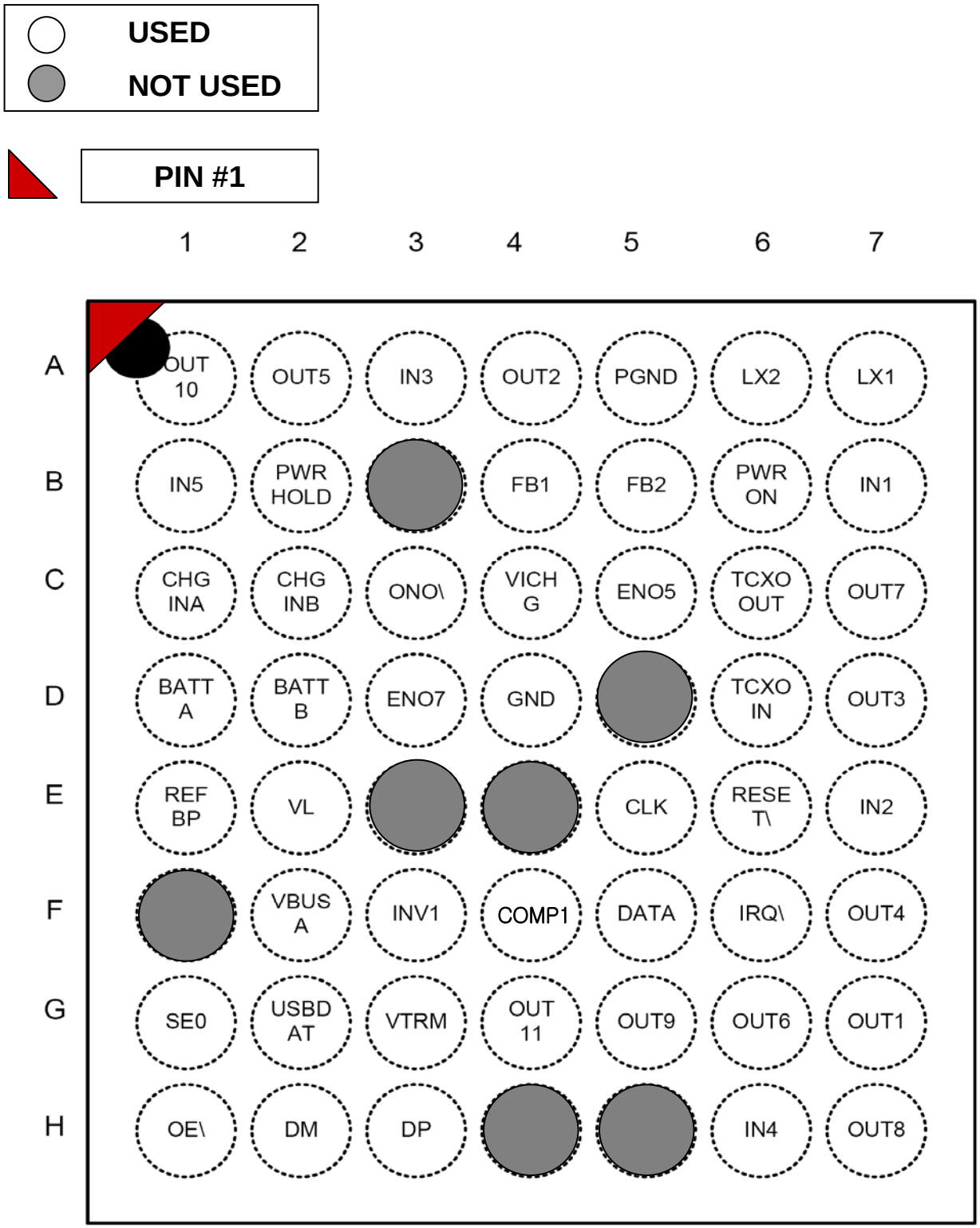
USED

NOT USED

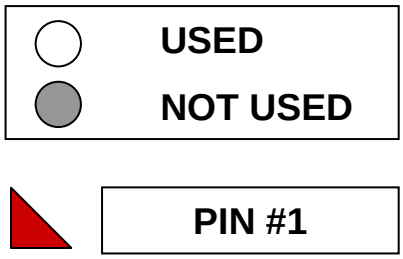
PIN #1

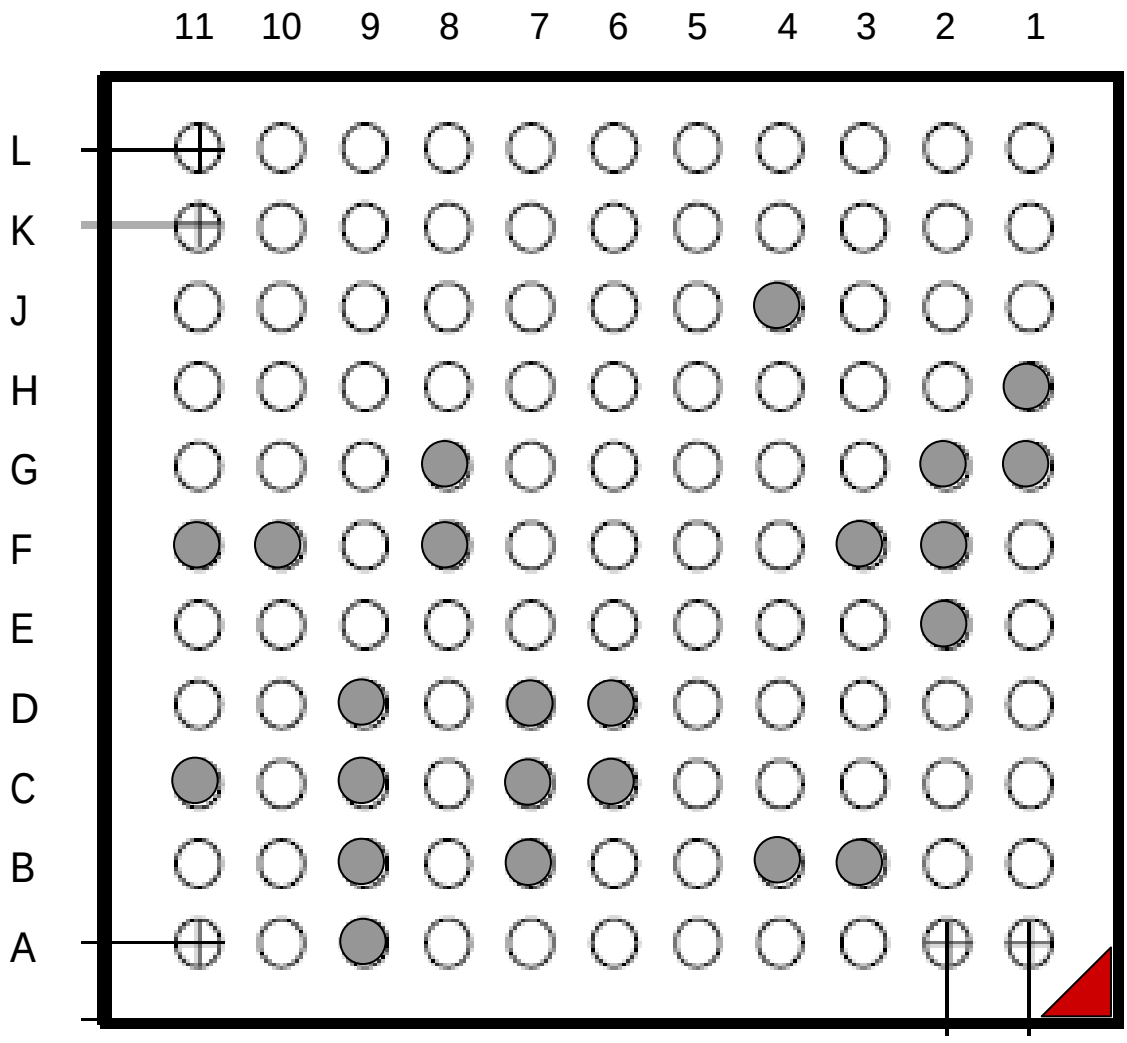


3. MAX8675EWN_ (U400) – PMIC



4. TCC8121 (U600) – DSP



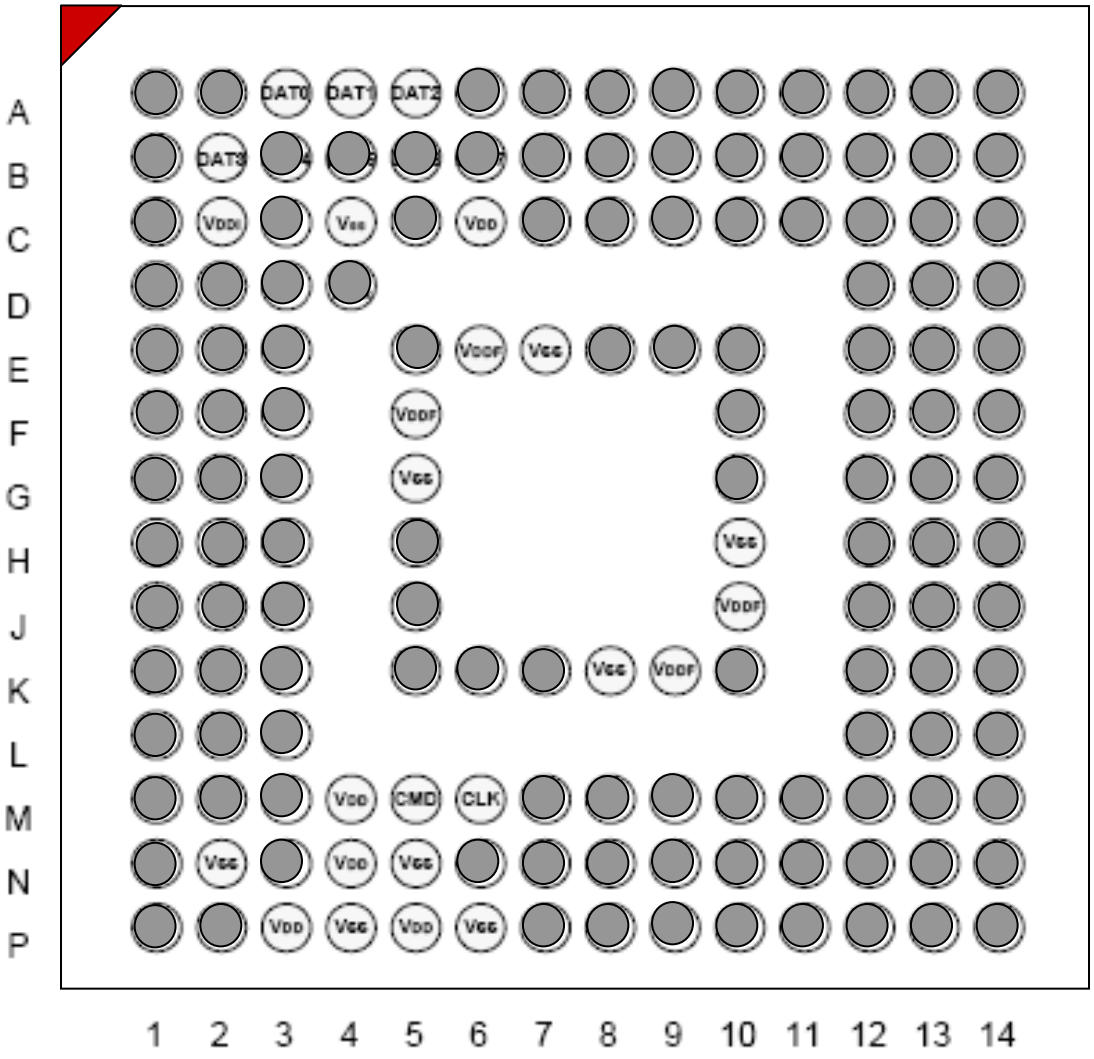


5. KMAFE000A (U602) – MoviNAND

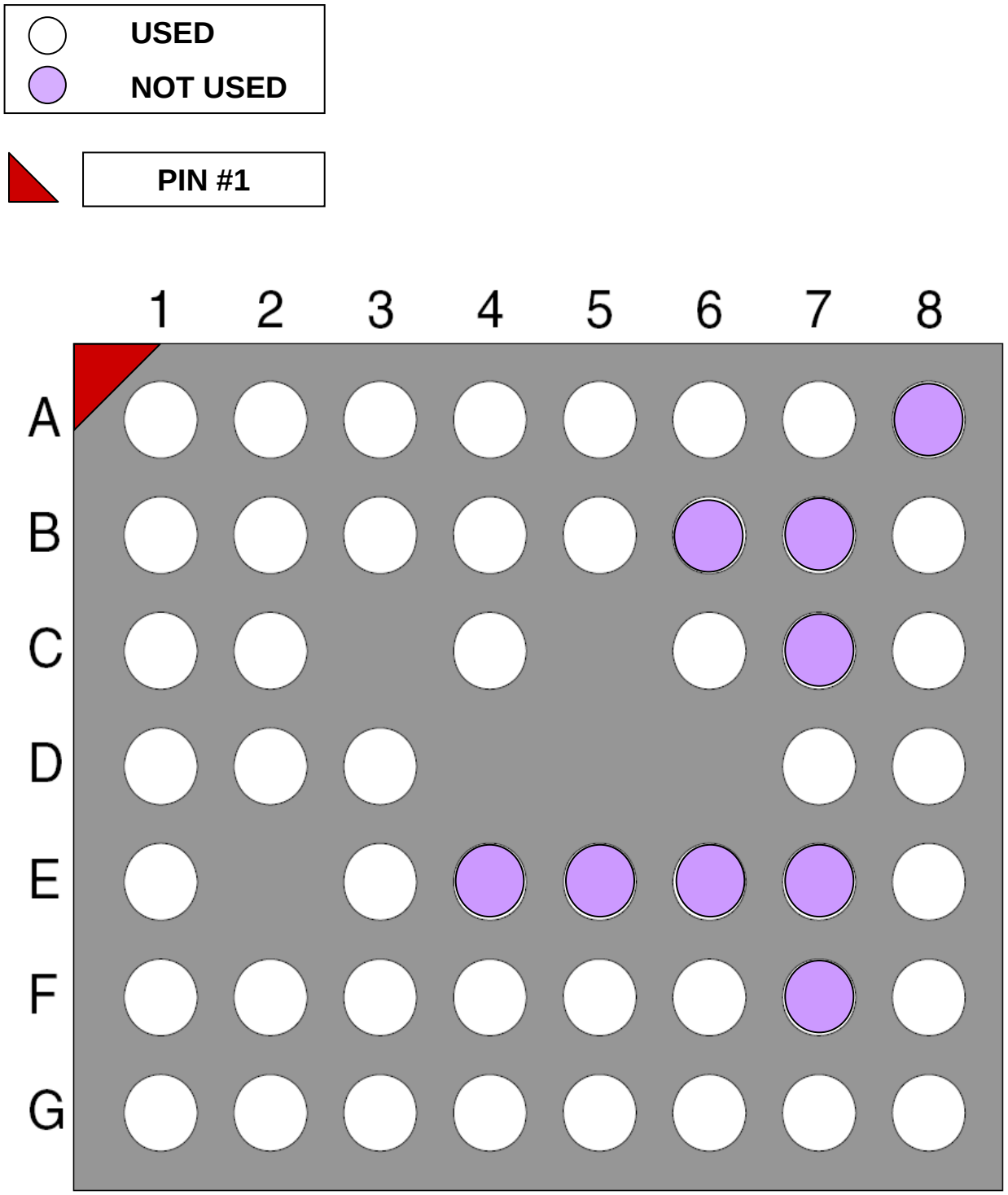
USED

NOT USED

PIN #1



6. BCM2070 (U302) – BT Module

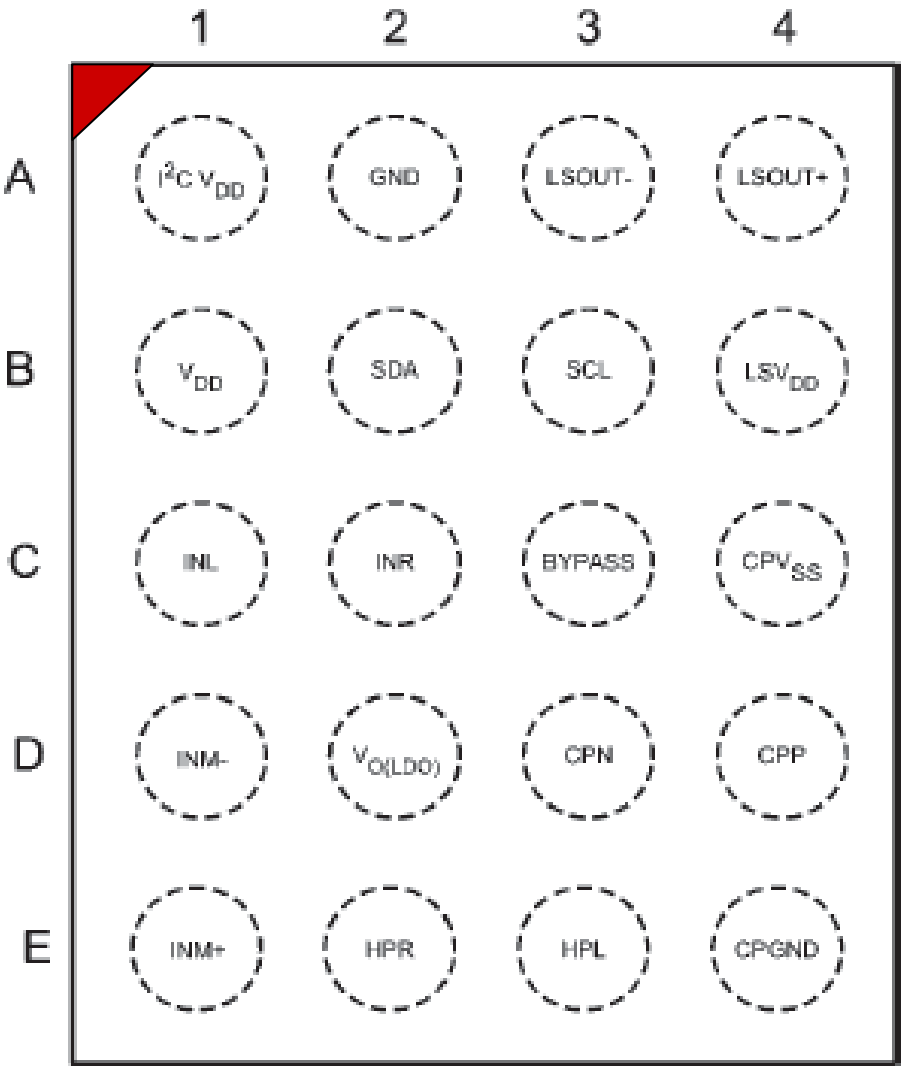


7. LM490151 (U500) – Audio Sub System

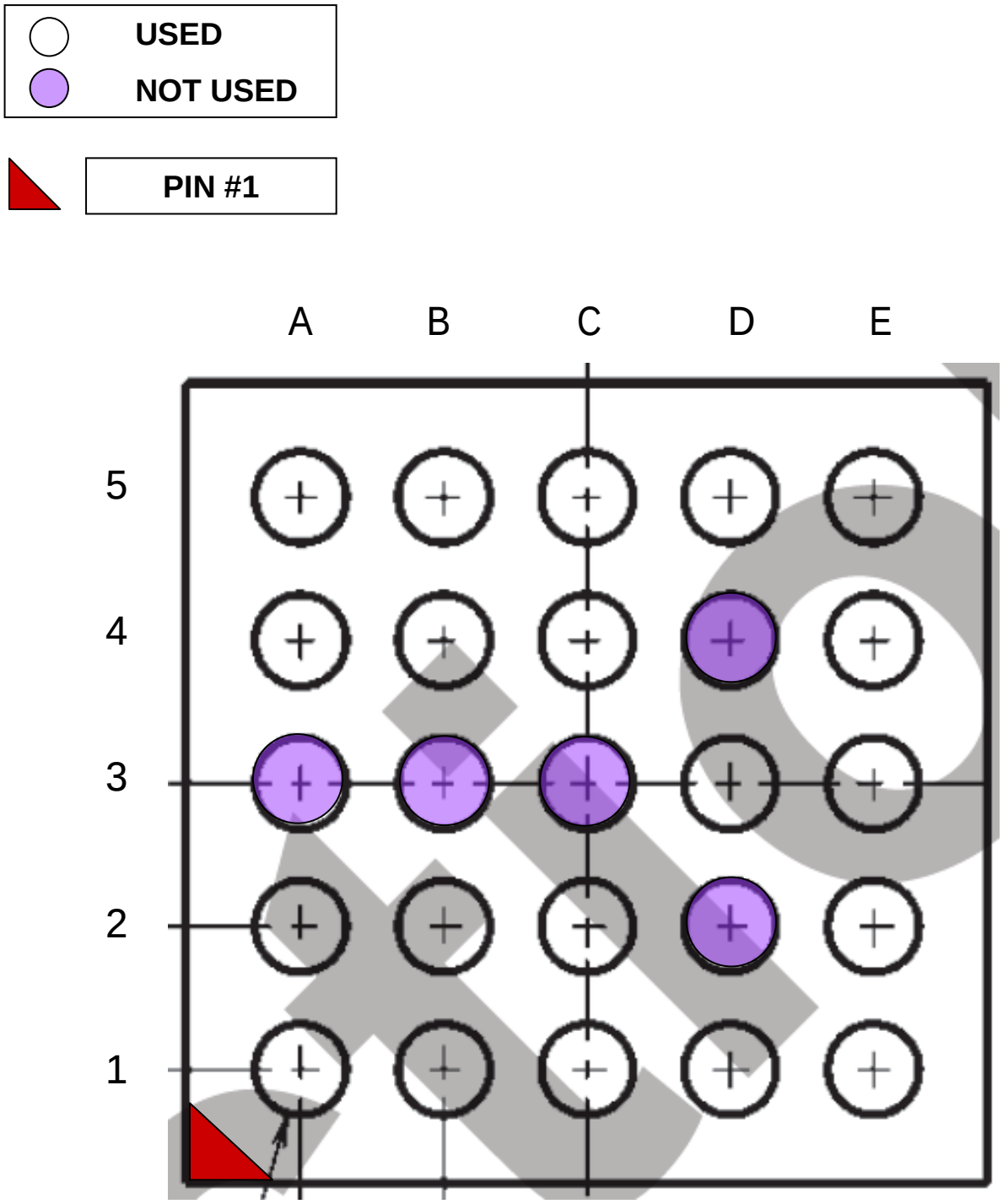
USED

NOT USED

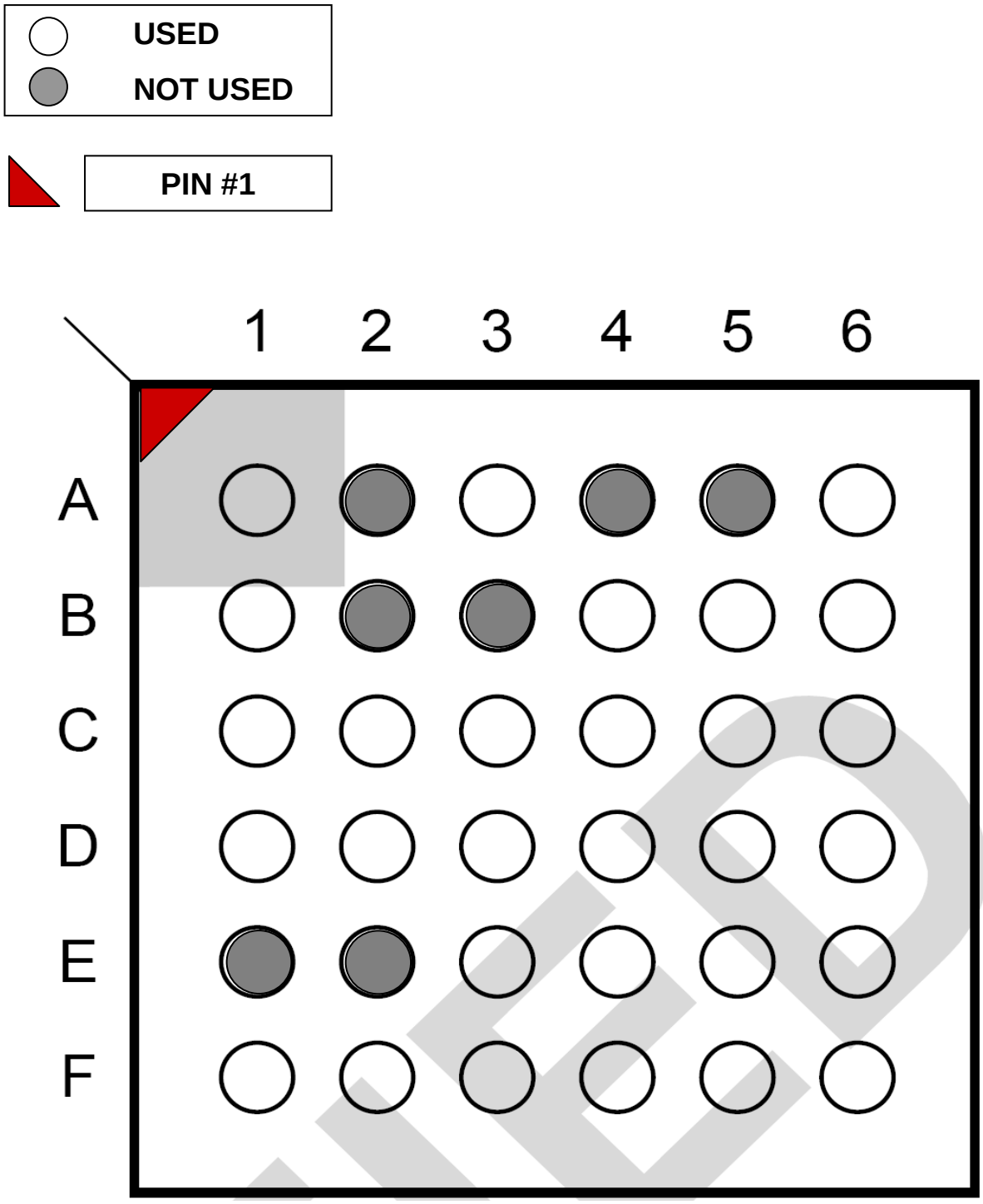
PIN #1



8. LP3907TLX (U601) – Sub PMIC



9. SC16C850IET (U301) – High Speed UART

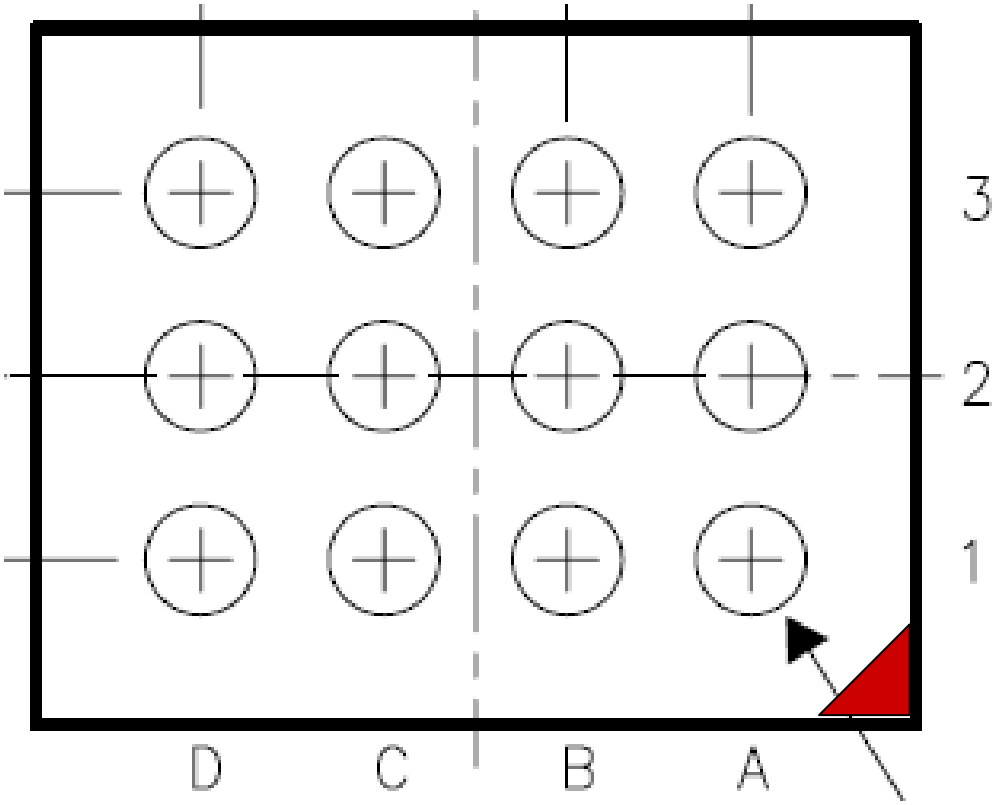


10. TSC2007IYZGR (U504) – Touch Driver IC

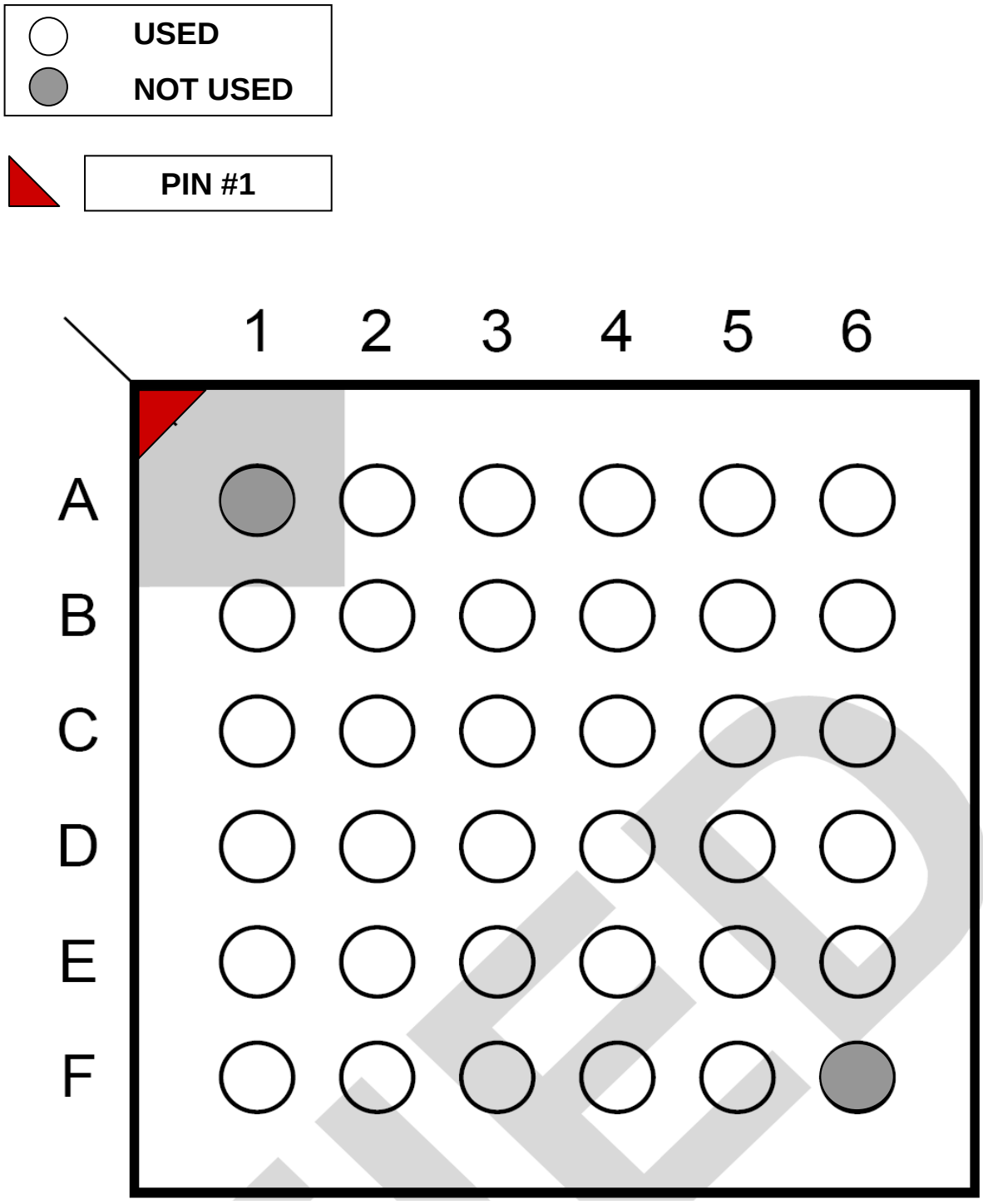
USED

NOT USED

PIN #1



11. BD6083GUL (U505) – Charge Pump



3. Component Layout

Touch Driver IC
P/N : TSC2007IYZGR
R/N : U504
Can't Operate Touch LCD

FM_Module
P/N : SI4709-B-GMR
R/N : U402
Low FM Radio Sensitivity

Audio_Sub_System
P/N : LM49151
R/N : U500
No Audio

Analog Switch
P/N : NLAS3799BMNR2G
R/N : U503
No Speaker or Earphone

Motor Amplifier
P/N : SM100
R/N : U501
No Touch Vibration

VCTCXO
P/N : DSA321SCA-19_20M
R/N : U103
No Power On

MINI USB
P/N : HSMU-5SB-24DR2
R/N : CON400
Can't Charge

Memory
P/N : TYAB0A111081KC
R/N : U300
Can't Power On

PCS/DCN Dual Rx Saw
P/N : B9318
R/N : F101
Low Sensitivity
No Service

Transceiver
P/N : RTR6500
R/N : U111
Low Tx Power
Can't Make a Call
No Service
Low Sensitivity

PCS/DCN Dual Tx Saw
P/N : B9314
R/N : F102
Low Tx Power

Load Switch
P/N : SIP4282
R/N : F100
Can't Operate PAM
No Tx Power

MSM6575
P/N : MSM6575-NSP
R/N : U201
Can't Power On

Oscillator
P/N :
ICRT20S48M0X514CR
R/N : X201
Can't Charge

PMIC
P/N : MAX8675EWN_
R/N : U400
No Power On
No Charge

Quad-plexer
P/N : ACFM-7107
R/N : U105
Low Sensitivity
No Service
Can't Make a Call

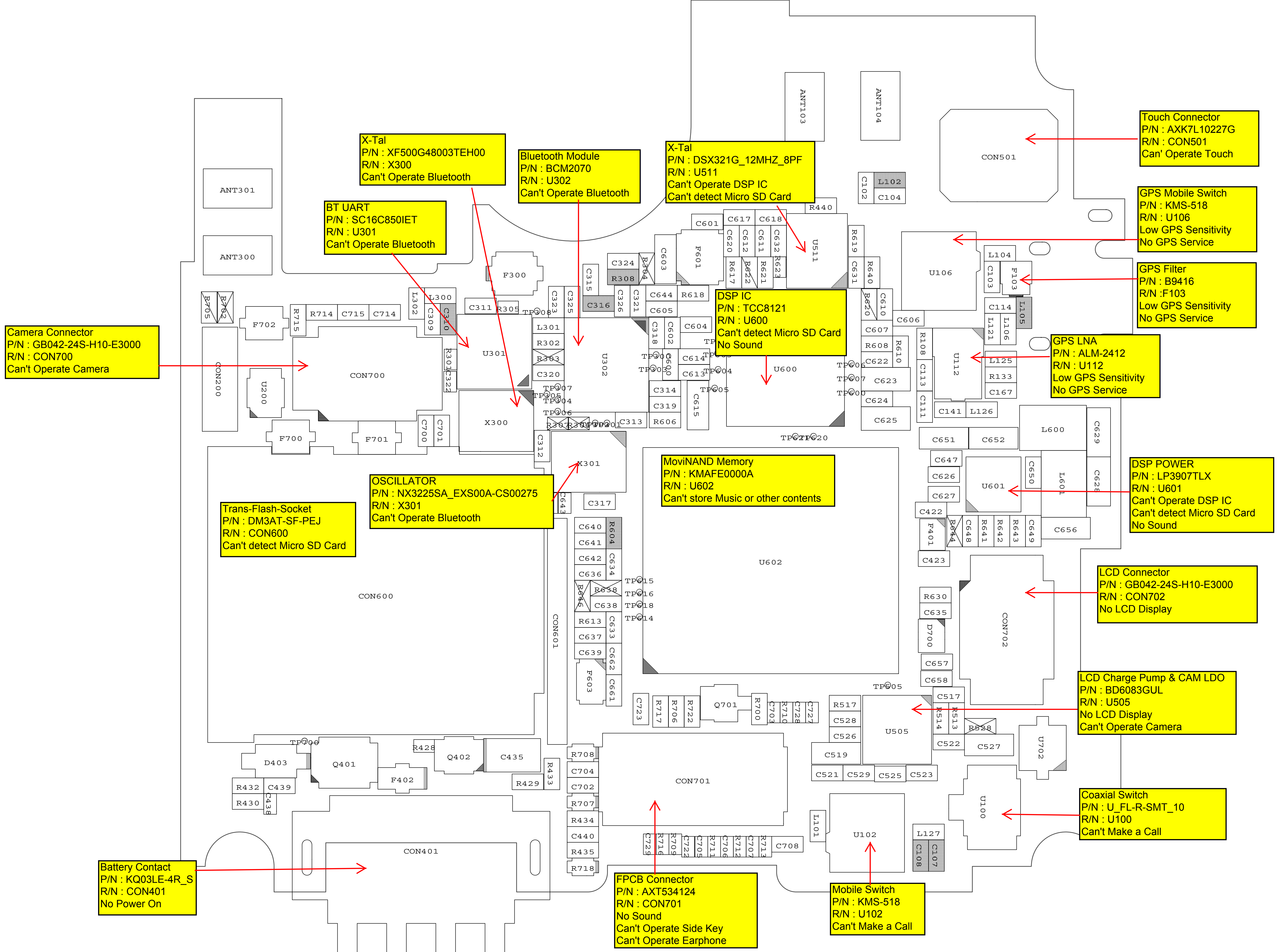
Sleep X'tal
P/N : CM315_12_5PF
R/N : X202
Can't Make a call

3AXIS_ACCELEROMETER
P/N : BMA150
R/N : U502
Can't Operate 3AXIS Sensor

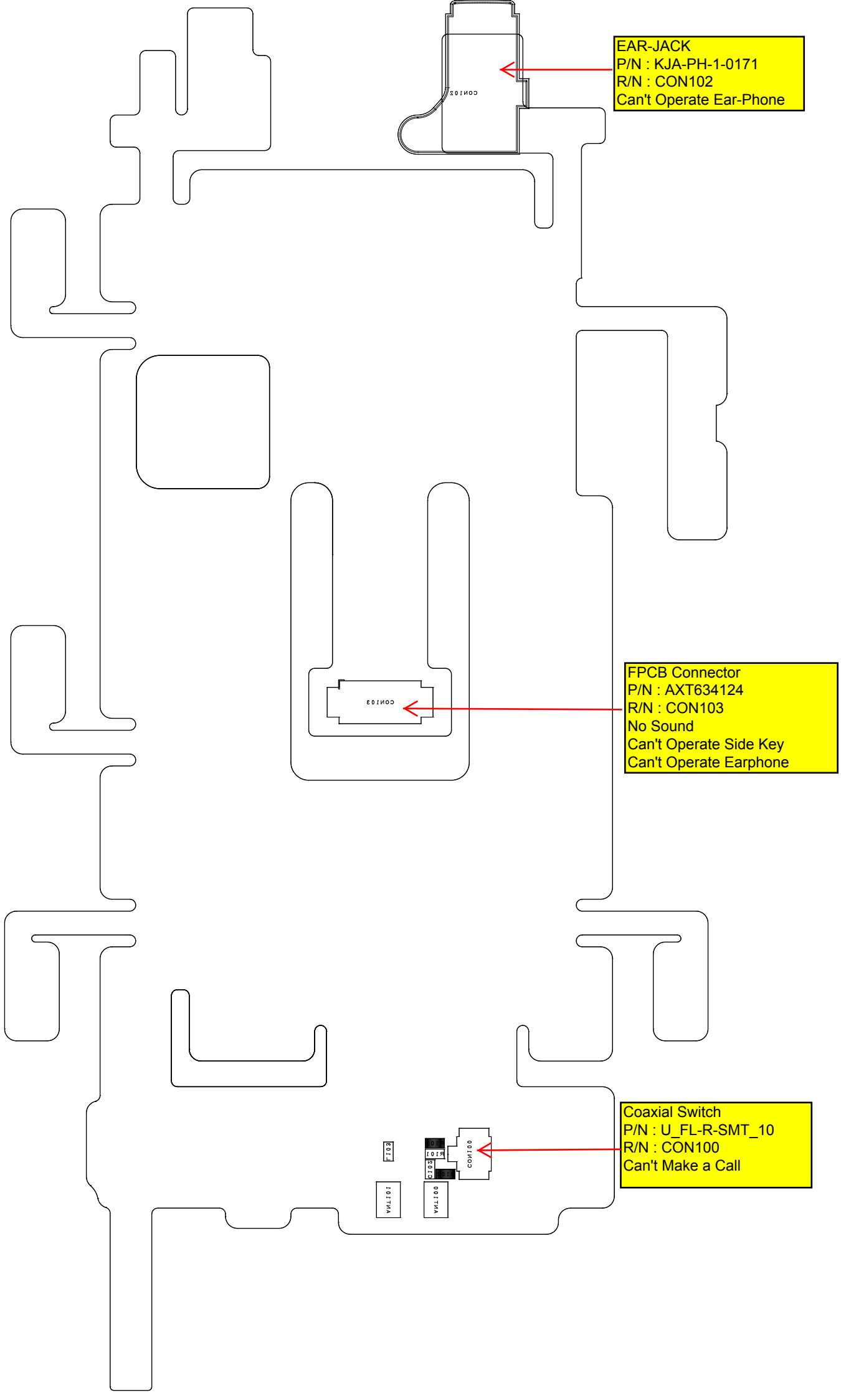
PCS/DCN Coupler
P/N : LDC15874M19Q-360
LDC151G8620Q-359
R/N : U107, U108
Can't Adjust Power

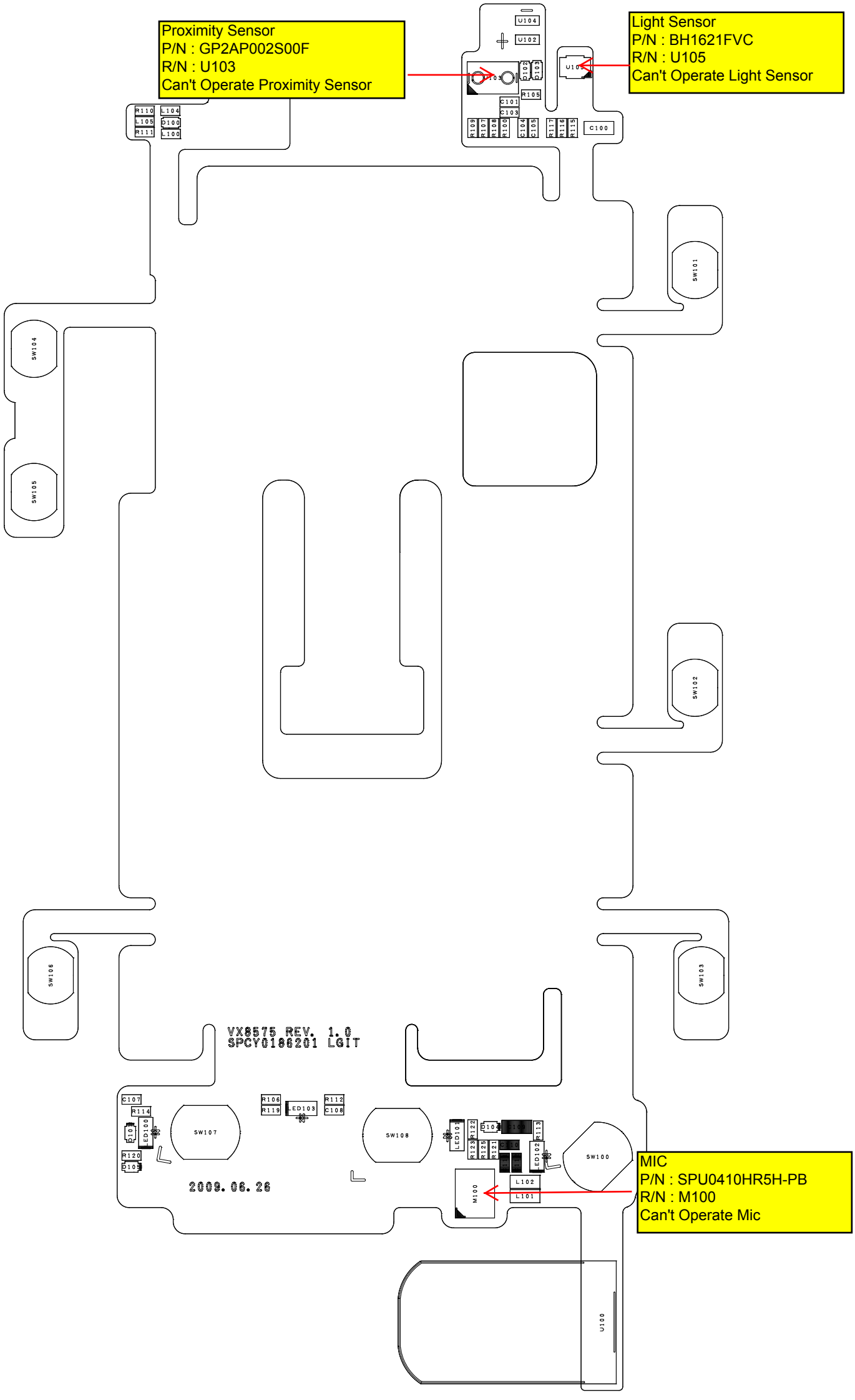
PCS/DCN Power Amplifier
P/N : ACPM-7353
R/N : U109
No Tx Power
Can't Make a Call

D-F/F
P/N : NC7SZ74L8X
R/N : U104
No Power On



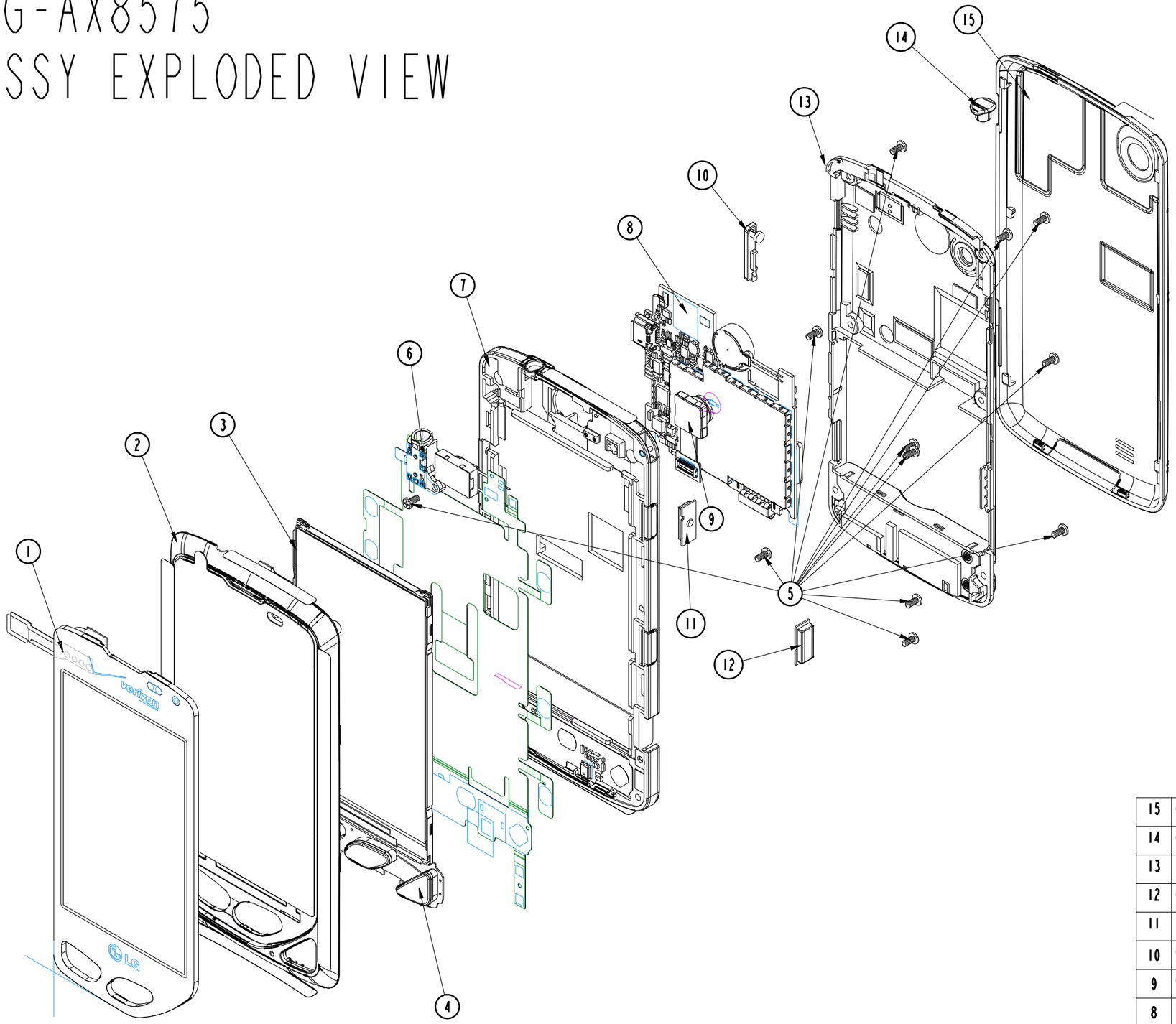
X-Tal
P/N : XF500G48003TEH00
R/N : X300
Can't Operate Bluetooth
Bluetooth Module
P/N : BCM2070
R/N : U302
Can't Operate Bluetooth
X-Tal
P/N : DSX321G_12MHZ_8PF
R/N : U511
Can't Operate DSP IC
Can't detect Micro SD Card
Touch Connector
P/N : AXK7L10227G
R/N : CON501
Can' Operate Touch
GPS Mobile Switch
P/N : KMS-518
R/N : U106
Low GPS Sensitivity
No GPS Service
BT UART
P/N : SC16C850IET
R/N : U301
Can't Operate Bluetooth
GPS Filter
P/N : B9416
R/N :F103
Low GPS Sensitivity
No GPS Service
DSP IC
P/N : TCC8121
R/N : U600
Can't detect Micro SD Card
No Sound
Camera Connector
P/N : GB042-24S-H10-E3000
R/N : CON700
Can't Operate Camera
GPS LNA
P/N : ALM-2412
R/N : U112
Low GPS Sensitivity
No GPS Service
MoviNAND Memory
P/N : KMAFE0000A
R/N : U602
Can't store Music or other contents
DSP POWER
P/N : LP3907TLX
R/N : U601
Can't Operate DSP IC
Can't detect Micro SD Card
No Sound
OSCILLATOR
P/N : NX3225SA_EXS00A-CS00275
R/N : X301
Can't Operate Bluetooth
Trans-Flash-Socket
P/N : DM3AT-SF-PEJ
R/N : CON600
Can't detect Micro SD Card
LCD Connector
P/N : GB042-24S-H10-E3000
R/N : CON702
No LCD Display
LCD Charge Pump & CAM LDO
P/N : BD6083GUL
R/N : U505
No LCD Display
Can't Operate Camera
Coaxial Switch
P/N : U_FL-R-SMT_10
R/N : U100
Can't Make a Call
Battery Contact
P/N : KQ03LE-4R_S
R/N : CON401
No Power On
FPCB Connector
P/N : AXT534124
R/N : CON701
No Sound
Can't Operate Side Key
Can't Operate Earphone
Mobile Switch
P/N : KMS-518
R/N : U102
Can't Make a Call


EAR-JACK
P/N : KJA-PH-1-0171
R/N : CON102
Can't Operate Ear-Phone
FPCB Connector
P/N : AXT634124
R/N : CON103
No Sound
Can't Operate Side Key
Can't Operate Earphone
Coaxial Switch
P/N : U_FL-R-SMT_10
R/N : CON100
Can't Make a Call


Proximity Sensor
P/N : GP2AP002S00F
R/N : U103
Can't Operate Proximity Sensor
Light Sensor
P/N : BH1621FVC
R/N : U105
Can't Operate Light Sensor
MIC
P/N : SPU0410HR5H-PB
R/N : M100
Can't Operate Mic
VX8575 REV. 1.0
SPCY0186201 LGIT
2009.06.26
U104
U102
U103
U105
C101
C103
R105
C100
SW101
SW104
SW105
SW102
SW106
SW103
SW107
SW108
SW100
LED103
M100
L102
L101
U100

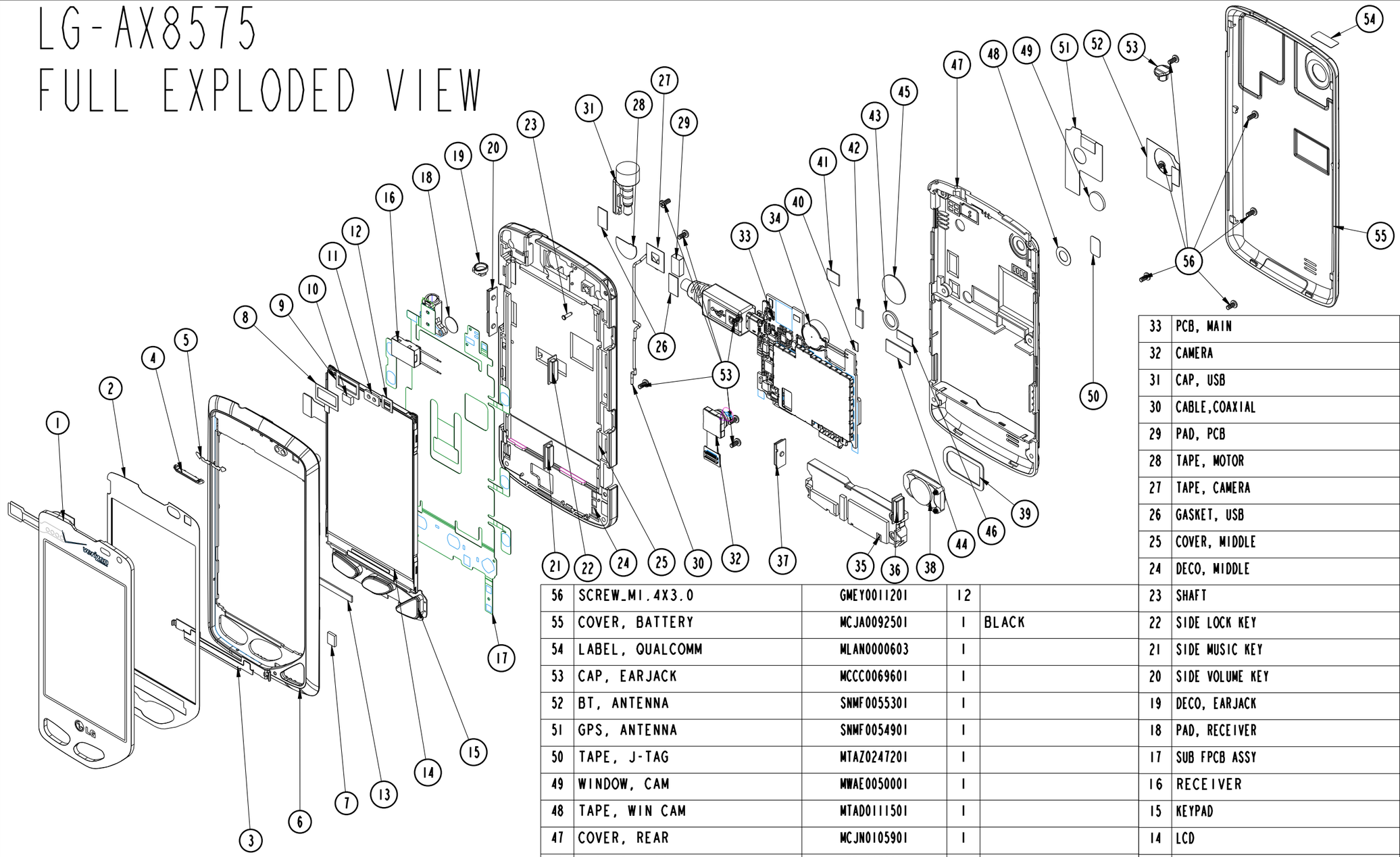
4. Assembly and Disassembly Diagram

LG-AX8575
ASSY EXPLODED VIEW



NO	DESCRIPTION	DRAWING NO	Qty	REMARK
15	COVER BATTERY	ACGA0034901	1	
14	CAP EARJACK RUBBER	MCCC0069601	1	
13	REAR ASSY	ACGM0137401	1	
12	CAMERA KEY	MBJL0094201	1	
11	SPEAKER KEY	MBJL0094601	1	
10	CAP USB	MCCE0052501	1	
9	CAMERA	SVCY0021301	1	
8	MAIN PCB	SAFY0331101	1	
7	COVER MIDDLE ASSY	ACGZ0019401	1	
6	SUB FPCB ASSY	SACY0099201	1	
5	SCREW_M1.4X3.0	GMEY0011201	12	
4	KEYPAD	ABGF0017401	1	
3	LCD	ABGF0017401	1	
2	FRONT ASSY	MCJK0110101	1	
1	WINDOW, TOUCH	MWAC0123901	1	

LG-AX8575
FULL EXPLODED VIEW



NO	DESCRIPTION	DRAWING NO	Qty	REMARK
56	SCREW_MI.4X3.0	GMEY0011201	12	
55	COVER, BATTERY	MCJA0092501	1	BLACK
54	LABEL, QUALCOMM	MLAN0000603	1	
53	CAP, EARJACK	MCCC0069601	1	
52	BT, ANTENNA	SNMF0055301	1	
51	GPS, ANTENNA	SNMF0054901	1	
50	TAPE, J-TAG	MTAZ0247201	1	
49	WINDOW, CAM	MWAE0050001	1	
48	TAPE, WIN CAM	MTAD0111501	1	
47	COVER, REAR	MCJN0105901	1	
46	PAD, CAM CONN	MPBU0073901	1	
45	PAD, MOTOR	MPBJ0067101	1	
44	PAD, MAIN CONN	MPBU0074101	1	
43	PAD, CAM	MPBT0079801	1	
42	PAD, LCD CONN	MPBU0074301	1	
41	PAD, WIN CONN	MPBU0074001	1	
40	PAD, CABLE CONN	MPBU0081801	1	
39	PAD, SPEAKER	MPBN0081801	1	
38	SPEAKER	GMEY0011201	12	
37	SIDE SPK KEY	ABGF0017401	1	
36	SIDE CAMERA KEY	MBJL0094201	1	
35	INTENNA	SNMF0054201	1	
34	MOTOR	SJMY0008504	1	
33	PCB, MAIN	SAFY0331101	1	
32	CAMERA	SVCY0021301	1	
31	CAP, USB	MCCE0052501	1	
30	CABLE,COAXIAL	SWCC0006301	1	
29	PAD, PCB	MPBU0081901	1	
28	TAPE, MOTOR	MTAF0029801	1	
27	TAPE, CAMERA	MTAK0027701	1	
26	GASKET, USB	MGAZ0071301	2	
25	COVER, MIDDLE	MFEZ0020101	1	
24	DECO, MIDDLE	MDAY0042401	1	
23	SHAFT	MSIY0002601	1	
22	SIDE LOCK KEY	MBJL0094301	1	
21	SIDE MUSIC KEY	MBJL0094501	1	
20	SIDE VOLUME KEY	MBJL0094701	1	
19	DECO, EARJACK	MDAY0043701	1	
18	PAD, RECEIVER	MPBM0031501	1	
17	SUB FPCB ASSY	SACY0099201	1	
16	RECEIVER	SURY0010106	1	
15	KEYPAD	ACGA0034901	1	
14	LCD	ABGF0017401	1	
13	PAD, BRACKET LCD	ACGM0137401	1	
12	PAD, SENSOR_2	MPBZ0240901	1	
11	PAD, SENSOR	MBJL0094601	1	
10	GASKET, RECEIVER	MGAZ0075901	1	
9	PAD, RECEIVER	MPBM0031301	1	
8	FELT, RECEIVER	MFBZ0006501	1	
7	PAD, MIC	ACGZ0019401	1	
6	COVER, FRONT	MCJK0110101	1	
5	TAPE, DECO RECEIVER	MTAA0197601	1	
4	DECO, RECEIVER	MDAH0026601	1	
3	BRACKET, LCD	MBFF0028101	1	
2	TAPE, WINDOW	MTAD0111401	1	
1	WINDOW, TOUCH	MWAC0123901	1	

5. Part List

Main PCB Component List

Ref No	Part Description	Part No	Value	Part Name
ANT103	CONTACT,ANTENNA	MCIA0019501	PRESS, BeCu, , , , ,	MCIA0019501
ANT104	CONTACT,ANTENNA	MCIA0019501	PRESS, BeCu, , , , ,	MCIA0019501
ANT300	CONTACT,ANTENNA	MCIA0019501	PRESS, BeCu, , , , ,	MCIA0019501
ANT301	CONTACT,ANTENNA	MCIA0019501	PRESS, BeCu, , , , ,	MCIA0019501
ANT400	CONTACT,ANTENNA	MCIA0019501	PRESS, BeCu, , , , ,	MCIA0019501
C100	CAP,CHIP,MAKER	ECZH0001002	0.5 pF,50V ,B ,NP0 ,TC ,1005 ,R/TP	C1005CH1H0R5BB
C101	CAP,CERAMIC,CHIP	ECCH0009104	33 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H330JT
C102	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C103	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C104	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H2R2C
C105	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C106	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C109	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP	MCH155A470JK
C110	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C111	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C112	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN333KK
C113	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,D ,NP0 ,TC ,1005 ,R/TP ,; , ,0.5PF ,50V	C1005COG1H6R8DT
C114	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C116	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C117	INDUCTOR,CHIP	ELCH0003826	3.3 nH,S ,1005 ,R/TP ,chip	LQG15HS3N3S02D
C118	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
C119	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C120	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C122	CAP,CHIP,MAKER	ECZH0000803	2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H020CT
C123	INDUCTOR,CHIP	ELCH0001403	1 nH,S ,1005 ,R/TP ,PBFREE	LL1005-FHL1N0S
C124	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C125	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C126	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP	MCH155A100D
C127	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C128	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C129	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C130	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C131	INDUCTOR,CHIP	ELCH0003833	3.9 nH,S ,1005 ,R/TP ,MLCI	LQG15HS3N9S02
C132	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C133	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C134	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H2R2C
C135	CAP,CHIP,MAKER	ECZH0000806	5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H050CT
C136	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C137	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C138	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C141	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C142	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C143	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C144	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C145	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C146	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C147	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C148	CAP,CHIP,MAKER	ECZH0000841	56 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H560JT
C149	CAP,CHIP,MAKER	ECZH0000841	56 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H560JT
C150	CAP,CHIP,MAKER	ECZH0001002	0.5 pF,50V ,B ,NP0 ,TC ,1005 ,R/TP	C1005CH1H0R5BB
C151	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H1R5CT
C152	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C153	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C154	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT

Ref No	Part Description	Part No	Value	Part Name
C155	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C156	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C157	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C158	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C159	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C160	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C161	CAP,CERAMIC,CHIP	ECCH0000151	4.7 nF,25V,K,X7R,HD,1005,R/TP	MCH152CN472KK
C162	CAP,CHIP,MAKER	ECZH0003125	82 nF,16V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R823K16
C163	CAP,CERAMIC,CHIP	ECCH0000144	1.2 nF,50V,K,X7R,HD,1005,R/TP	MCH155C122K
C164	CAP,CHIP,MAKER	ECZH0000816	12 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H120JT
C165	CAP,CHIP,MAKER	ECZH0001102	18000 pF,16V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1C183KT
C166	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C167	CAP,CHIP,MAKER	ECZH0000816	12 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H120JT
C169	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C170	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C171	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C172	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C173	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C174	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C175	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C176	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C177	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C178	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C179	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C180	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C181	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C182	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C183	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C184	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C185	CAP,CERAMIC,CHIP	ECCH0000133	220 pF,50V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1H221KT
C186	CAP,CERAMIC,CHIP	ECCH0000149	3.3 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN332KK
C187	CAP,CHIP,MAKER	ECZH0000844	68 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H680JT
C200	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C201	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C202	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C203	CAP,CERAMIC,CHIP	ECCH0009110	22 nF,6.3V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R0J223KT
C204	CAP,CERAMIC,CHIP	ECCH0009110	22 nF,6.3V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R0J223KT
C205	CAP,CERAMIC,CHIP	ECCH0009110	22 nF,6.3V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R0J223KT
C206	CAP,CERAMIC,CHIP	ECCH0009110	22 nF,6.3V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R0J223KT
C207	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C208	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C209	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C210	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C211	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C212	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C213	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C214	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C215	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C216	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C217	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C218	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C219	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C220	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C221	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C222	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C223	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C224	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C225	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN333KK
C226	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN333KK

Ref No	Part Description	Part No	Value	Part Name
C227	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C228	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R223K16PT
C229	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R223K16PT
C230	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP	MCH032A270JK
C231	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H270JT
C300	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C301	CAP,CERAMIC,CHIP	ECCH0000129	120 pF,50V,J,NP0,TC,1005,R/TP	MCH155A121JK
C302	CAP,CERAMIC,CHIP	ECCH0000129	120 pF,50V,J,NP0,TC,1005,R/TP	MCH155A121JK
C303	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C304	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C305	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C306	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C307	CAP,CERAMIC,CHIP	ECCH0000129	120 pF,50V,J,NP0,TC,1005,R/TP	MCH155A121JK
C308	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C309	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H010CT
C311	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C312	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R104K10PT
C313	CAP,CHIP,MAKER	ECZH0000816	12 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H120JT
C314	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C315	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP	MCH155A100D
C317	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP	MCH155C150J
C318	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C319	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C320	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C321	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C322	CAP,CERAMIC,CHIP	ECCH0009520	15 pF,25V ,J ,X7R ,TC ,0603 ,R/TP	MCH032A150JK
C323	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C324	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C325	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP	MCH155A100D
C326	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP	MCH155A100D
C400	CAP,CERAMIC,CHIP	ECCH0000259	10 nF,50V,K,X7R,HD,1608,R/TP	MCH185CN103KK
C401	CAP,CERAMIC,CHIP	ECCH0000259	10 nF,50V,K,X7R,HD,1608,R/TP	MCH185CN103KK
C402	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP	MCH032A270JK
C403	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP	MCH032A270JK
C404	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP	C0603X7R1C103KT
C405	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C406	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP	MCH155A470JK
C407	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C408	CAP,CERAMIC,CHIP	ECCH0009203	33 nF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	GRM033R60J333K
C409	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C410	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C411	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C412	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP	C1608X5R0J475KT
C413	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R105K25PT
C414	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C415	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C416	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C417	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C418	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C419	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C420	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C421	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C422	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C423	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C424	CAP,CHIP,MAKER	ECZH0000849	200 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H201JT
C425	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C426	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C427	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C428	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT

Ref No	Part Description	Part No	Value	Part Name
C429	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C430	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C431	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C432	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C433	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C434	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C435	CAP,TANTAL,CHIP	ECTH0005704	33 uF,10V ,M ,L_ESR ,2012 ,R/TP	251M1002336MR3S
C436	CAP,CERAMIC,CHIP	ECCH0000127	82 pF,50V,J,NP0,TC,1005,R/TP	MCH155A820J
C437	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C438	CAP,CERAMIC,CHIP	ECCH0009203	33 nF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	GRM033R60J333K
C439	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP	MCH155A220JK
C440	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN333KK
C442	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	GRM36C0G3R3C50PT
C443	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R223K16PT
C444	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C445	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R223K16PT
C500	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A224KT
C501	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A224KT
C502	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C503	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C504	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C505	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C506	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H270JT
C507	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C508	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R223K16PT
C509	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C510	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C511	CAP,CHIP,MAKER	ECZH0001120	3.9 nF,50V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1H392KT
C512	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ104
C513	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C514	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C515	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C516	CAP,CHIP,MAKER	ECZH0004402	0.1 uF,16V ,Z ,X7R ,TC ,1005 ,R/TP	MCH153C104ZK
C517	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C518	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C519	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C520	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1H471KT
C521	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C522	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C523	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C524	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C525	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C526	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C527	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP	GRM39X5R225K10
C528	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C529	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C530	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C531	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C600	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C601	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C602	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C603	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP	GRM39X5R225K10
C604	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C605	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C606	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C607	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C610	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C611	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C612	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT

Ref No	Part Description	Part No	Value	Part Name
C613	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C614	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C615	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP	GRM39X5R225K10
C617	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C618	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C620	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C622	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C623	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C624	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C625	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C626	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C627	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C628	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C629	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C631	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP	MCH155A100D
C632	CAP,CERAMIC,CHIP	ECCH0000109	8 pF,50V,D,NP0,TC,1005,R/TP	MCH155A080DK
C633	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C634	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C635	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J105KE19D
C636	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C637	VARISTOR	SEVY0005101	18 V, ,SMD ,5pF, 1005	ICVL0518050FR
C638	VARISTOR	SEVY0005101	18 V, ,SMD ,5pF, 1005	ICVL0518050FR
C639	VARISTOR	SEVY0005101	18 V, ,SMD ,5pF, 1005	ICVL0518050FR
C640	VARISTOR	SEVY0005101	18 V, ,SMD ,5pF, 1005	ICVL0518050FR
C641	VARISTOR	SEVY0005101	18 V, ,SMD ,5pF, 1005	ICVL0518050FR
C642	VARISTOR	SEVY0005101	18 V, ,SMD ,5pF, 1005	ICVL0518050FR
C643	CAP,CERAMIC,CHIP	ECCH0009514	10 pF,25V ,D ,X7R ,HD ,0603 ,R/TP	MCH032A(AN)100DK
C644	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C647	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C648	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C649	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C650	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C651	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C652	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C656	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C657	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C658	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C661	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C662	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C700	CAP,CERAMIC,CHIP	ECCH0000118	30 pF,50V,J,NP0,TC,1005,R/TP	MCH155A300J
C701	CAP,CERAMIC,CHIP	ECCH0000118	30 pF,50V,J,NP0,TC,1005,R/TP	MCH155A300J
C702	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C703	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C704	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C705	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C706	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C707	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C708	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C714	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP	MCH155C150J
C715	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP	MCH155C150J
C722	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP	MCH032A270JK
C723	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C727	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP	MCH032A270JK
C728	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP	MCH032A270JK
C729	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
CON400	CONNECTOR,I/O	ENRY0008701	5 , mm,ETC , , ,; , ,0.60MM ,[empty] ,RECEPTACLE	HSMU-5SB-24DR2
CON401	CONNECTOR,ETC	ENZY0023501	4 ,2.5 mm,ETC ,- ,-	KQ03LE-4R(S)
CON501	CONNECTOR,BOARD TO BOARD	ENBY0018601	10 PIN,.4 mm,STRAIGHT , ,H=0.9, SOCKET	AXK7L10227G
CON600	CONN,SOCKET	ENSY0020901	8 PIN,STRAIGHT , , mm,	DM3AT-SF-PEJ

Ref No	Part Description	Part No	Value	Part Name
CON700	CONNECTOR,BOARD TO BOARD	ENBY0034201	24 PIN,0.4 mm,ETC , ,GB042 H=1.0, Socket	GB042-24S-H10-E3000
CON701	CONNECTOR,BOARD TO BOARD	ENBY0043501	34 PIN,0.4 mm,STRAIGHT , , ,; , ,0.40MM ,STRAIGH	AXT534124
CON702	CONNECTOR,BOARD TO BOARD	ENBY0034201	24 PIN,0.4 mm,ETC , ,GB042 H=1.0, Socket	GB042-24S-H10-E3000
D400	DIODE,TVS	EDTY0009601	SLP1006P2 ,5 V,100 W,R/TP ,1.0x0.6x0.5t	Rclamp0521P.TCT
D401	DIODE,TVS	EDTY0009601	SLP1006P2 ,5 V,100 W,R/TP ,1.0x0.6x0.5t	Rclamp0521P.TCT
D402	DIODE,SWITCHING	EDSY0017701	SOD-123 ,40 V,1 A,R/TP , ,; , , , , , , ,[empty] ,[empty]	SDB1040
D403	DIODE,TVS	EDTY0008601	SOD-323 ,6 V,400 W,R/TP ,PB-FREE	PSD05-LF
D500	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
D501	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
D700	DIODE,TVS	EDTY0009801	SOT-963 ,5 V,25 W,R/TP , ,; , , , , , ,[empty] ,[empty]	VSMF05LCC
F100	TR,FET,P-CHANNEL	EQFP0009001	SC75-6 ,0.6 W, V,1 A,R/TP ,slew late controlled Load Switch ,	SIP4282
F101	FILTER,SAW,DUAL	SFSB0001701	1960 MHz,58.8 MHz,2.6 dB,20 dB,2.0*1.6*0.68 ,SMD , 869M~894M,1930.6M~1989.4M,10p,B,100,100_13, DCN+USPCS Rx ,; ,	B9318
F102	FILTER,SAW,DUAL	SFSB0001601	1880 MHz,58.75 MHz,4 dB,30 dB,2.0*1.6*0.68 ,SMD , 824M~849M,1850.625M~1909.375M,10p,B,50,50,D CN+USPCS Tx,BIDIR ,; ,	B9314
F103	FILTER,SAW	SFSY0033403	,1574.42M~1576.42M, IL 1.2, 5pin, U-U, 50-50, GPS HIGH ATTEN. ,; , 1575.42 ,1.4*1.1*0.4 ,SMD ,R/TP	B9416
F300	FILTER,CERAMIC	SFCY0000901	2450 MHz,2.00*1.25*0.95 ,SMD ,Bluetooth Band Pas	LFB212G45SG8A166
F400	IC	EUSY0386501	uQFN10 ,10 ,R/TP ,DPDT USB 2.0 High Speed Anal	DG2722
F401	IC	EUSY0355601	PLP1010-4 ,4 PIN,R/TP ,150mA, 2.8V, Single LDO, Q Current 1uA Under ,;	RP104K281D-TR-F
F402	FILTER,EMI/POWER	SFEY0015301	SMD ,Pb-free_Bais ,; ,Filter,LCR	NFM18PC104R1C3
F601	TR,FET,P-CHANNEL	EQFP0010101	SC-70 ,19 W,-8 V,-12 A,R/TP ,; ,; ,P-CHANNEL ,MO	SiA417D
F603	IC	EUSY0365101	PLP1612-4B ,4 ,R/TP ,LDO ,; ,IC,LDO Voltage Regu	RP101K302D
F700	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (10 Ohm,7.5p	ICVE10184E070R100FR
F701	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (10 Ohm,7.5p	ICVE10184E070R100FR
F702	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (10 Ohm,7.5p	ICVE10184E070R100FR
L100	INDUCTOR,CHIP	ELCH0003835	4.7 nH,S ,1005 ,R/TP ,MLCI	LQG15HS4N7S02
L101	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
L104	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHLR10J
L106	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHLR10J
L109	INDUCTOR,CHIP	ELCH0001401	15 nH,J ,1005 ,R/TP ,Pb Free	LL1005-FHL15NJ
L110	INDUCTOR,CHIP	ELCH0003819	12 nH,J ,1005 ,R/TP ,	LQG15HS12NJ02D
L111	INDUCTOR,CHIP	ELCH0005006	33 nH,J ,1005 ,R/TP ,	HK100533NJ
L112	INDUCTOR,CHIP	ELCH0001402	18 nH,J ,1005 ,R/TP ,Pb Free	LL1005-FHL18NJ
L113	INDUCTOR,CHIP	ELCH0001404	1.5 nH,S,1005,R/TP	LL1005-FHL1N5S_
L114	INDUCTOR,CHIP	ELCH0001418	39 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL39NJ
L115	INDUCTOR,CHIP	ELCH0003824	10 nH,J ,1005 ,R/TP ,chip inductor,PBFREE	LQG15HS10NJ02D
L116	INDUCTOR,CHIP	ELCH0003833	3.9 nH,S ,1005 ,R/TP ,MLCI	LQG15HS3N9S02
L117	INDUCTOR,CHIP	ELCH0001407	5.6 nH,S ,1005 ,R/TP ,PBFREE	LL1005-FHL5N6S
L118	INDUCTOR,CHIP	ELCH0001420	3.9 nH,S ,1005 ,R/TP ,PBFREE	LL1005-FHL3N9S
L119	INDUCTOR,CHIP	ELCH0001420	3.9 nH,S ,1005 ,R/TP ,PBFREE	LL1005-FHL3N9S
L120	INDUCTOR,CHIP	ELCH0001421	47 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL47NJ
L121	INDUCTOR,CHIP	ELCH0004713	6.8 nH,J ,1005 ,R/TP ,	1005GC2T6N8J00
L123	INDUCTOR,CHIP	ELCH0001421	47 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL47NJ
L125	INDUCTOR,CHIP	ELCH0004718	5.6 nH,S ,1005 ,R/TP ,	1005GC2T5N6S00
L126	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHLR10J
L127	INDUCTOR,CHIP	ELCH0004703	1 nH,S ,1005 ,R/TP ,	1005GC2T1N0S00
L300	INDUCTOR,CHIP	ELCH0001404	1.5 nH,S,1005,R/TP	LL1005-FHL1N5S_
L301	FILTER,BEAD,CHIP	SFBH0008101	600 ohm,1005 ,	BLM15AG601SN1
L302	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
L400	INDUCTOR,SMD,POWER	ELCP0008002	2.2 uH,M ,2.5*2.0*1.0 ,R/TP ,	MIP2520D2R2M
L401	INDUCTOR,SMD,POWER	ELCP0008002	2.2 uH,M ,2.5*2.0*1.0 ,R/TP ,	MIP2520D2R2M
L600	INDUCTOR,SMD,POWER	ELCP0008002	2.2 uH,M ,2.5*2.0*1.0 ,R/TP ,	MIP2520D2R2M
L601	INDUCTOR,SMD,POWER	ELCP0008002	2.2 uH,M ,2.5*2.0*1.0 ,R/TP ,	MIP2520D2R2M

Ref No	Part Description	Part No	Value	Part Name
Q400	TR,BJT,NPN	EQBN0007601	SOT-23 ,0.15 W,R/TP ,EMT3	KTC4075E
Q401	TR,FET,P-CHANNEL	EQFP0009601	1206-8 Power PAK ,1.3 W,-20 V,-5.7 A,R/TP ,; ,; P-CHANNEL ,MOSFET ,-20 ,+-12 ,-4.4 ,0.042 ,1.3	SI5441BDC-T1-E3
Q402	TR,BJT,ARRAY	EQBA0000602	TESV ,200 mW,R/TP ,EPITAXIAL PLANAR NPN/PN	KRX102E
Q701	TR,BJT,NPN	EQBN0007601	SOT-23 ,0.15 W,R/TP ,EMT3	KTC4075E
R100	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ510
R101	RES,CHIP,MAKER	ERHZ0000201	100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1000
R107	RES,CHIP,MAKER	ERHZ0000236	2000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2001
R108	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R109	RES,CHIP,MAKER	ERHZ0000291	49.9 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF49R9
R111	RES,CHIP,MAKER	ERHZ0000206	10 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF10R0
R112	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R113	RES,CHIP,MAKER	ERHZ0000293	510 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5100
R114	RES,CHIP,MAKER	ERHZ0000219	150 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1500
R117	RES,CHIP,MAKER	ERHZ0000473	39 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ390
R118	RES,CHIP,MAKER	ERHZ0000219	150 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1500
R119	RES,CHIP,MAKER	ERHZ0000298	560 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5600
R120	RES,CHIP,MAKER	ERHZ0000220	1500 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1501
R121	RES,CHIP,MAKER	ERHZ0000294	5100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5101
R122	RES,CHIP,MAKER	ERHZ0000212	12 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1202
R128	RES,CHIP,MAKER	ERHZ0000456	2.2 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ2R2
R129	RES,CHIP,MAKER	ERHZ0003801	5.1 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ5R1
R130	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ473
R131	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ473
R132	RES,CHIP,MAKER	ERHZ0000294	5100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5101
R133	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R200	RES,CHIP,MAKER	ERHZ0000407	1000 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ105
R203	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ103
R204	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ103
R205	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ103
R206	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ103
R207	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ222
R208	RES,CHIP,MAKER	ERHZ0000244	22 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2202
R210	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R211	THERMISTOR	SETY0001401	NTC ,68 Kohm,SMD ,	NCP18WD683E03RB
R212	RES,CHIP,MAKER	ERHZ0000222	150 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1503
R213	RES,CHIP,MAKER	ERHZ0000315	75 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF7502
R300	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R301	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ103
R302	RES,CHIP,MAKER	ERHZ0000221	15 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1502
R303	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R304	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R305	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ103
R306	PCB ASSY,MAIN,PAD SHORT	SAFP0000401		0OHM_0603
R307	PCB ASSY,MAIN,PAD SHORT	SAFP0000401		0OHM_0603
R402	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ222
R403	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ222
R404	RES,CHIP	ERHY0009584	24 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF24R0
R405	RES,CHIP	ERHY0009584	24 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF24R0
R407	RES,CHIP	ERHY0009547	200 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF2003
R408	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ101
R409	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4703
R410	RES,CHIP	ERHY0009537	150 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF1503
R411	RES,CHIP	ERHY0009311	51 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006MZPF51R0
R412	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R414	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4703
R415	RES,CHIP	ERHY0009558	68 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF6802
R416	RES,CHIP	ERHY0009517	22 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ223
R417	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005

Ref No	Part Description	Part No	Value	Part Name
R418	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R419	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R420	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R421	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R422	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R423	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R425	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R426	RES,CHIP,MAKER	ERHZ0000265	300 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3003
R427	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R428	RES,CHIP	ERHY0009517	22 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ223
R429	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R430	RES,CHIP,MAKER	ERHZ0000318	80.6 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF8062
R431	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R432	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R433	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R434	RES,CHIP,MAKER	ERHZ0000217	130 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1303
R435	RES,CHIP,MAKER	ERHZ0000231	180 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1803
R437	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ472
R438	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ472
R439	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R440	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1001
R500	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R501	RES,CHIP,MAKER	ERHZ0000211	1200 ohm,1/16W ,F ,1005 ,R/TP	RC1005F122CS
R502	RES,CHIP,MAKER	ERHZ0000211	1200 ohm,1/16W ,F ,1005 ,R/TP	RC1005F122CS
R503	RES,CHIP,MAKER	ERHZ0000522	24 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJX240
R504	RES,CHIP,MAKER	ERHZ0000252	240 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2403
R505	VARISTOR	SEVY0005402	5.6 V, ,SMD ,1005 Siez , 50pF	ICVS0505500FR
R506	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R507	VARISTOR	SEVY0005402	5.6 V, ,SMD ,1005 Siez , 50pF	ICVS0505500FR
R508	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R509	RES,CHIP,MAKER	ERHZ0000522	24 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJX240
R511	RES,CHIP,MAKER	ERHZ0000211	1200 ohm,1/16W ,F ,1005 ,R/TP	RC1005F122CS
R512	RES,CHIP,MAKER	ERHZ0000211	1200 ohm,1/16W ,F ,1005 ,R/TP	RC1005F122CS
R513	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ222
R514	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ222
R515	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1001
R516	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1001
R517	RES,CHIP,MAKER	ERHZ0000203	10 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1002
R522	RES,CHIP,MAKER	ERHZ0000422	15 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ153
R526	RES,CHIP,MAKER	ERHZ0000279	39 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3902
R527	RES,CHIP,MAKER	ERHZ0000537	680000 ohm,1/16W ,F ,1005 ,R/TP	RC1005F684CS
R528	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R529	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R530	RES,CHIP,MAKER	ERHZ0000439	200 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ204
R531	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R532	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R606	RES,CHIP,MAKER	ERHZ0000312	68 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF6802
R608	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R610	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R613	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ102
R617	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R618	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R619	RES,CHIP	ERHY0018901	44.2 ohm,1/16W ,F ,1005 ,R/TP ,; ,44.2 ,1% ,1/16W	MCR01MZPF44R2
R620	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R621	RES,CHIP,MAKER	ERHZ0000434	1 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ1R0
R622	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R623	RES,CHIP	ERHY0009507	1 Mohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ105
R630	RES,CHIP,MAKER	ERHZ0000457	30 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ300
R638	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005

Ref No	Part Description	Part No	Value	Part Name
R639	RES,CHIP	ERHY0009558	68 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF6802
R640	RES,CHIP,MAKER	ERHZ0000312	68 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF6802
R641	RES,CHIP,MAKER	ERHZ0000243	2200 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2201
R642	RES,CHIP,MAKER	ERHZ0000243	2200 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2201
R643	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ104
R644	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R646	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R700	VARISTOR	SEVY0007301	5 V,<0.5pF ,SMD ,	ULCE0505C015FR
R702	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R705	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R706	RES,CHIP,MAKER	ERHZ0000243	2200 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2201
R707	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
R708	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
R709	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ101
R710	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ101
R711	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ101
R712	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ101
R713	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ101
R714	RES,CHIP,MAKER	ERHZ0000529	1.5 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ152
R715	RES,CHIP,MAKER	ERHZ0000529	1.5 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ152
R716	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ101
R717	RES,CHIP,MAKER	ERHZ0000243	2200 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2201
R718	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
R722	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
SC400	CAN,SHIELD	MCBA0052501	PRESS, STS, , , , ,	MCBA0052501
SPFY	PCB,MAIN	SPFY0204001	FR-4 ,0.8 mm,LX-BUMP 10 ,L1B1-10 / MAIN ,; , , , , ,	SPFY0204001
U100	CONN,RF SWITCH	ENWY0003901	,SMD , dB,	U.FL-R-SMT(10)
U102	CONN,RF SWITCH	ENWY0005301	,SMD , dB,H=1.85 ,; ,3.00MM ,STRAIGHT ,RF ADAP	KMS-518
U103	VCTCXO	EXSK0005704	19.2 MHz,1.5 PPM,40 pF,SMD ,32X25X0.9 ,SH240 \	DSA321SCA
U104	IC	EUSY0306201	Micro pak ,8 PIN,R/TP ,D Flip Flip	NC7SZ74L8X
U105	MODULE,ETC	SMZY0022401	Quadplexer, FBAR, DCN/US-PCS, 7*4size ,; ,RF Mo	ACFM-7107
U106	CONN,RF SWITCH	ENWY0005301	,SMD , dB,H=1.85 ,; ,3.00MM ,STRAIGHT ,RF ADAP	KMS-518
U107	COUPLER,RF DIRECTIONAL	SCDY0004401	19.4 dB,0.25 dB,32 dB,1.0*0.5*0.4 ,SMD ,Pb-free_DCN+JCDMA ,	LDC15874M19Q-360
U108	COUPLER,RF DIRECTIONAL	SCDY0004301	20.5 dB,0.22 dB,34 dB,1.0*0.5*0.4 ,SMD ,Pb_free_KPCS+USPCS+WCDMA ,	LDC151G8620Q-359
U109	PAM	SMPY0017301	dBm, %, A, dBc, dB,4x5 ,SMD , ,; , , , , , , , ,R/TP ,R/T	ACPM-7353
U110	IC	EUSY0295701	SON5-P-0.50 ,5 PIN,R/TP ,OR GATE(max 0.6T), Pb	TC7SH32FE
U111	IC	EUSY0343601	, PIN,R/TP ,Rx Tx 1chip ,; ,IC,Tx/Rx	RTR6500
U112	MODULE,ETC	SMZY0021701	GPS LNA Module integrated Filter, 3.3x2.1x1.1 ,; ,RF	ALM-2412
U200	IC	EUSY0166201	SOT-553 ,5 PIN,R/TP ,Single Input Buffer	NL17SZ16XV5T2G
U201	IC	EUSY0363201	BGA ,432 ,R/TP ,EVDO Multidedia Baseband ,; ,IC,D	MSM6575-NSP
U300	IC	EUSY0333404	FBGA ,225 ,ETC ,2G(LB/128Mx16/2.7V) NAND+1G(	TYAB0A111081KC
U301	IC	EUSY0343901	TFBGA ,36 PIN,R/TP ,High Speed UART ,; ,IC,Mobil	SC16C850IET
U302	IC	EUSY0382201	FPBGA ,50 ,R/TP ,4.5x4.0x0.6, BT2.1 ,; ,IC,Bluetooth	BCM2070CB0KUFBXG
U400	IC	EUSY0359801	WLP ,56 PIN,R/TP ,dual charger, 2*buck, 11*LDO, T	MAX8675 EWN+
U402	IC	EUSY0382101	QFN ,16 ,R/TP ,FM Tuner with RDS, 2.5*2.5*0.55, Pl	SI4709-B-GMR
U500	IC	EUSY0390501	WLCSP ,20 ,R/TP , ,; ,IC,Audio Sub System	LM49151TLX
U501	IC	EUSY0200803	MFL ,8 ,R/TP ,Haptic Driver IC,2X2 ,; ,IC,Motor Drive	SM100
U502	IC	EUSY0345201	3*3 QFN ,10 PIN,R/TP ,3xis Accelerometer ,; ,IC,A/D	BMA150
U503	IC	EUSY0323001	WQFN ,16 PIN,R/TP ,2.6*1.8*0.8	NLAS3799BMNR2G
U504	IC	EUSY0337101	CSP ,12 PIN,R/TP ,Touchscreen Controller IC , ,IC,A	TSC2007IYZGR
U505	IC	EUSY0383101	CSP ,35 ,R/TP ,3.15x3.15x0.55 ,; ,IC,Sub PMIC	BD6083GUL
U506	IC	EUSY0250501	SC70 ,5 PIN,R/TP ,Comparator, pin compatible to EU	NCS2200SQ2T2G
U507	IC	EUSY0254201	DFN ,12 PIN,R/TP ,Dual SPDT Analog Switch(Pb Fre	NLAS3158MNR2G
U511	X-TAL	EXXY0017801	12 MHz,50 PPM,8 pF,80 ohm,SMD ,3.2*2.5*0.75 ,20	DSX321G(12MHZ, 8PF)
U600	IC	EUSY0369901	BGA ,121 ,R/TP ,MP3 chip ,; ,IC,Digital Signal Proces	TCC8121
U601	IC	EUSY0270602	MICRO SMD ,24 PIN,R/TP ,2BUCK 2LDO,2.5x2.5 ,;	LP3907TLX
U602	IC	EUSY0354501	FBGA ,153 PIN,ETC ,1GB eMMC / 11.5x13 / moviNA	KMAFE0000A

Ref No	Part Description	Part No	Value	Part Name
U702	FILTER,EMI/POWER	SFEY0015901	SMD ,ESD Common mode Filter ,; ,Filter,LCR	ICMEF214P101MFR
WSYY00	SOFTWARE	WSYY1098301	VX857V02, 01, 2009/08/14-11:57:00:000	
X201	RESONATOR	EXRY0002401	48 MHz,.5 %,14 pF,SMD ,2.0*1.2*0.65 ,Outgoing Tolerance 0.2%,	ICRT20S48M0X514CR
X202	X-TAL	EXXY0024301	32.768 KHz,20 PPM,12.5 pF,70 Kohm,SMD ,3.2*1.5*0.9 ,-40'C ~ +85'C,	CM315(12.5PF)
X300	OSCILLATOR	EXSY0022501	48 MHz,50 PPM, pF,SMD ,3.2*2.5*1.0 , ,; , ,50PPM ,1	XF500G48003TEH00
X301	X-TAL	EXXY0018403	26 MHz,10 PPM, pF, ohm,SMD ,3.2*2.5*0.7 ,tempora	NX3225SA(EXS00A-CS00275)

Main FPCB Component List

Ref No	Part Description	Part No	Value	Part Name
C100	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP	GRM39X5R225K10
C101	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C102	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C103	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP	C1005JB0J104KT
C104	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C105	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C107	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C108	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
CON100	CONN,RF SWITCH	ENWY0003901	,SMD , dB,	U.FL-R-SMT(10)
CON102	CONN,JACK/PLUG,EARPHONE	ENJE0007201	4 ,10 , ,; ,4P ,6P ,ANGLE ,[empty] , ,BLACK ,	KJA-PH-1-0171
CON103	CONNECTOR,BOARD TO BOARD	ENBY0043401	34 PIN,0.4 mm,STRAIGHT , , ,; , ,0.40MM ,STRAIGH	AXT634124
D100	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE	PRSB6.8C
D101	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
D102	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE	PRSB6.8C
D103	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE	PRSB6.8C
D104	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
D105	DIODE,TVS	EDTY0009101	SOD-923 ,5 V,150 mW,R/TP ,1.0*0.6*0.4	ESD9X5.0ST5G
L100	INDUCTOR,CHIP	ELCH0010402	270 nH,M ,1005 ,R/TP ,CHIP	LK1005R27-T
L101	INDUCTOR,CHIP	ELCH0004203	68 nH,J ,1608 ,R/TP ,	LL1608-FS68NJ
L102	INDUCTOR,CHIP	ELCH0004203	68 nH,J ,1608 ,R/TP ,	LL1608-FS68NJ
L103	INDUCTOR,CHIP	ELCH0004726	1.5 nH,J ,1005 ,R/TP ,	1005GC2T1N5S00
L104	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/	BLM15BD182SN1D
L105	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/	BLM15BD182SN1D
L106	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/	BLM15BD182SN1D
LED100	DIODE,LED,CHIP	EDLH0005901	White ,1608 ,R/TP ,White LED	LEWW-S14
LED101	DIODE,LED,CHIP	EDLH0005901	White ,1608 ,R/TP ,White LED	LEWW-S14
LED102	DIODE,LED,CHIP	EDLH0005901	White ,1608 ,R/TP ,White LED	LEWW-S14
LED103	DIODE,LED,CHIP	EDLH0005901	White ,1608 ,R/TP ,White LED	LEWW-S14
M100	MICROPHONE	SUMY0010609	UNIT ,-42 dB,3.76*2.95*1.1 ,mems smd mic ,; , , ,OM	SPU0410HR5H -PB
R100	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R101	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ000
R105	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R106	RES,CHIP,MAKER	ERHZ0000326	330 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3300
R107	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R108	RES,CHIP,MAKER	ERHZ0000478	3.3 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ3R3
R109	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R110	VARISTOR	SEVY0007301	5 V,<0.5pF ,SMD ,	ULCE0505C015FR
R112	VARISTOR	SEVY0004401	18 V, ,SMD ,40pF, 1005	ICVL0518400V500FR
R113	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ102
R114	VARISTOR	SEVY0004401	18 V, ,SMD ,40pF, 1005	ICVL0518400V500FR
R115	VARISTOR	SEVY0004401	18 V, ,SMD ,40pF, 1005	ICVL0518400V500FR
R116	VARISTOR	SEVY0004401	18 V, ,SMD ,40pF, 1005	ICVL0518400V500FR
R117	VARISTOR	SEVY0004401	18 V, ,SMD ,40pF, 1005	ICVL0518400V500FR
R119	VARISTOR	SEVY0004401	18 V, ,SMD ,40pF, 1005	ICVL0518400V500FR
R120	RES,CHIP,MAKER	ERHZ0000326	330 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3300
R121	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
R122	RES,CHIP,MAKER	ERHZ0000326	330 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3300
R123	RES,CHIP,MAKER	ERHZ0000326	330 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3300
R125	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
SPCY	PCB,FLEXIBLE	SPCY0186201	POLYI ,0.3 mm,MULTI-3 ,F-MAIN ,; , , , , , , , , ,	SPCY0186201
U103	IC	EUSY0376201	,8 ,R/TP , ,; ,IC,PMIC	GP2AP002S00F
U105	IC	EUSY0388201	WSOF6 ,5 ,R/TP ,1.6*1.6 ,; ,IC,PMIC	BH1621FVC