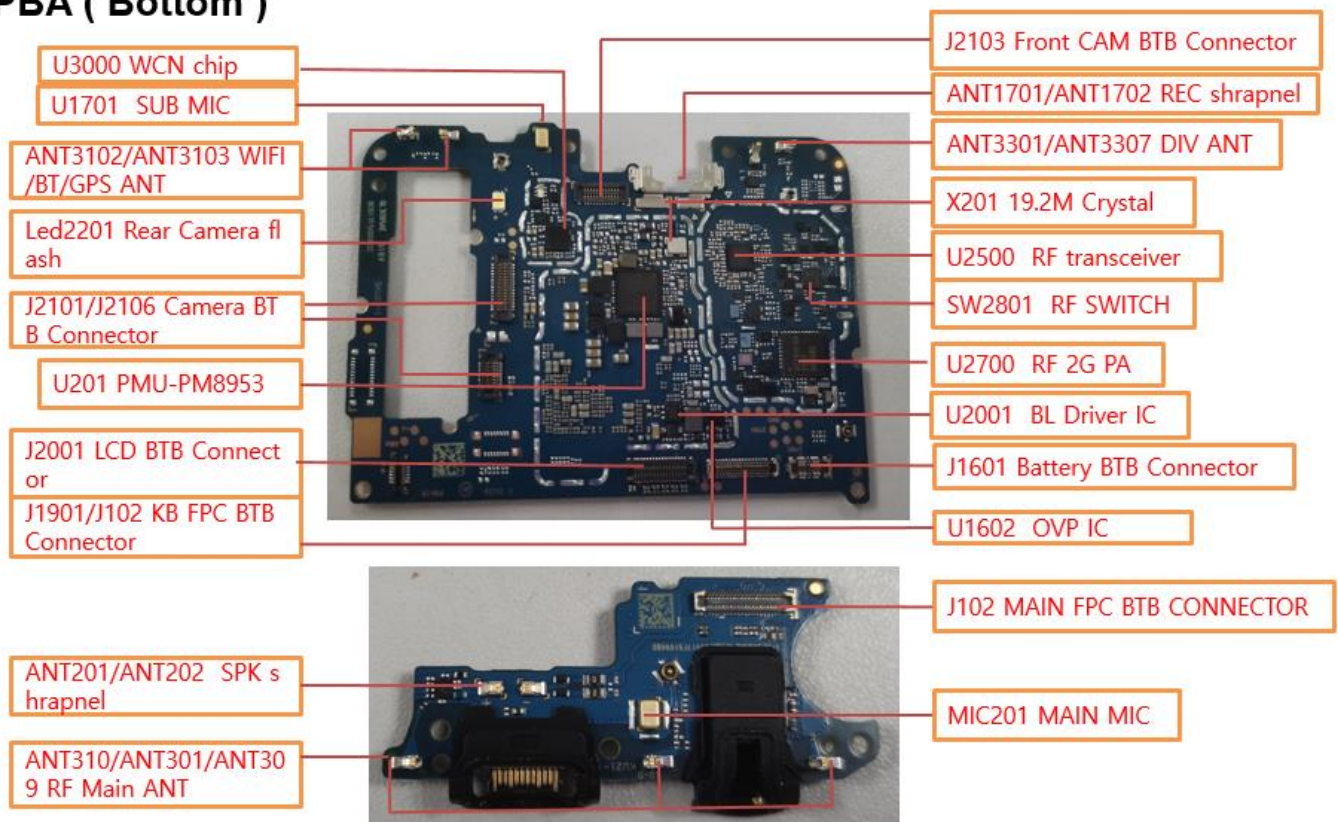


8. Level 3 Repair

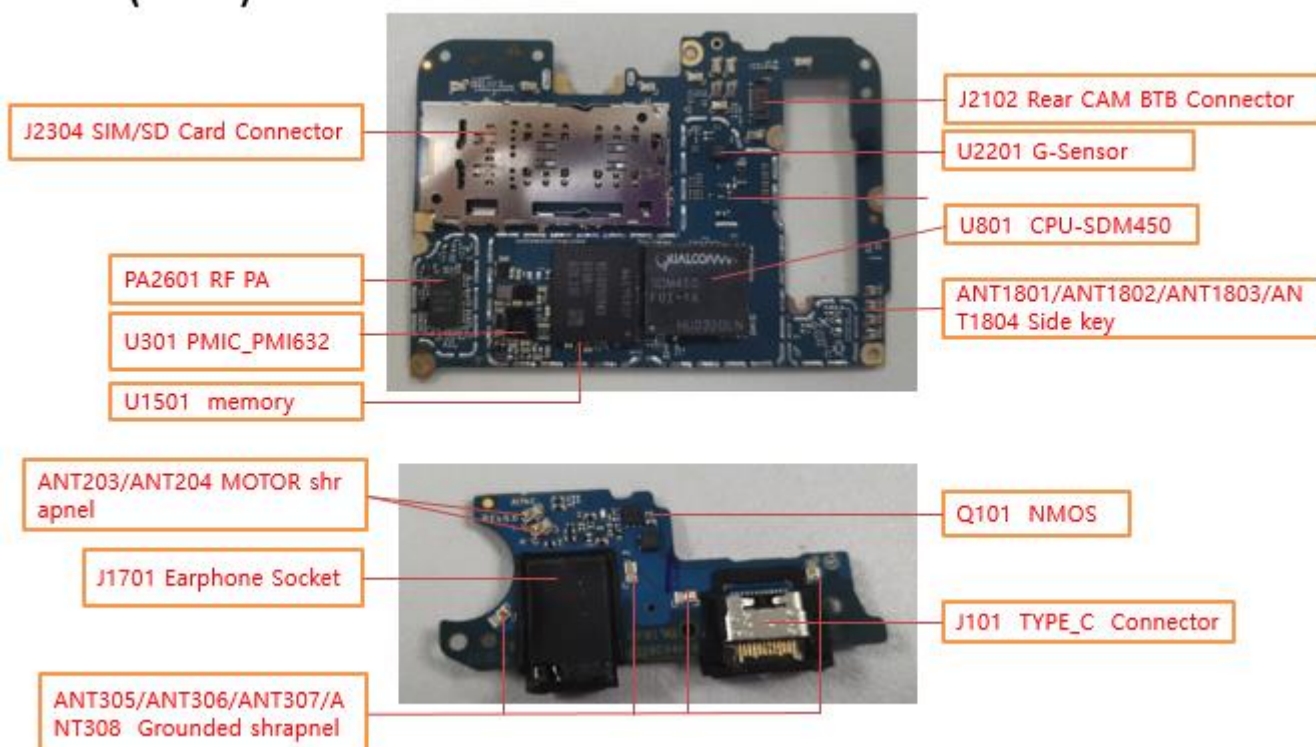
8-1. Components Layout

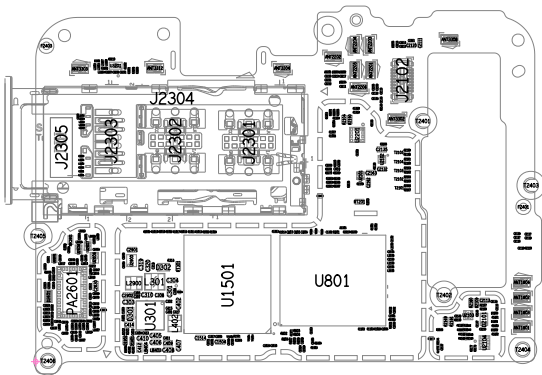
PBA (Bottom)

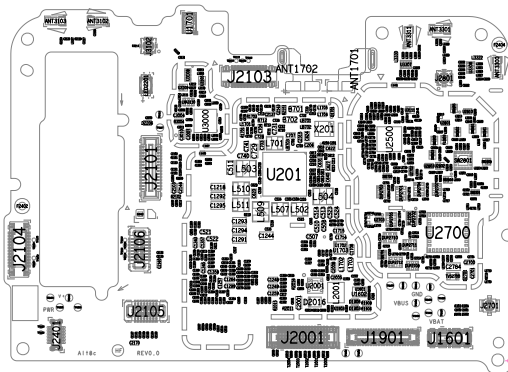


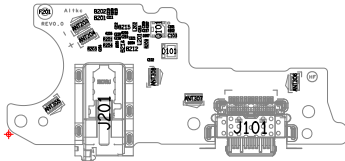
8. Level 3 Repair

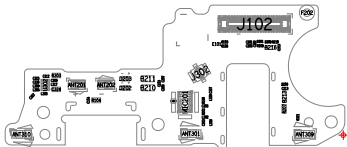
PBA (TOP)



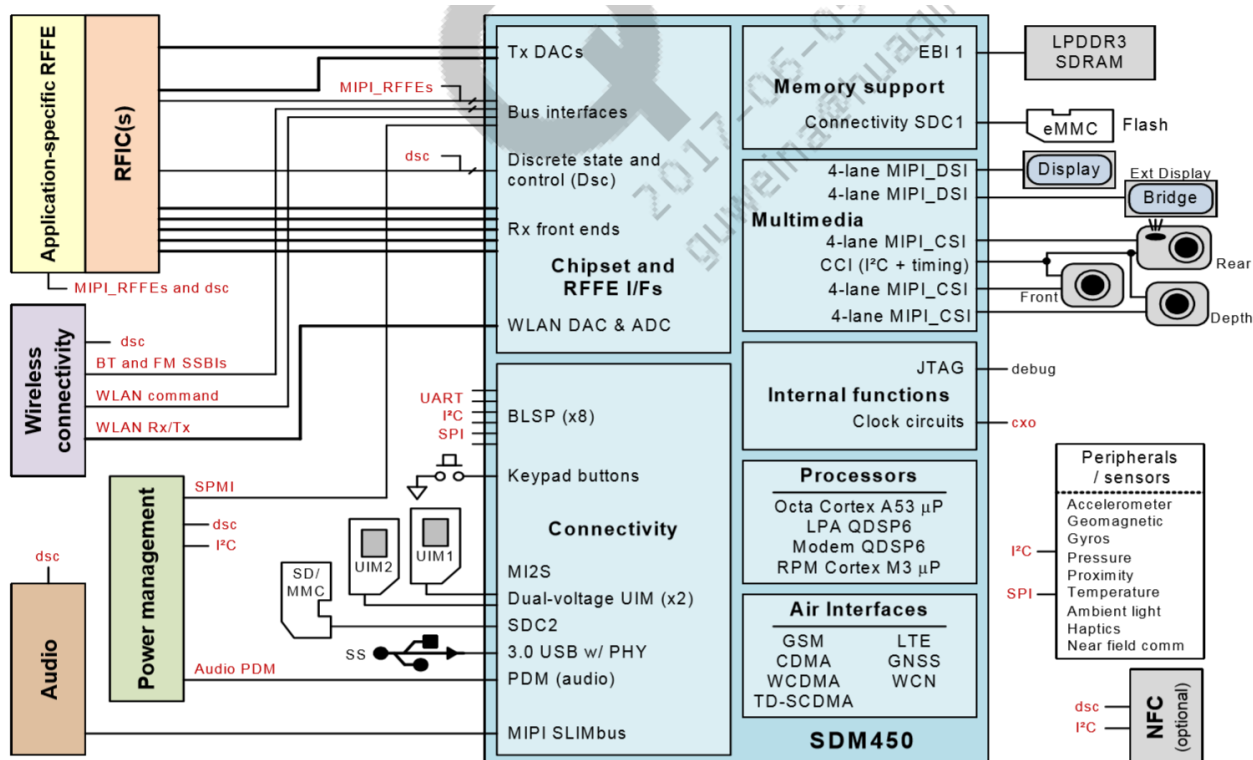




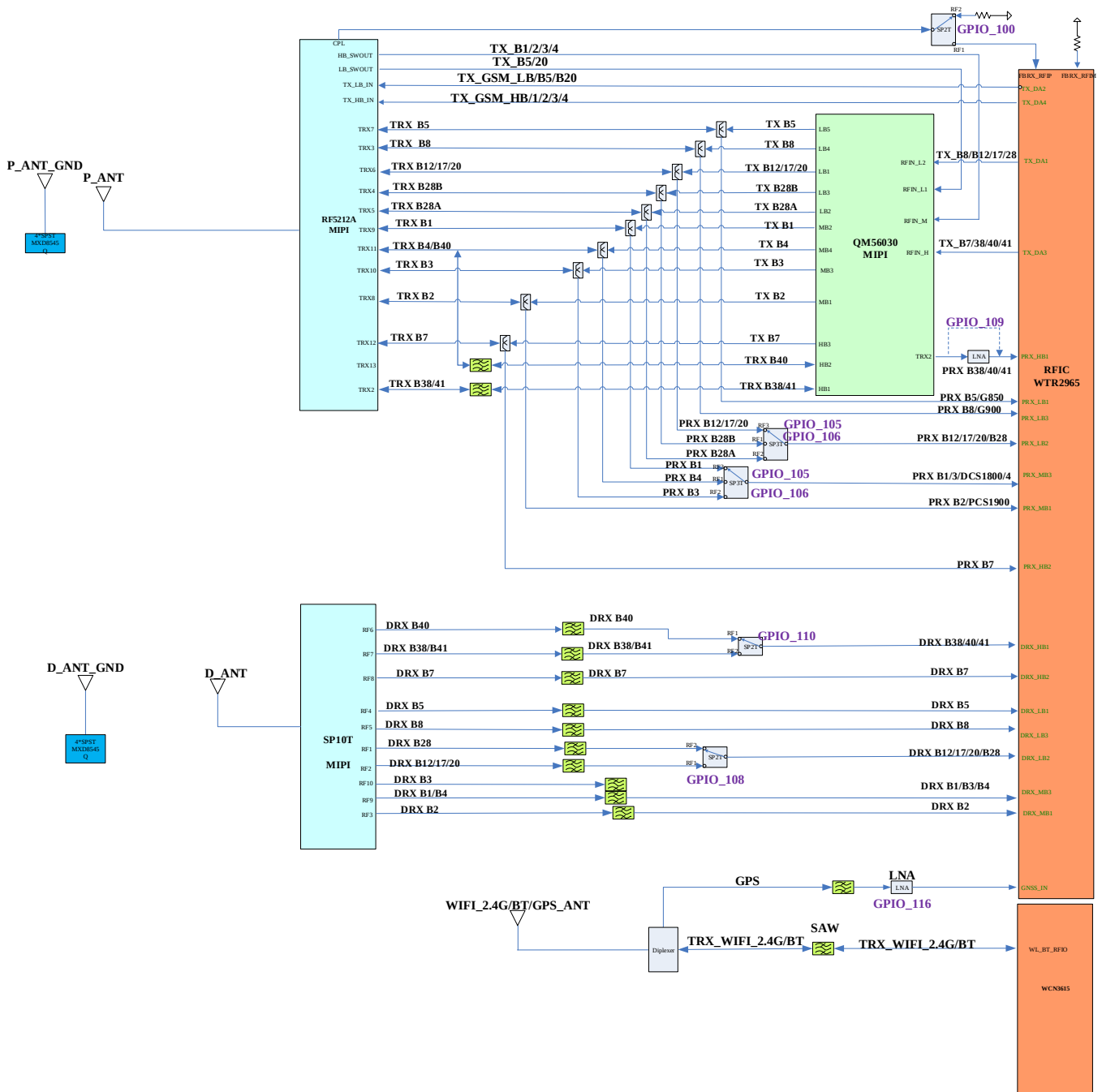




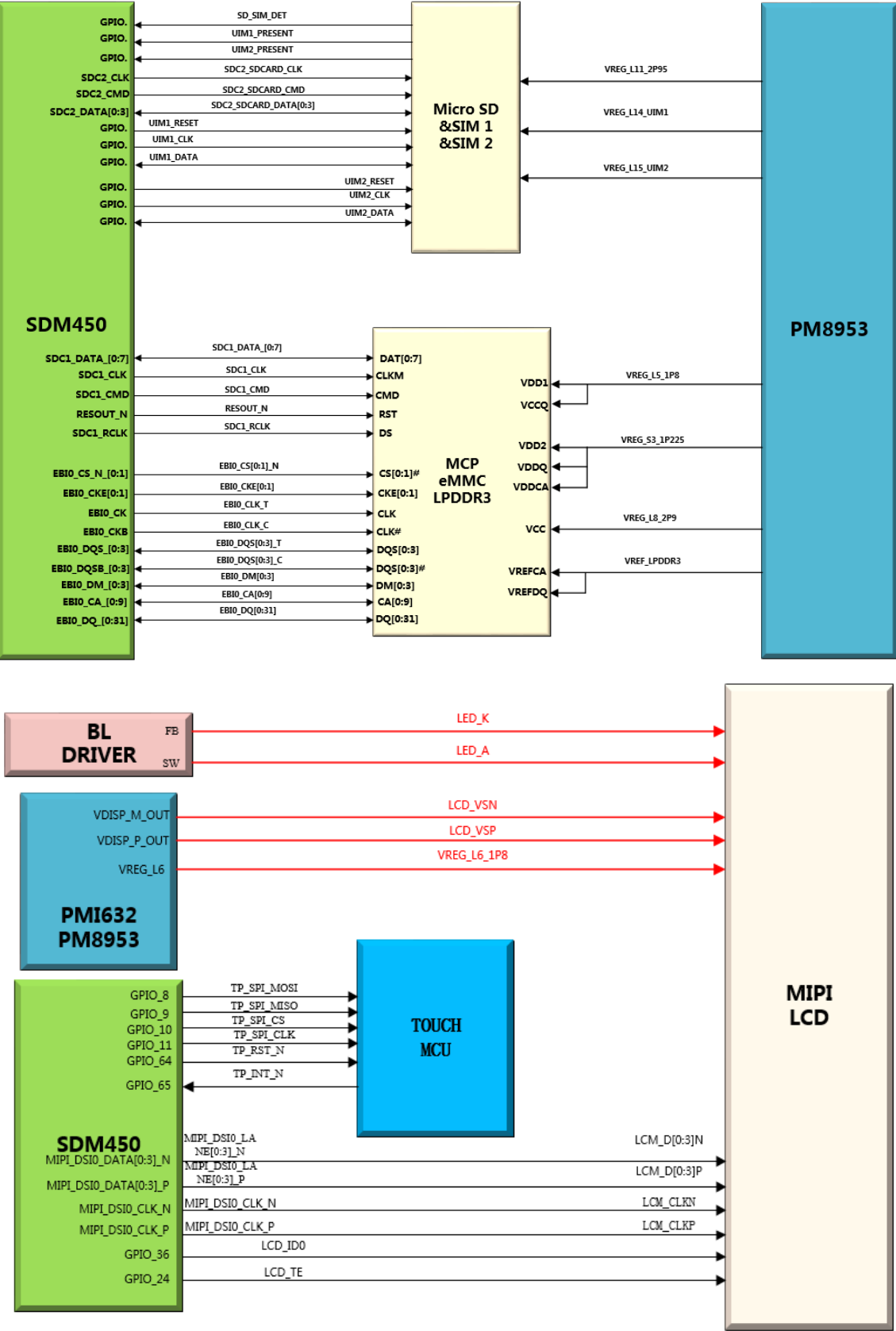
8. Level 3 Repair



8. Level 3 Repair

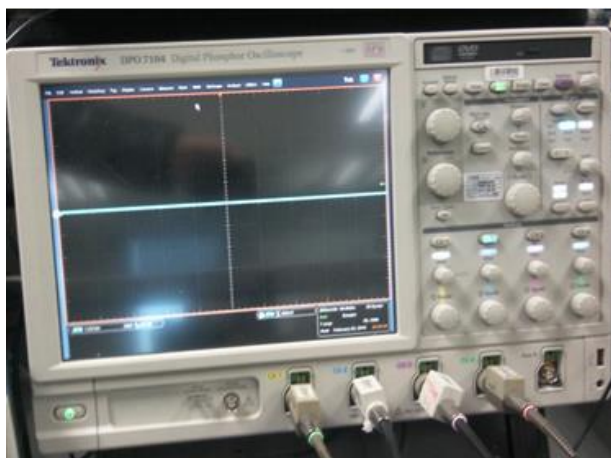


8. Level 3 Repair



8. Level 3 Repair

8-3. Flow chart of Troubleshooting.



Oscilloscope



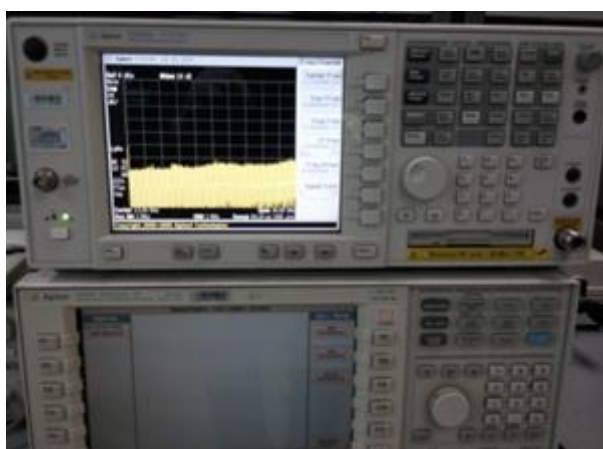
Digital Multimeter



Power Supply



+ driver, ESD Safe Tweezer



9960 & Spectrum Analyzer



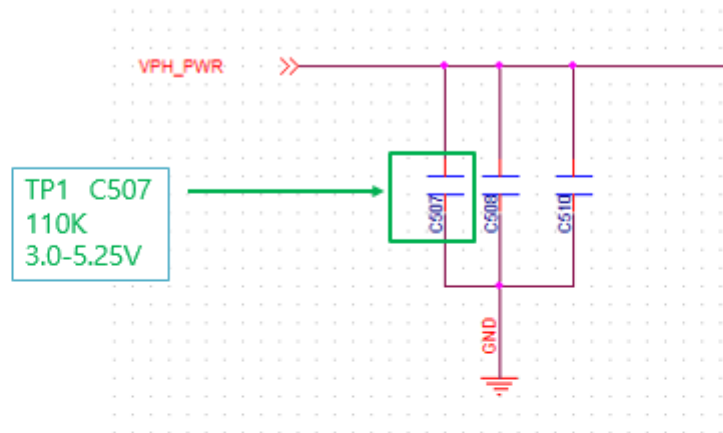
Soldering iron

8. Level 3 Repair

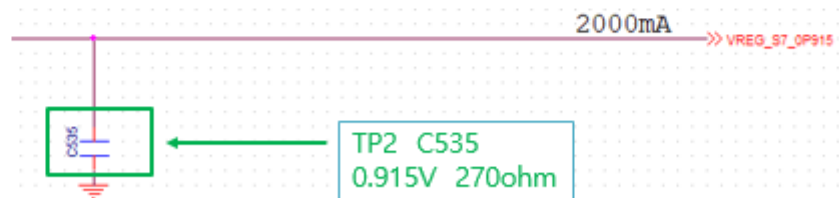
8-4-1. Power On

■ Checking Power signal (Battery connector, PMU, Clock)

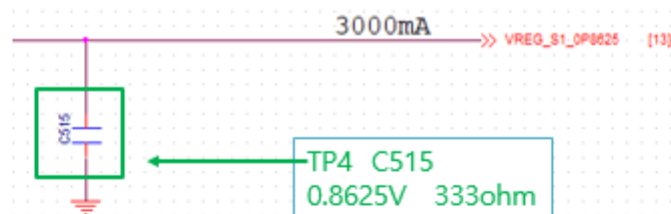
VPH_PWR



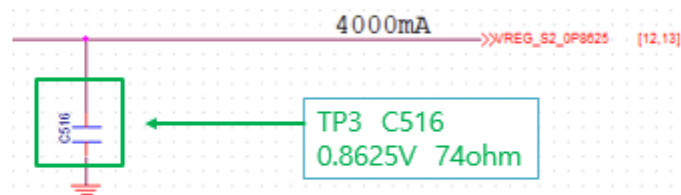
VDD_MEM



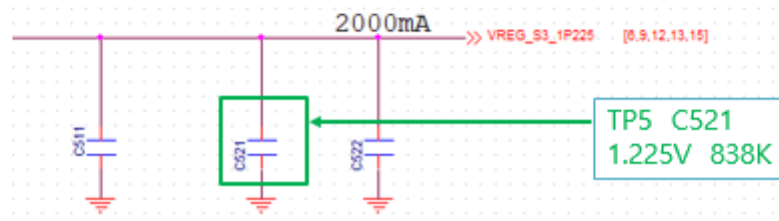
VPH_MODEM



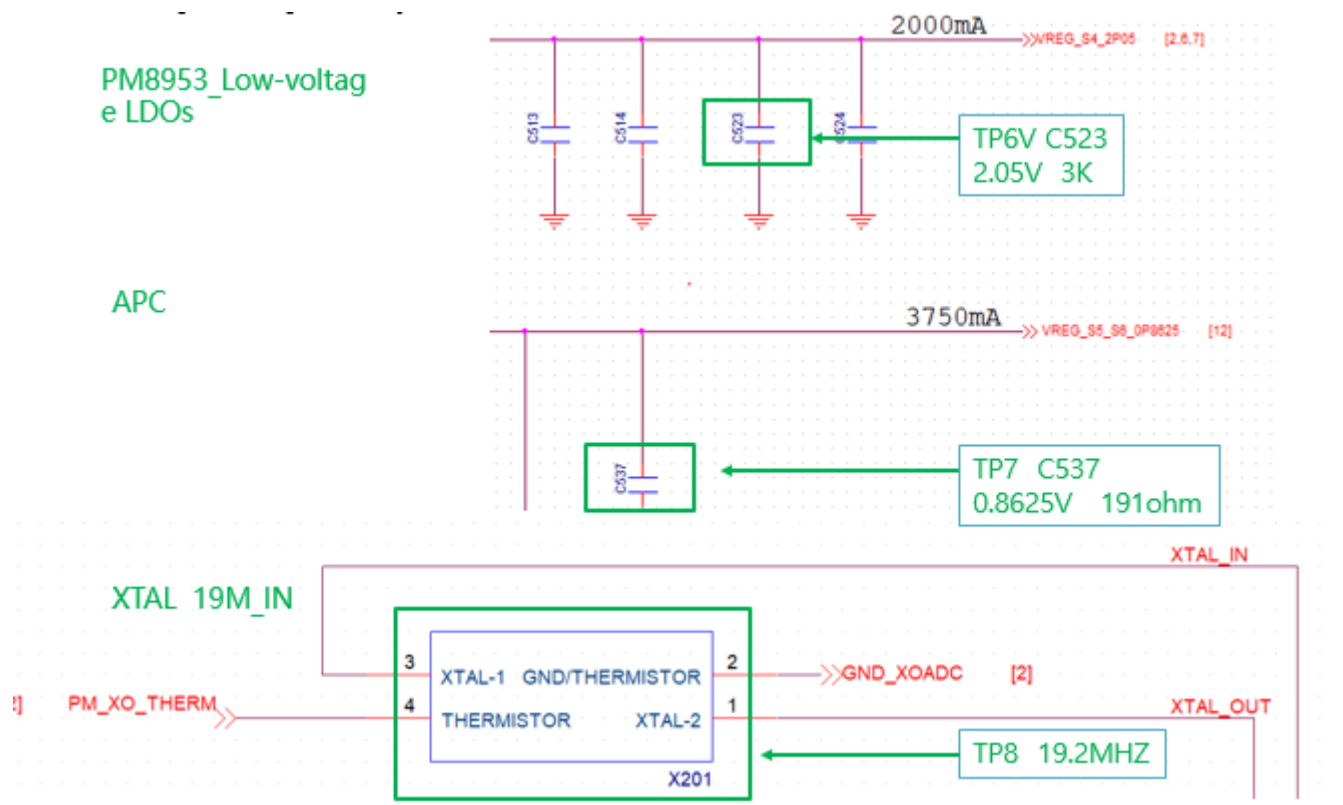
VPH_CODE



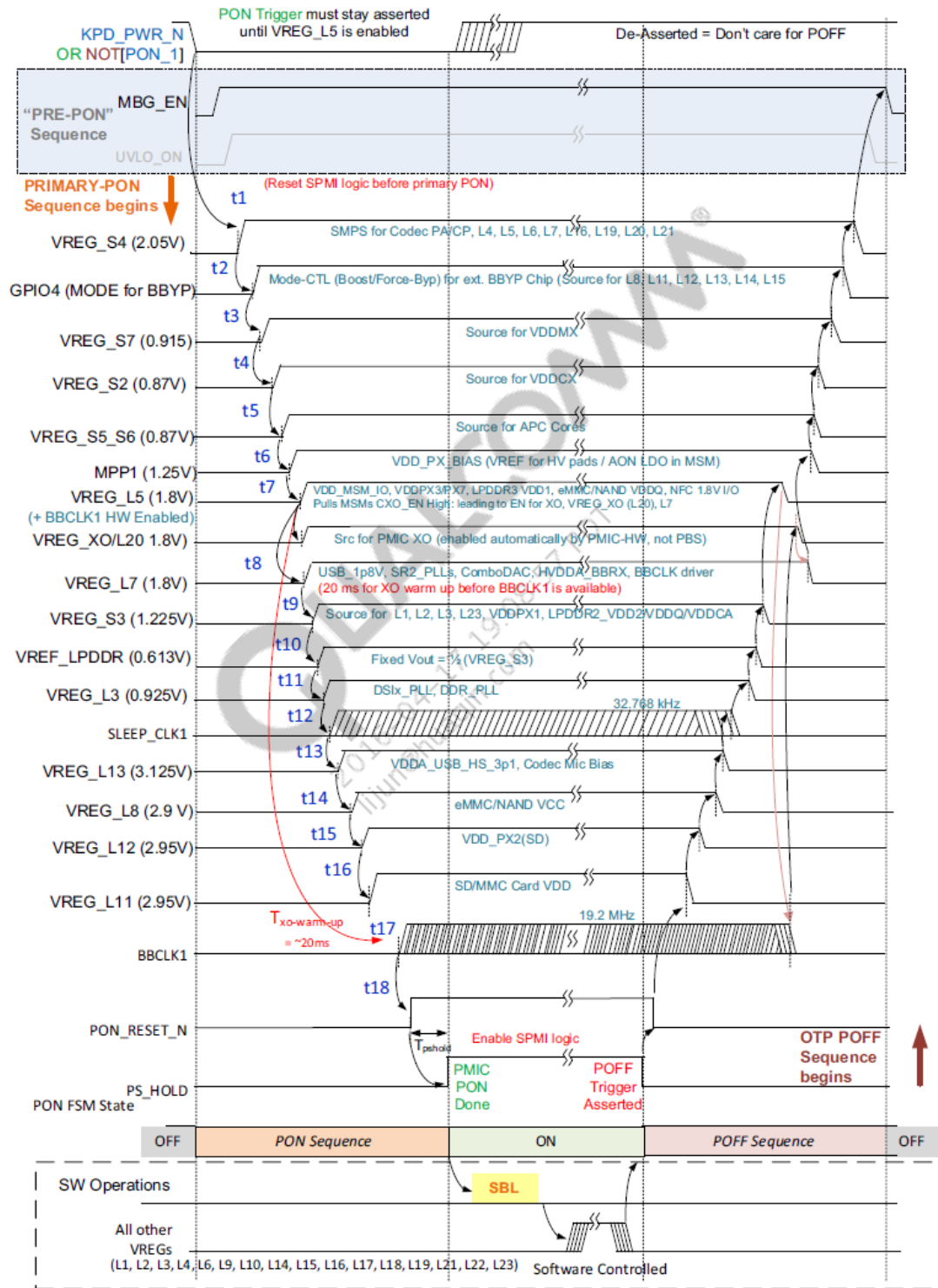
PM8953_Low-voltage LDOs



8. Level 3 Repair

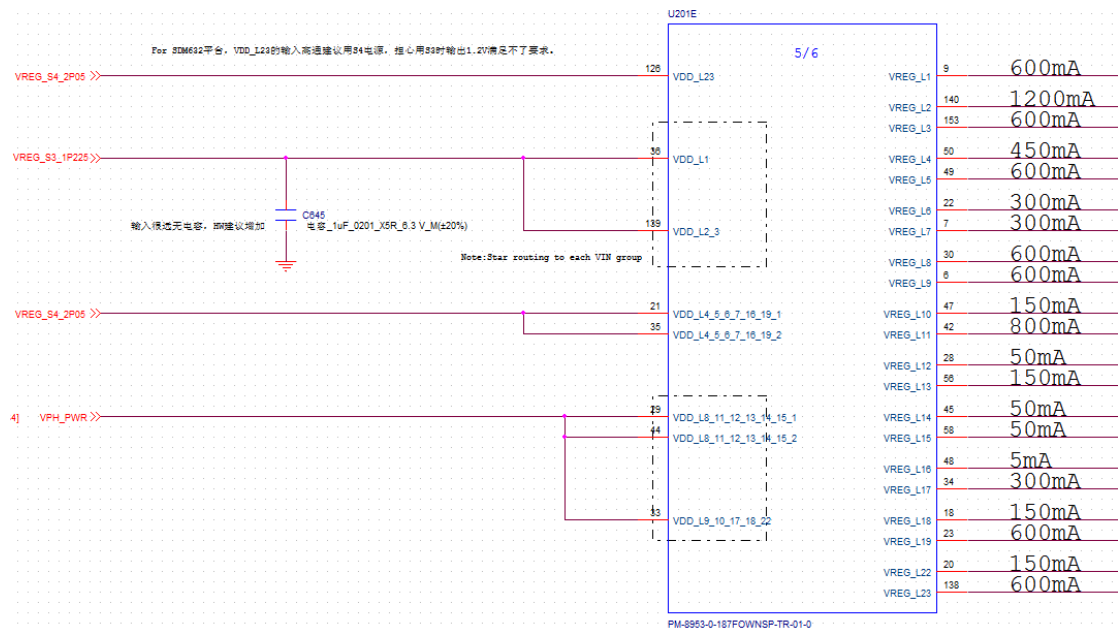


8. Level 3 Repair

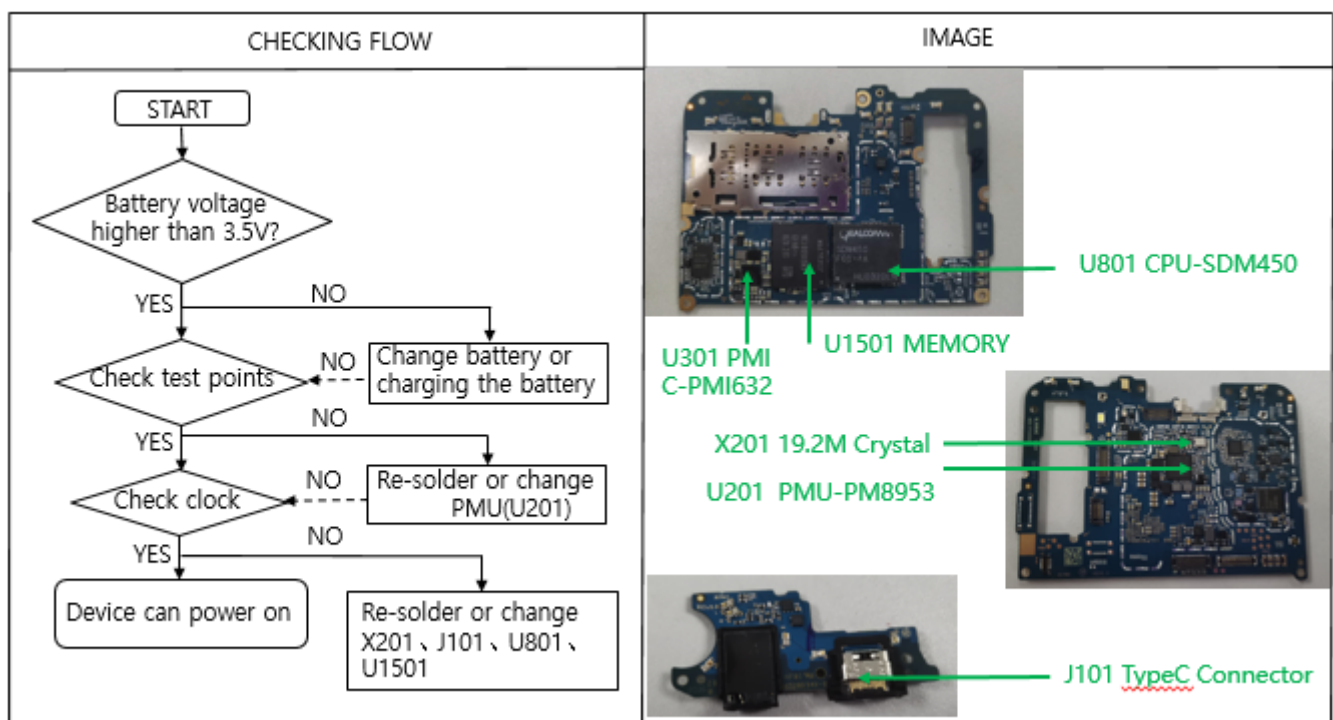


Power-on Voltage(VREG_S2~7,L2,L3,L5,L7,L8,L11~13)

8. Level 3 Repair



VREG_S2~7,L2,L3,L5,L7,L8,L11~13 schematic diagram



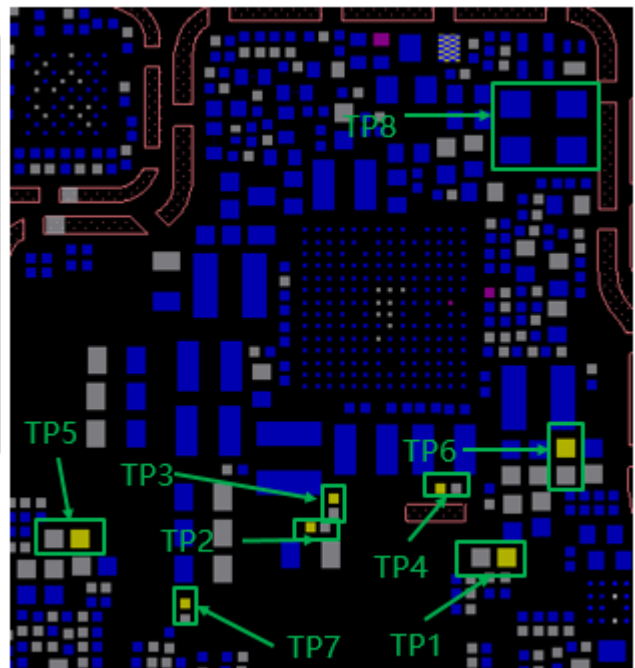
8. Level 3 Repair

No Power

Power on voltage check				
Power Domain	Configurable Voltage	Signal Name	Measurement Location	TP
VPH_PWR	3.0-5.25V	VPH_PWR	C507	TP1
VDD_MEM	0.915V	VREG_S7_0P915	C535	TP2
VDD_CORE	0.8625V	VREG_S2_0P8625	C516	TP3
VDD_MODEM	0.8625V	VREG_S1_0P8625	C515	TP4
PM8953_Low-voltage LDOs	1.225V	VREG_S3_1P225	C521	TP5
PM8953_High-voltage LDOs	2.04V	VREG_S4_2P05	C523	TP6
APC	0.87v	VREG_S5_S6_0P8625	C537	TP7

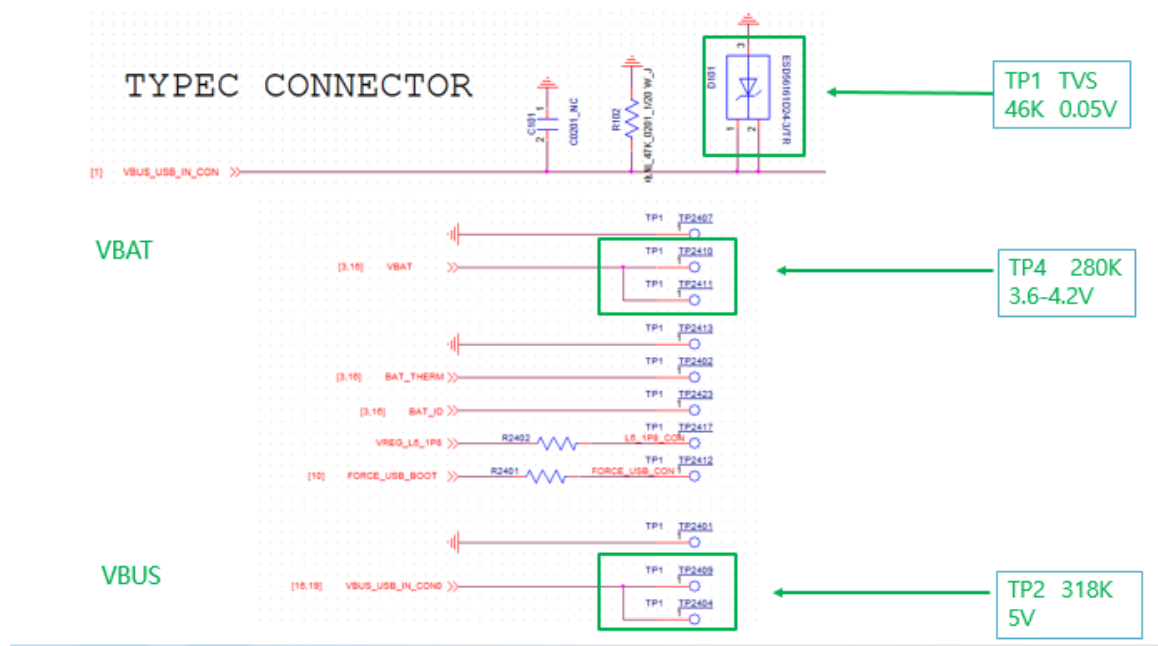
> Oscillate frequency measurement

Signal Name	Frequency MHZ	Measurement Location	TP
XTAL_19M_IN	19.2M	X201	TP8



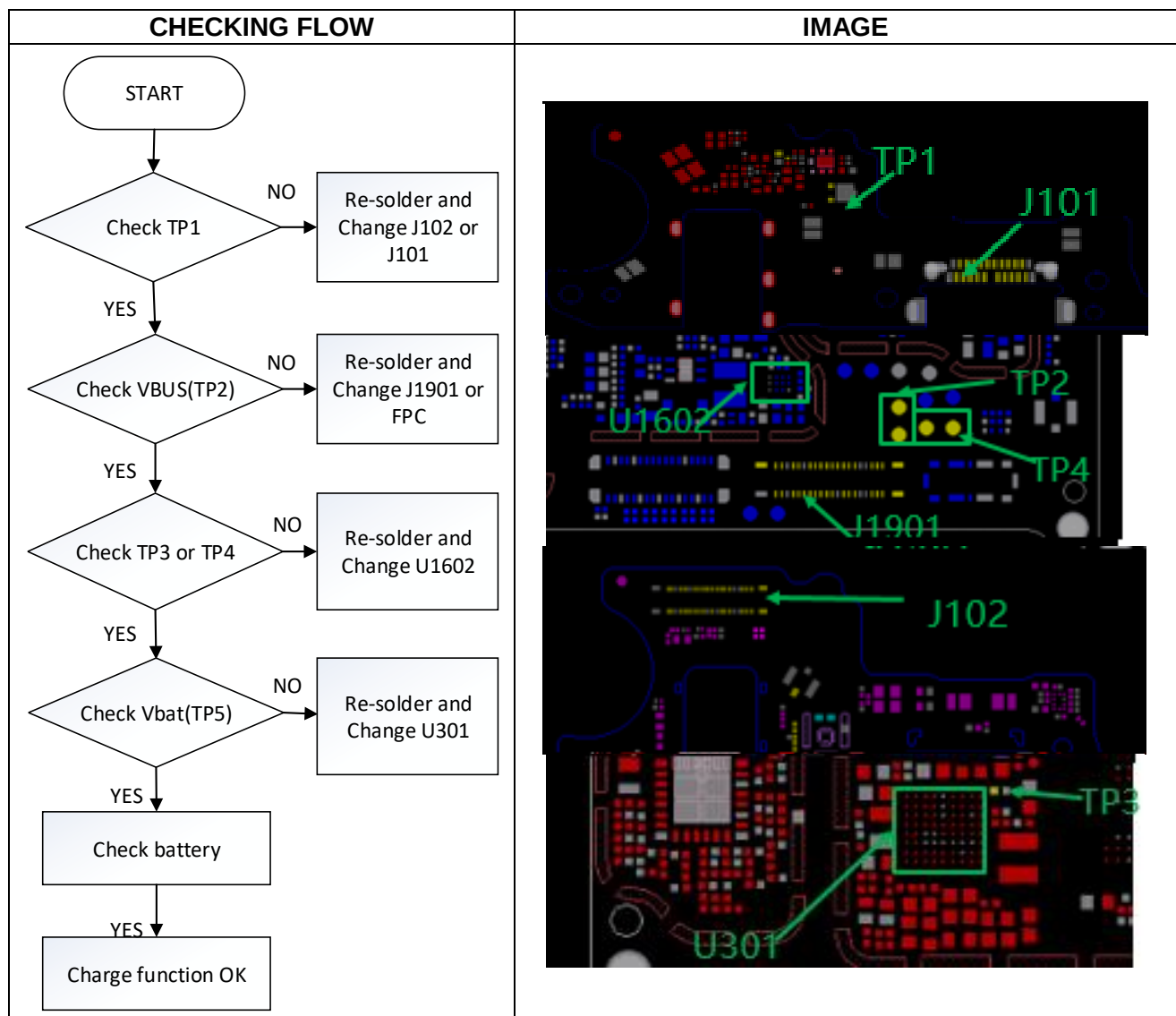
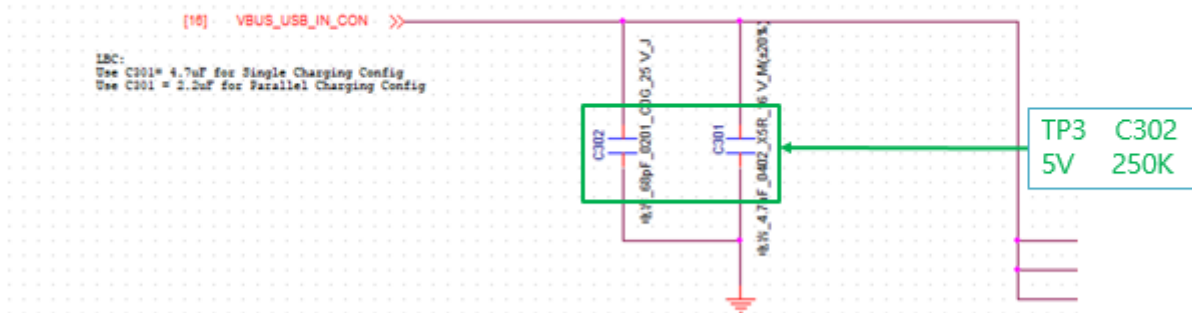
8-4-2. Charging

- The charging controlled by PMU chip PMI632 (U301) and OVP chip U1602



8. Level 3 Repair

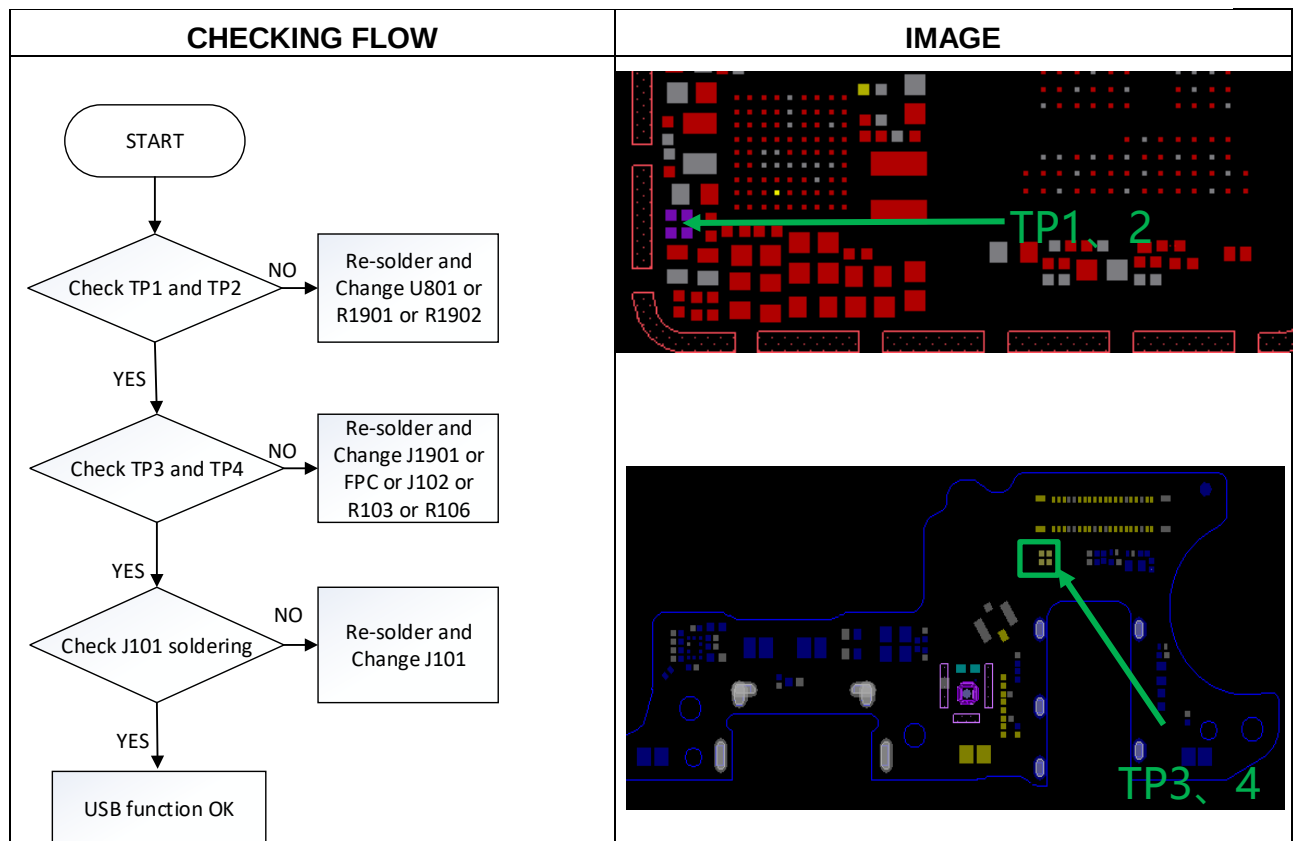
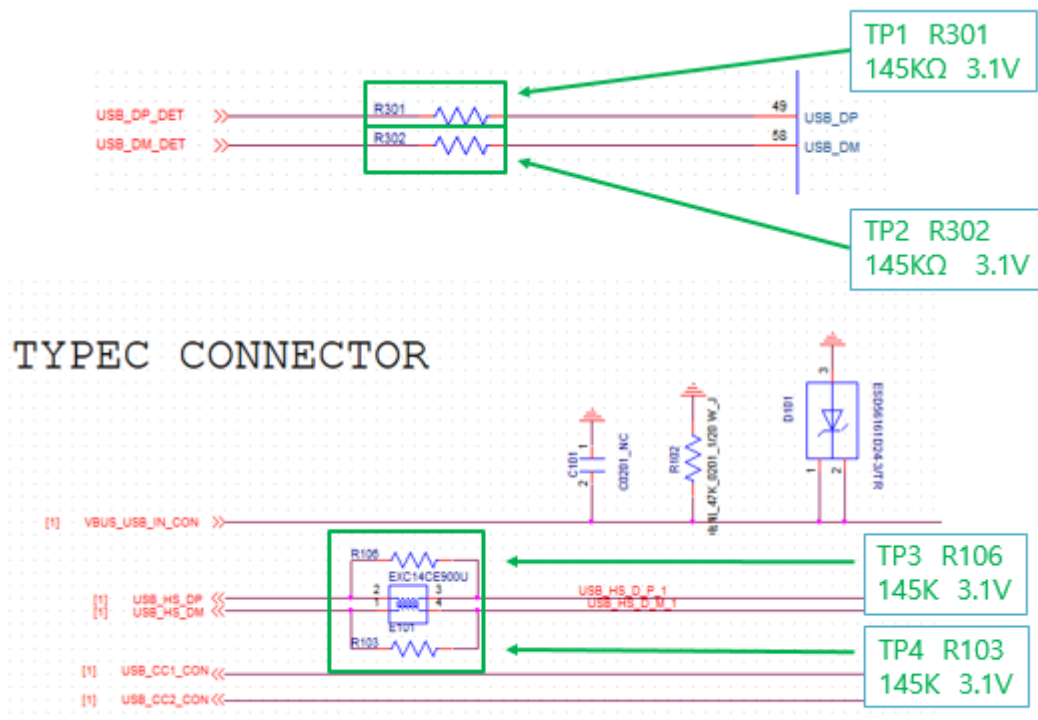
VBUS



8. Level 3 Repair

8-4-3. USB

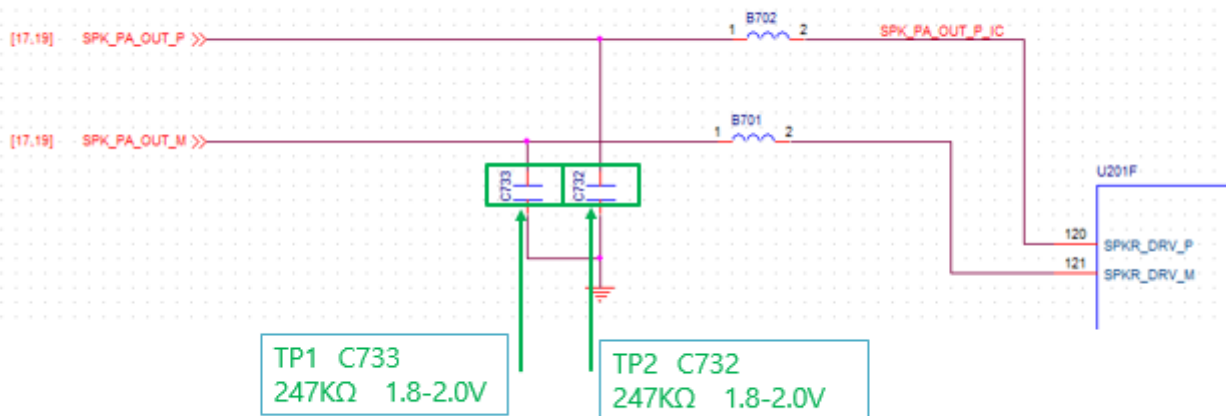
- I/O connector is used as the USB port.



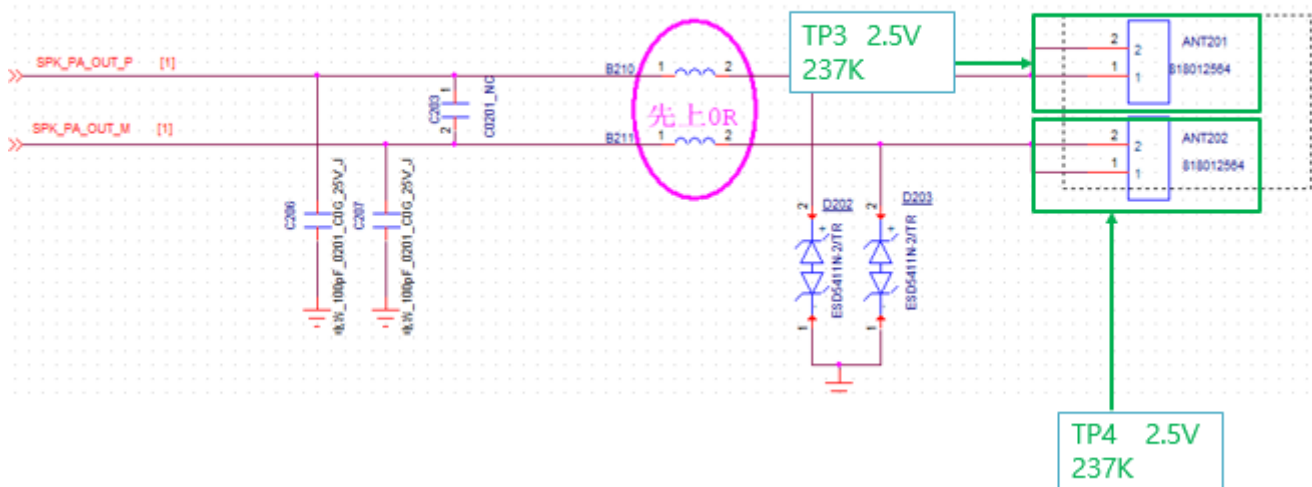
8. Level 3 Repair

8-4-4. Audio speaker

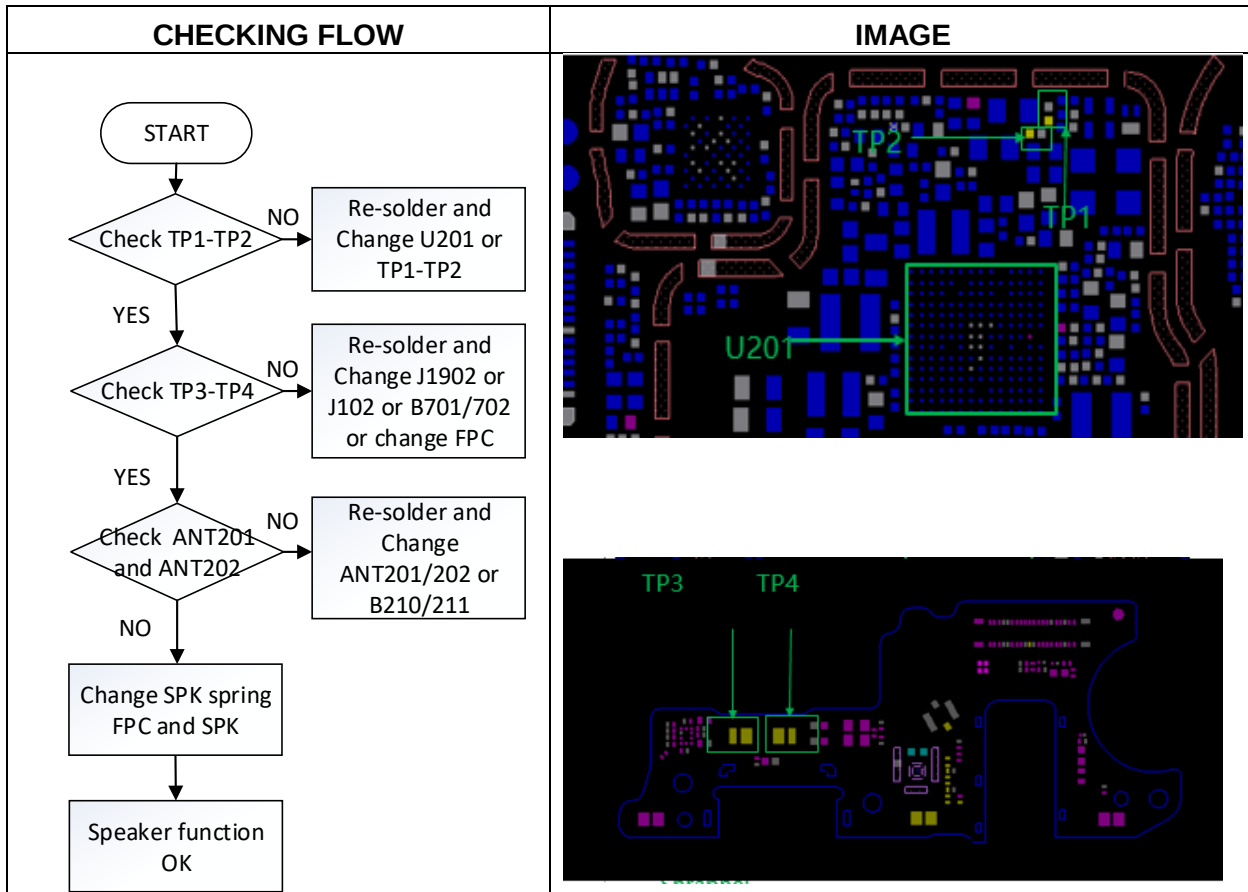
- The Speaker control signals are generated by chip PM8953(U201) , the chip and the speaker are to be checked out.



SPK

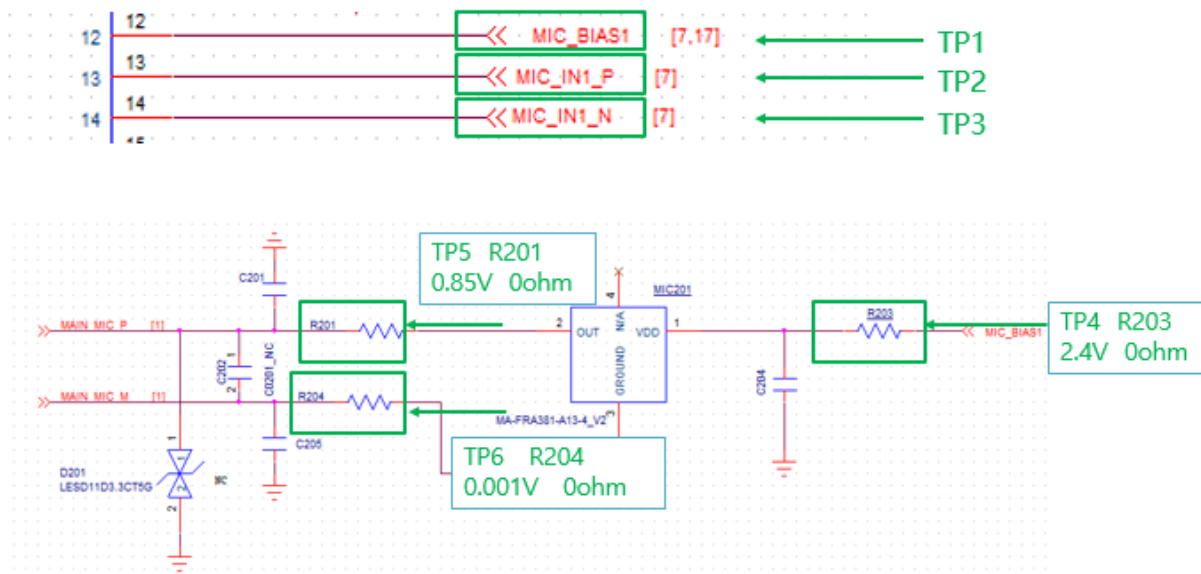


8. Level 3 Repair



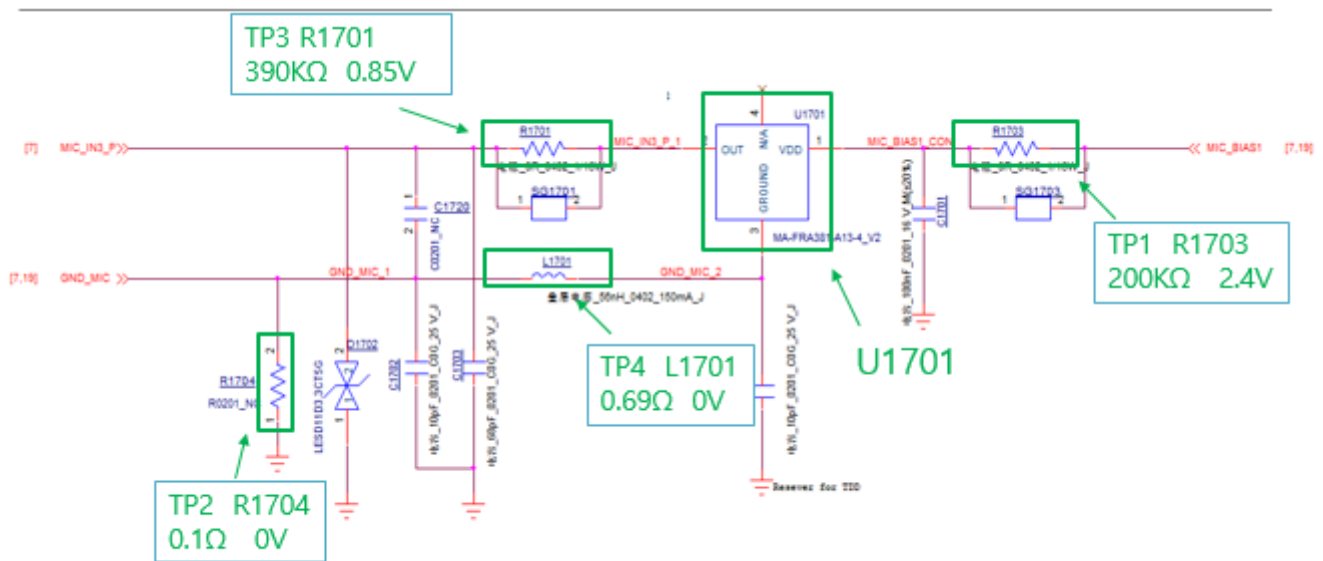
8-4-5. Audio_ MIC

- The MIC control signals are generated by chip PM8953(U201), the chip and the MIC(main mic U201 and sub mic U1701) are to be checked out.



8. Level 3 Repair

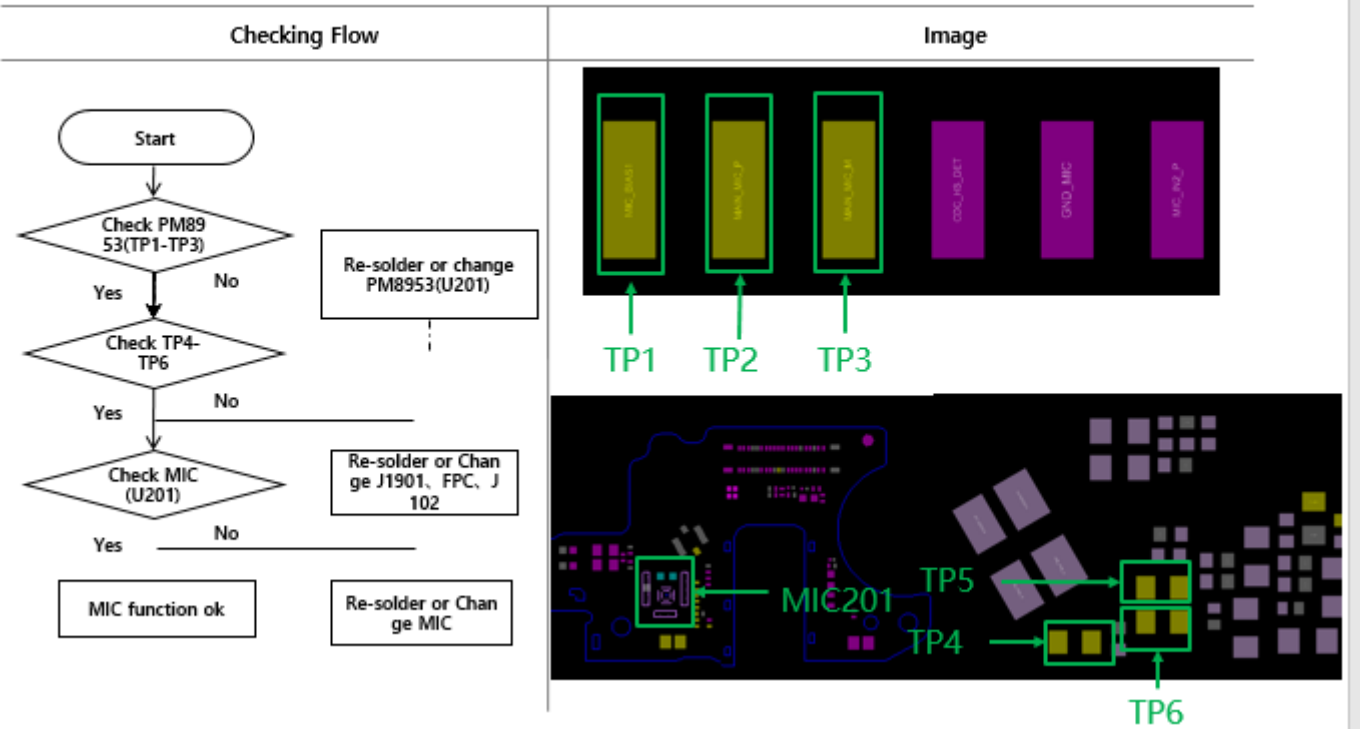
Main mic schematic diagram



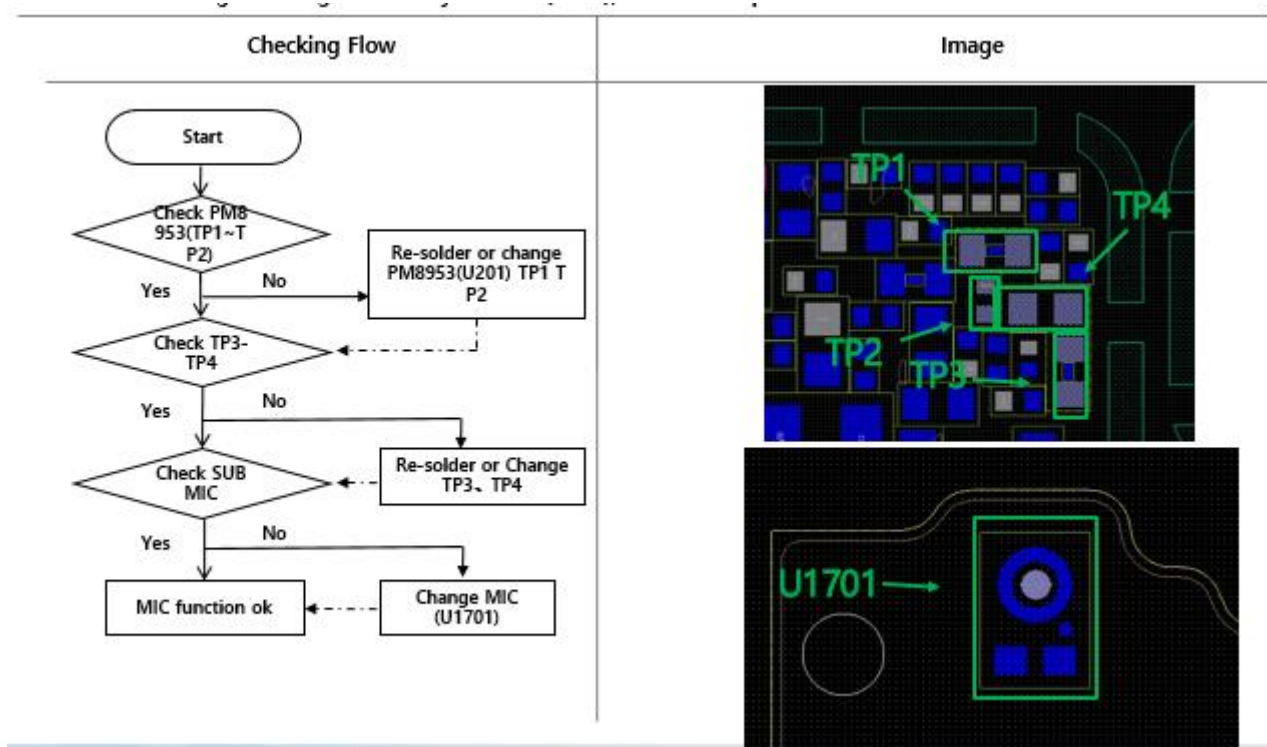
Sub mic schematic diagram

3. Audio Main MIC

The MIC control signals are generated by PMU chip PM8953(U201), the PMU chip and the MIC are to be checked out.

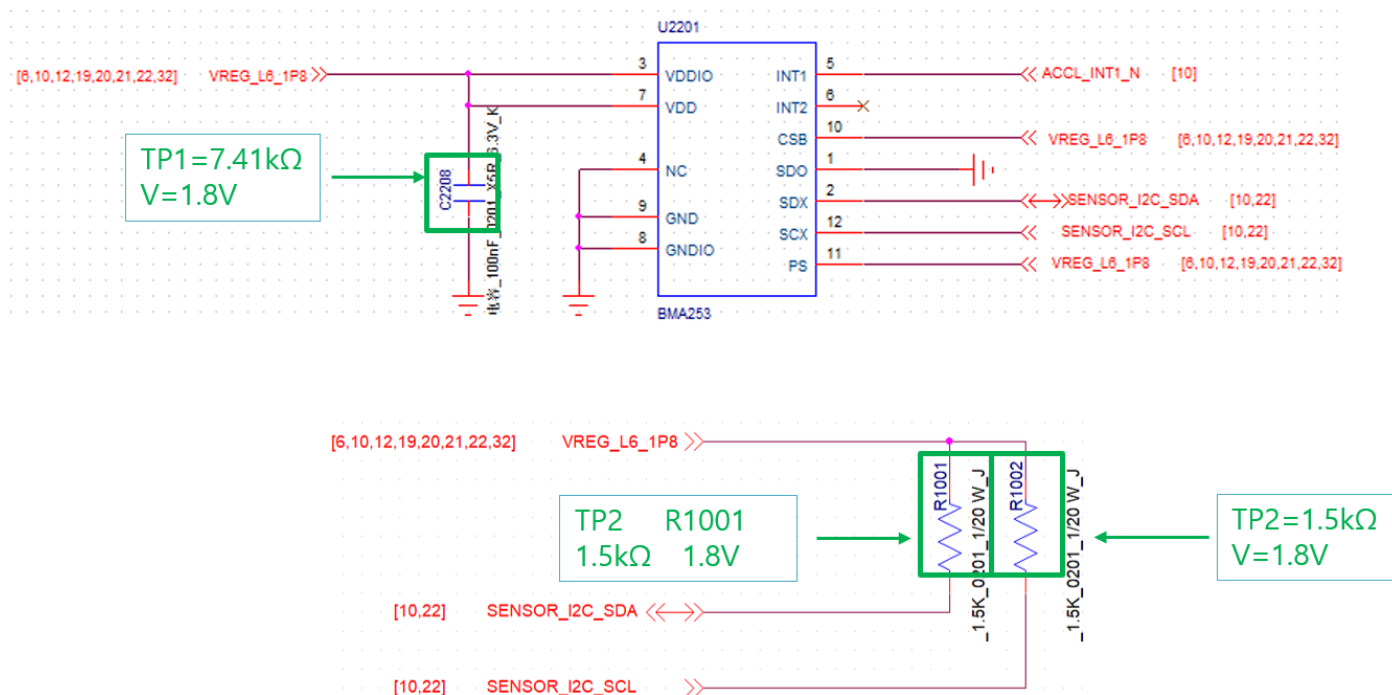


8. Level 3 Repair

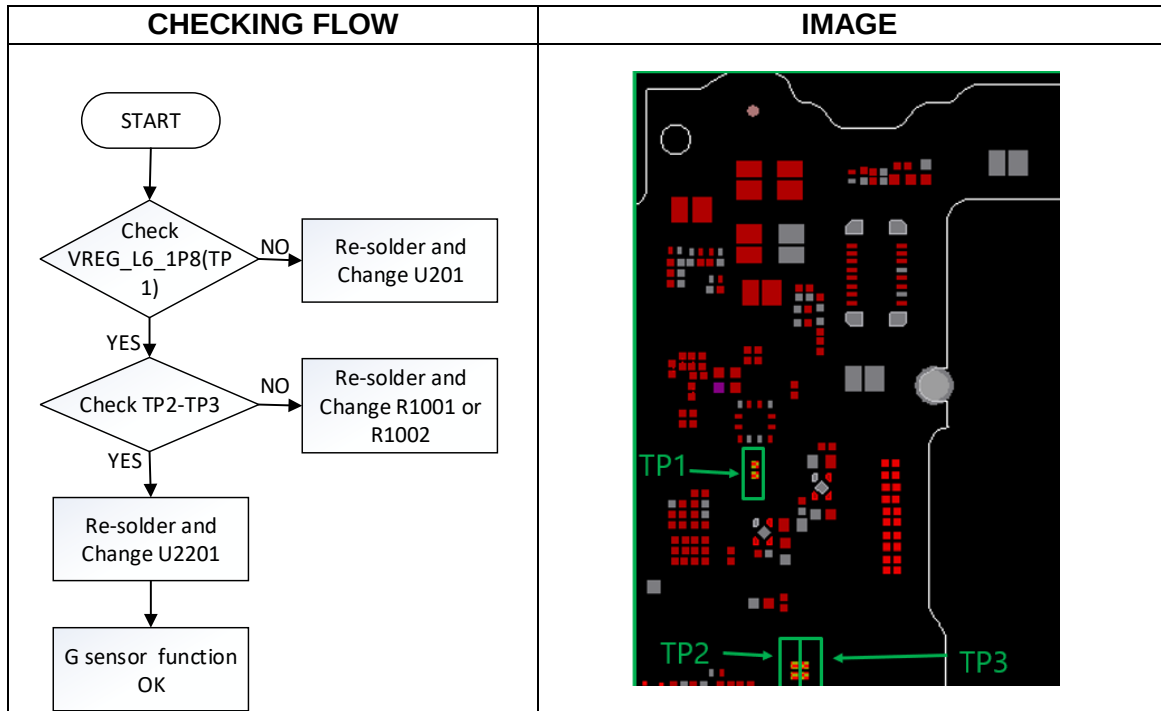


8-4-6. G sensor

- The G sensor is calibrated by using SW algorithm.

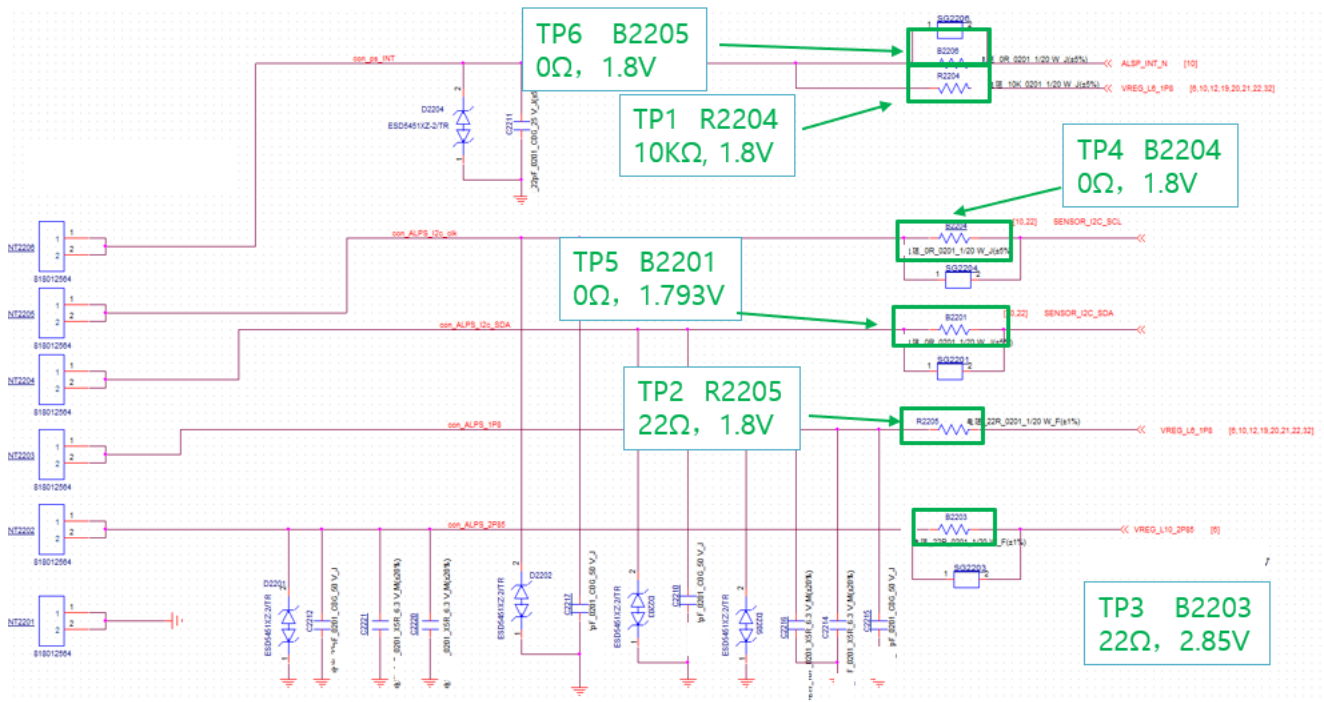


8. Level 3 Repair

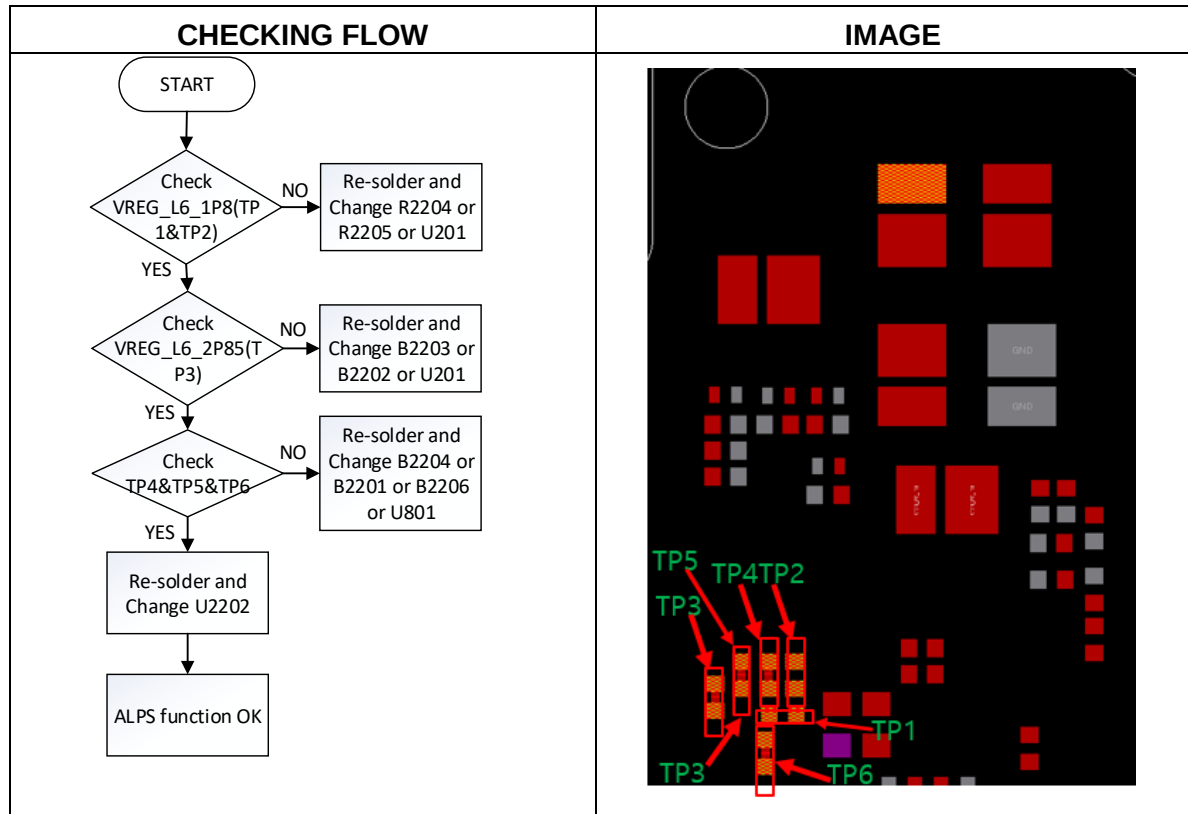


8-4-7. Proximity and light sensor

- Proximity and Light Sensor is worked as below: Control the screen's on/off operation automatically while making phone calls, and adjust the screen brightness according to ambient light.

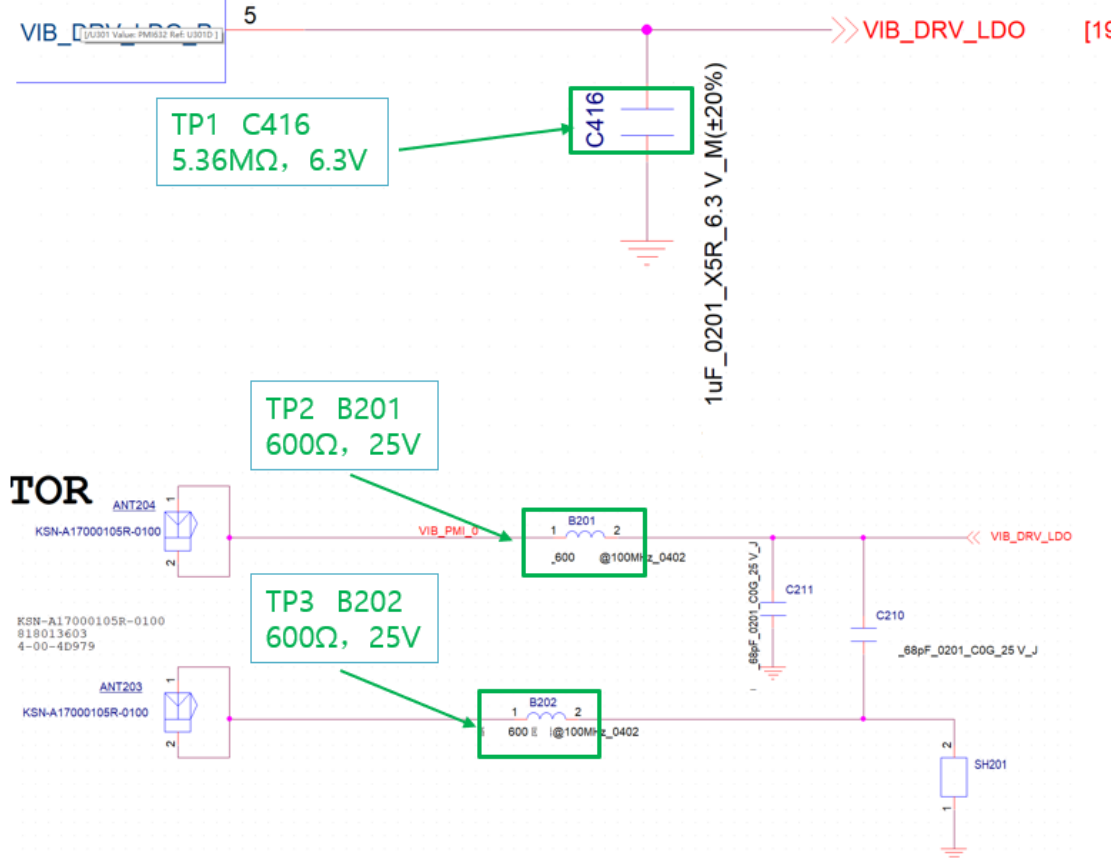


8. Level 3 Repair



8-4-8. Vibrator

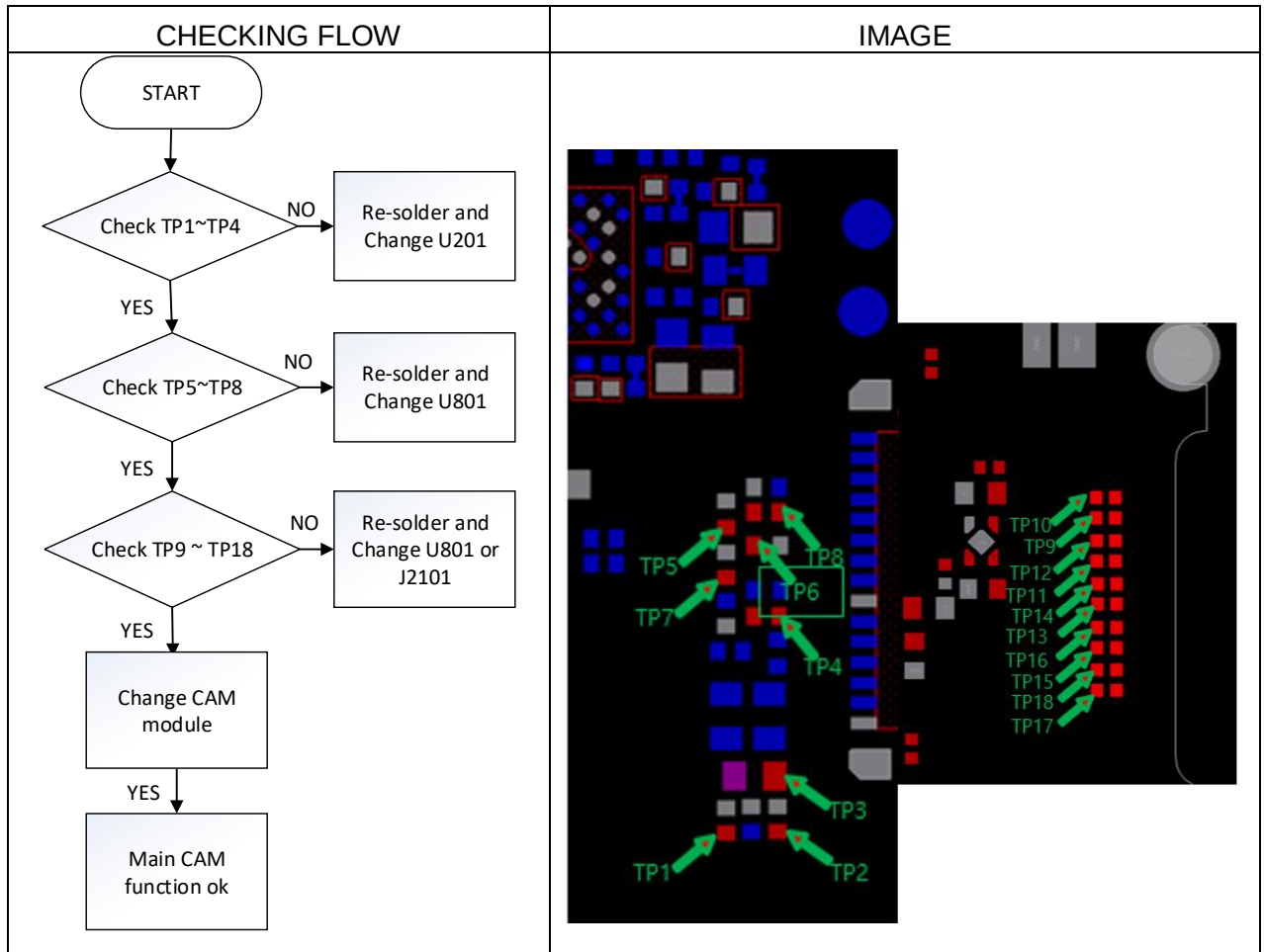
- The Vibrator control signals are generated by PMI632(U301).



8-4-9. Main Camera

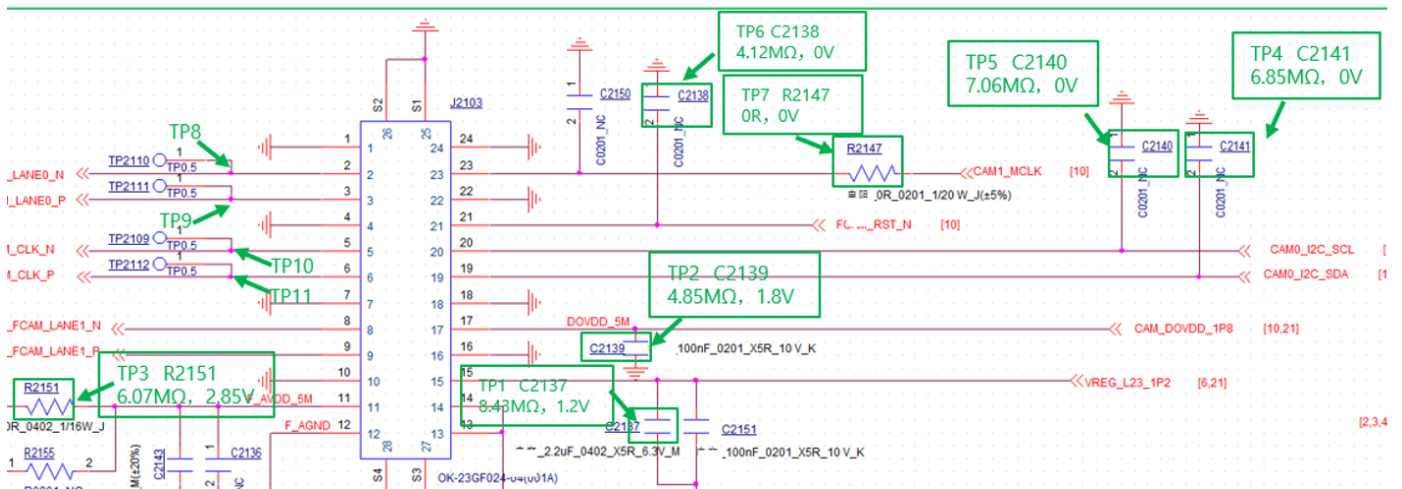
Figure 1 is a detailed schematic diagram of the MIPI camera module's internal circuitry, highlighting the locations and values of 18 test points (TP1 to TP18). The diagram includes various components such as resistors (R2101, R2102, R2158, R2159, R2160, R2161, R2162, R2164, R2165, R2166, R2167), capacitors (C2101, C2102, C2103, C2104, C2105, C2106, C2107, C2108, C2109, C2110, C2111, C2112, C2113, C2114, C2115, C2116, C2117, C2118, C2119, C2120, C2121, C2122, C2123, C2124, C2125, C2126, C2127, C2128, C2129, C2130, C2131, C2132, C2133, C2134, C2135, C2136, C2137, C2138, C2139, C2140, C2141, C2142, C2143, C2144, C2145, C2146, C2147, C2148, C2149, C2150, C2151, C2152, C2153, C2154, C2155, C2156, C2157, C2158, C2159, C2160, C2161, C2162, C2163, C2164, C2165, C2166, C2167, C2168, C2169, C2170, C2171, C2172, C2173, C2174, C2175, C2176, C2177, C2178, C2179, C2180, C2181, C2182, C2183, C2184, C2185, C2186, C2187, C2188, C2189, C2190, C2191, C2192, C2193, C2194, C2195, C2196, C2197, C2198, C2199, C2200, C2201, C2202, C2203, C2204, C2205, C2206, C2207, C2208, C2209, C2210, C2211, C2212, C2213, C2214, C2215, C2216, C2217, C2218, C2219, C2220, C2221, C2222, C2223, C2224, C2225, C2226, C2227, C2228, C2229, C2230, C2231, C2232, C2233, C2234, C2235, C2236, C2237, C2238, C2239, C2240, C2241, C2242, C2243, C2244, C2245, C2246, C2247, C2248, C2249, C2250, C2251, C2252, C2253, C2254, C2255, C2256, C2257, C2258, C2259, C2260, C2261, C2262, C2263, C2264, C2265, C2266, C2267, C2268, C2269, C2270, C2271, C2272, C2273, C2274, C2275, C2276, C2277, C2278, C2279, C2280, C2281, C2282, C2283, C2284, C2285, C2286, C2287, C2288, C2289, C2290, C2291, C2292, C2293, C2294, C2295, C2296, C2297, C2298, C2299, C2300, C2301, C2302, C2303, C2304, C2305, C2306, C2307, C2308, C2309, C2310, C2311, C2312, C2313, C2314, C2315, C2316, C2317, C2318, C2319, C2320, C2321, C2322, C2323, C2324, C2325, C2326, C2327, C2328, C2329, C2330, C2331, C2332, C2333, C2334, C2335, C2336, C2337, C2338, C2339, C2340, C2341, C2342, C2343, C2344, C2345, C2346, C2347, C2348, C2349, C2350, C2351, C2352, C2353, C2354, C2355, C2356, C2357, C2358, C2359, C2360, C2361, C2362, C2363, C2364, C2365, C2366, C2367, C2368, C2369, C2370, C2371, C2372, C2373, C2374, C2375, C2376, C2377, C2378, C2379, C2380, C2381, C2382, C2383, C2384, C2385, C2386, C2387, C2388, C2389, C2390, C2391, C2392, C2393, C2394, C2395, C2396, C2397, C2398, C2399, C2400, C2401, C2402, C2403, C2404, C2405, C2406, C2407, C2408, C2409, C2410, C2411, C2412, C2413, C2414, C2415, C2416, C2417, C2418, C2419, C2420, C2421, C2422, C2423, C2424, C2425, C2426, C2427, C2428, C2429, C2430, C2431, C2432, C2433, C2434, C2435, C2436, C2437, C2438, C2439, C2440, C2441, C2442, C2443, C2444, C2445, C2446, C2447, C2448, C2449, C2450, C2451, C2452, C2453, C2454, C2455, C2456, C2457, C2458, C2459, C2460, C2461, C2462, C2463, C2464, C2465, C2466, C2467, C2468, C2469, C2470, C2471, C2472, C2473, C2474, C2475, C2476, C2477, C2478, C2479, C2480, C2481, C2482, C2483, C2484, C2485, C2486, C2487, C2488, C2489, C2490, C2491, C2492, C2493, C2494, C2495, C2496, C2497, C2498, C2499, C2500, C2501, C2502, C2503, C2504, C2505, C2506, C2507, C2508, C2509, C2510, C2511, C2512, C2513, C2514, C2515, C2516, C2517, C2518, C2519, C2520, C2521, C2522, C2523, C2524, C2525, C2526, C2527, C2528, C2529, C2530, C2531, C2532, C2533, C2534, C2535, C2536, C2537, C2538, C2539, C2540, C2541, C2542, C2543, C2544, C2545, C2546, C2547, C2548, C2549, C2550, C2551, C2552, C2553, C2554, C2555, C2556, C2557, C2558, C2559, C2560, C2561, C2562, C2563, C2564, C2565, C2566, C2567, C2568, C2569, C2570, C2571, C2572, C2573, C2574, C2575, C2576, C2577, C2578, C2579, C2580, C2581, C2582, C2583, C2584, C2585, C2586, C2587, C2588, C2589, C2590, C2591, C2592, C2593, C2594, C2595, C2596, C2597, C2598, C2599, C2600, C2601, C2602, C2603, C2604, C2605, C2606, C2607, C2608, C2609, C2610, C2611, C2612, C2613, C2614, C2615, C2616, C2617, C2618, C2619, C2620, C2621, C2622, C2623, C2624, C2625, C2626, C2627, C2628, C2629, C2630, C2631, C2632, C2633, C2634, C2635, C2636, C2637, C2638, C2639, C2640, C2641, C2642, C2643, C2644, C2645, C2646, C2647, C2648, C2649, C2650, C2651, C2652, C2653, C2654, C2655, C2656, C2657, C2658, C2659, C2660, C2661, C2662, C2663, C2664, C2665, C2666, C2667, C2668, C2669, C2670, C2671, C2672, C2673, C2674, C2675, C2676, C2677, C2678, C2679, C2680, C2681, C2682, C2683, C2684, C2685, C2686, C2687, C2688, C2689, C2690, C2691, C2692, C2693, C2694, C2695, C2696, C2697, C2698, C2699, C2700, C2701, C2702, C2703, C2704, C2705, C2706, C2707, C2708, C2709, C2710, C2711, C2712, C2713, C2714, C2715, C2716, C2717, C2718, C2719, C2720, C2721, C2722, C2723, C2724, C2725, C2726, C2727, C2728, C2729, C2730, C2731, C2732, C2733, C2734, C2735, C2736, C2737, C2738, C2739, C2740, C2741, C2742, C2743, C2744, C2745, C2746, C

8. Level 3 Repair

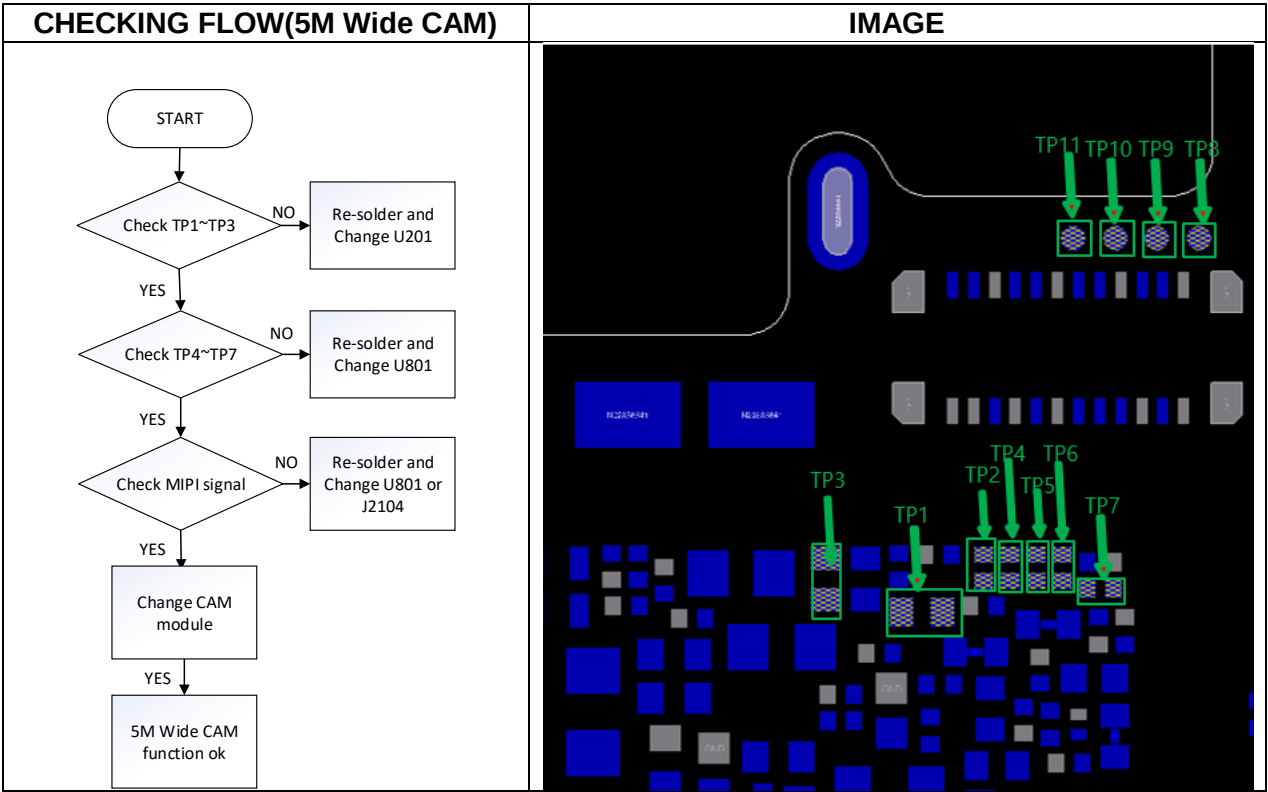


8-4-10. Rear 5M auxiliary Camera

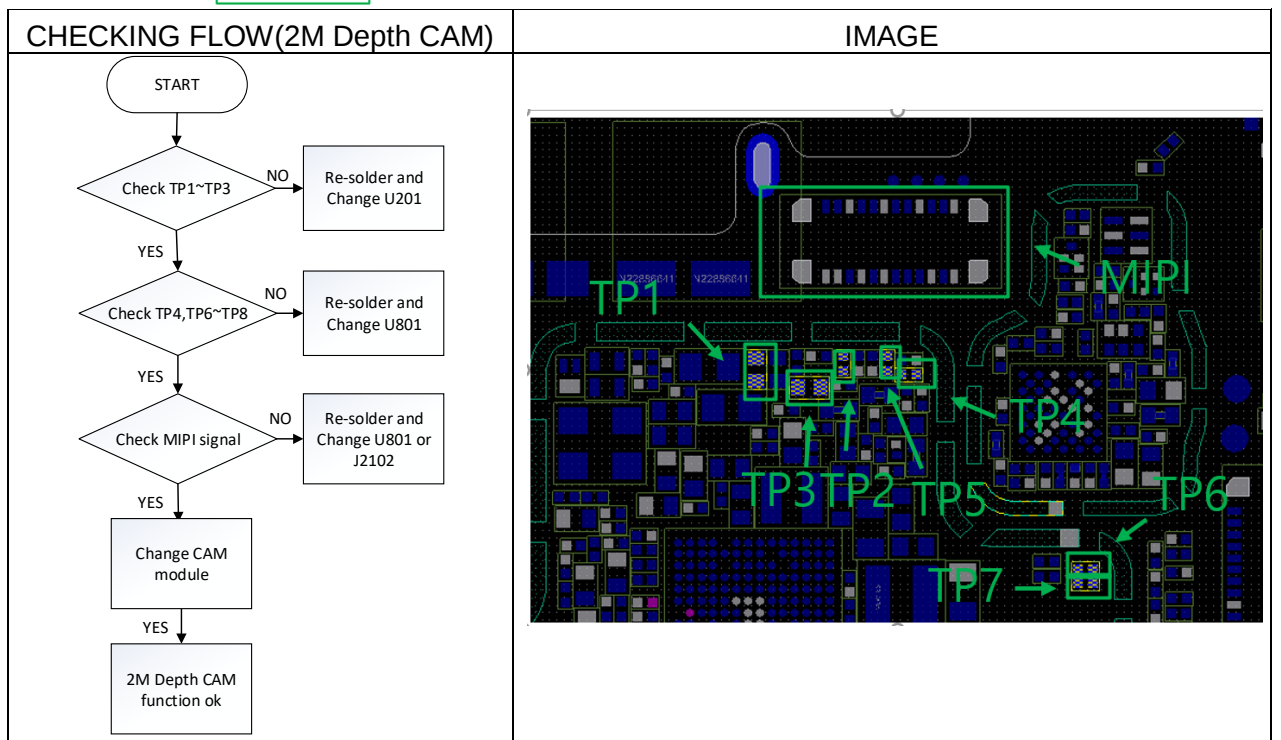
■ The Camera control signals are generated by PM8953 (U201) and SDM450(U801).



8. Level 3 Repair



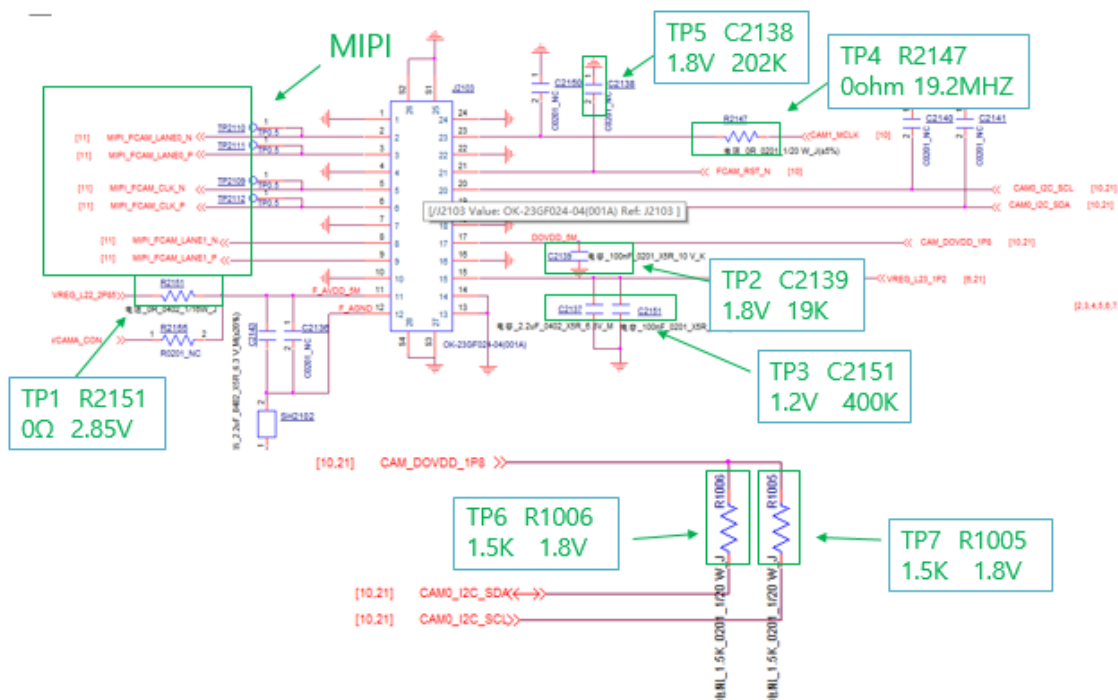
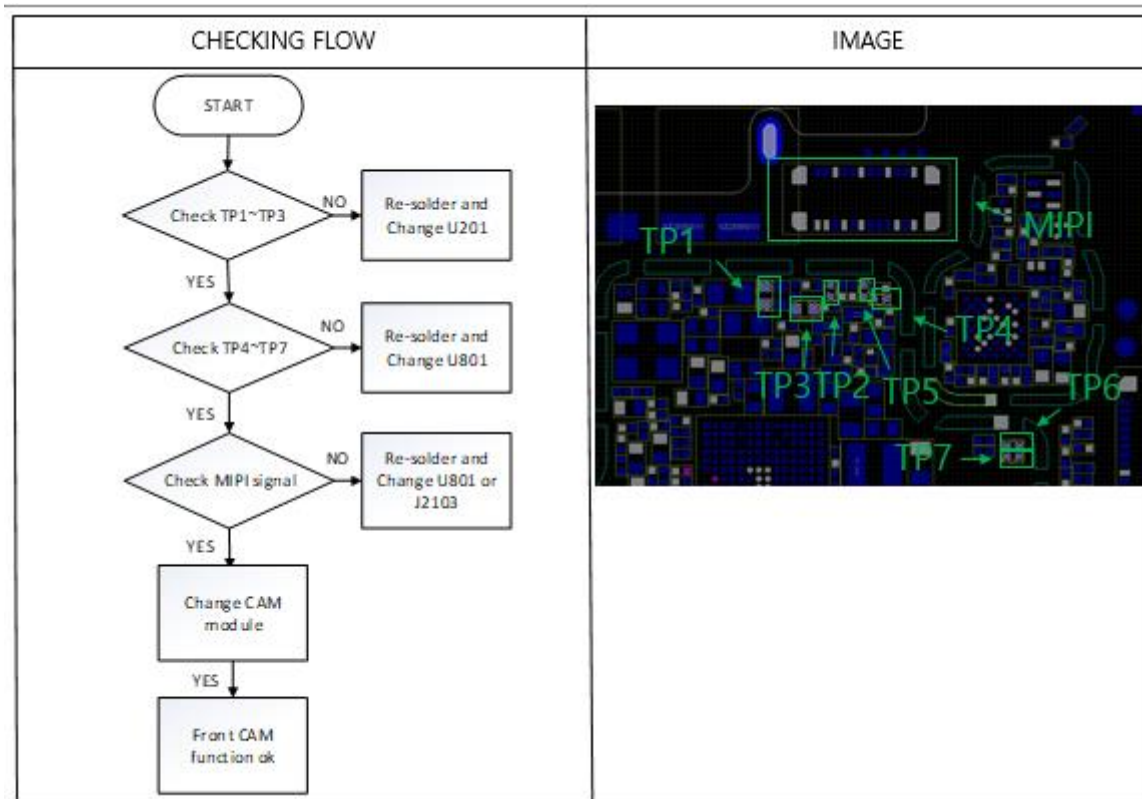
8-4-11. Rear 2M auxiliary Camera



8. Level 3 Repair

8-4-15. Front Camera

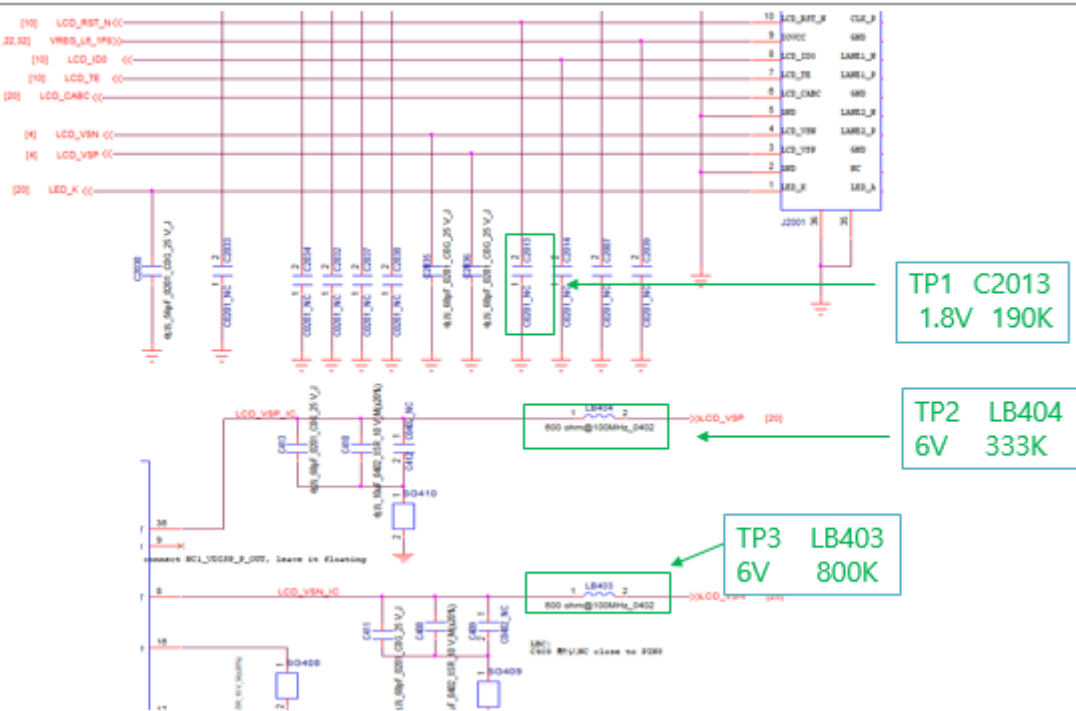
- The Camera control signals are generated by PM8953 (U201) and SDM450(U801).



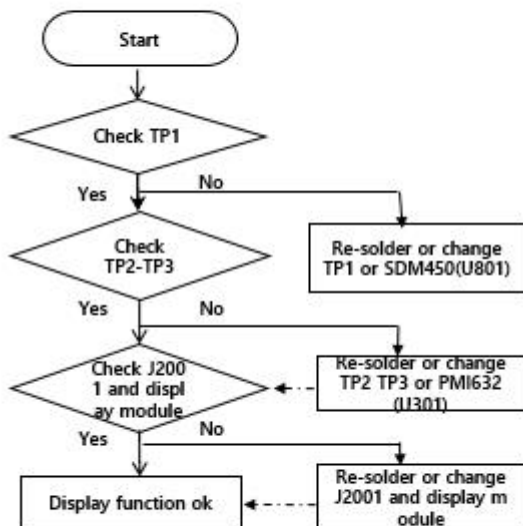
8. Level 3 Repair

8-4-16. LCD

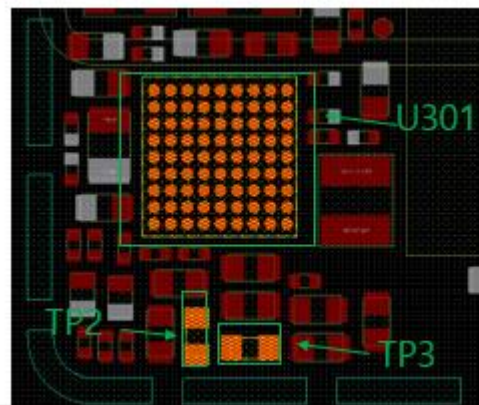
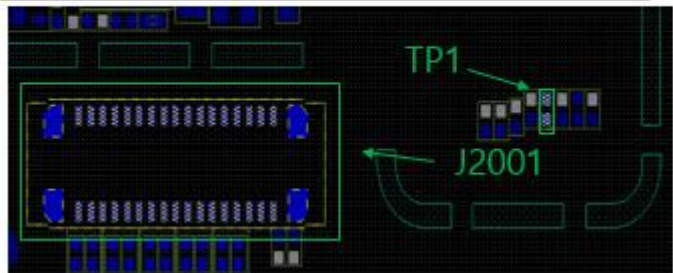
- The LCD control signals are generated by SDM450(U801).



Checking Flow



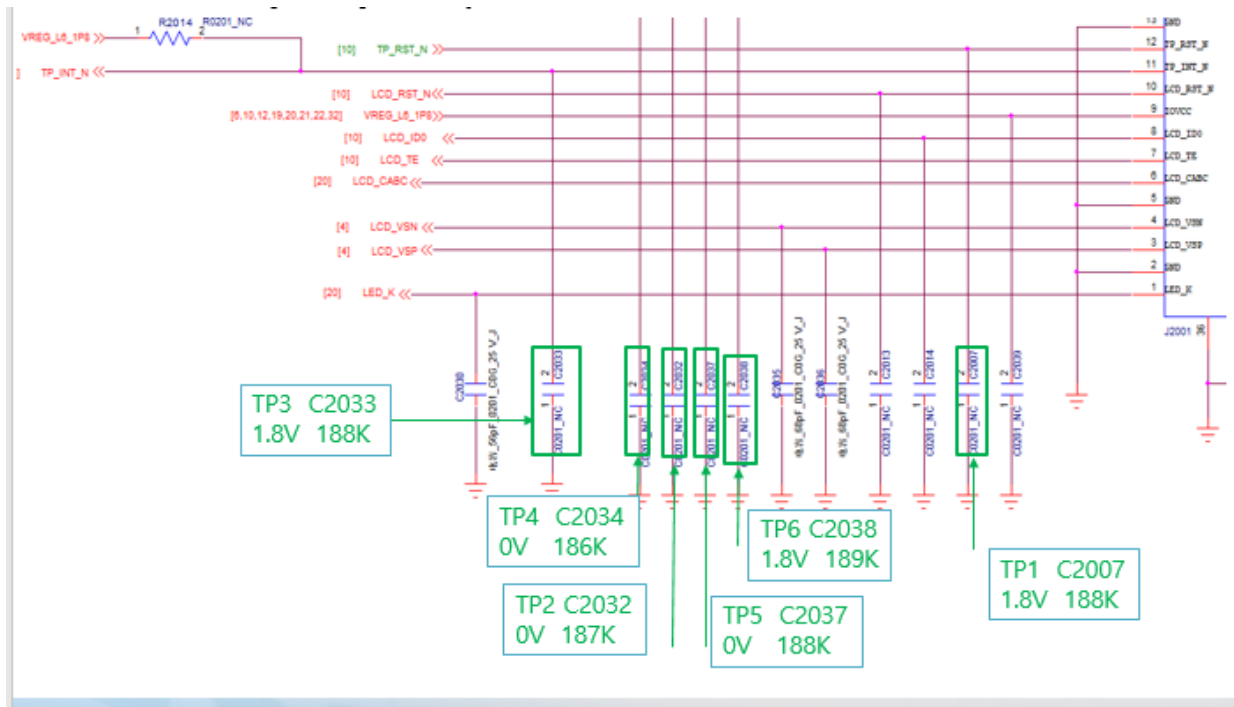
Image



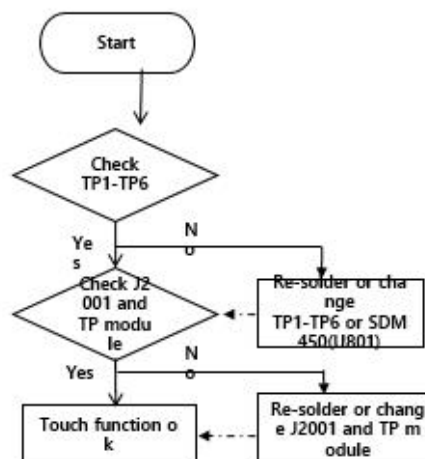
8. Level 3 Repair

8-4-17. touch

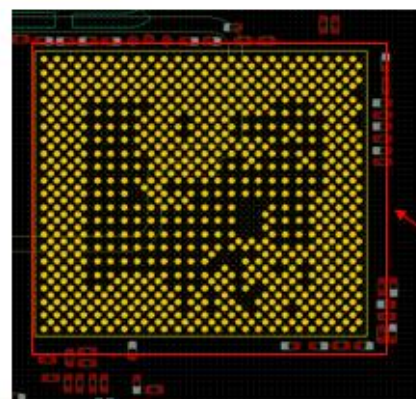
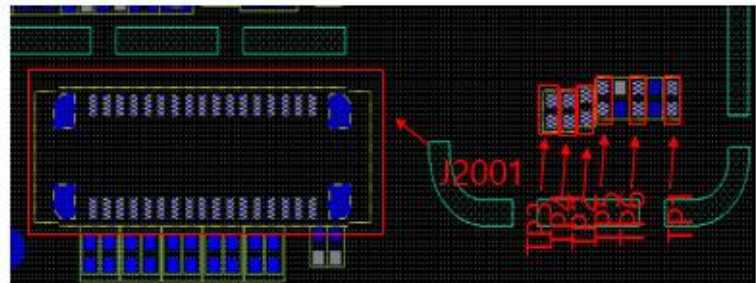
- The Touch control signals are generated by SDM450. It is assembled with LCD



Checking Flow



Image



8-5. Service Schematics

[illegible]