

TITLE	MODEL
Quark Board Test Troubleshooting Guide	Quark Board Test

Introduction:

This document covers the Board test RF failures for all variants for Quark. There may be reference designators listed that are intentionally left unplaced.

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**PCB Component Placement / Overlay:
Overview:**

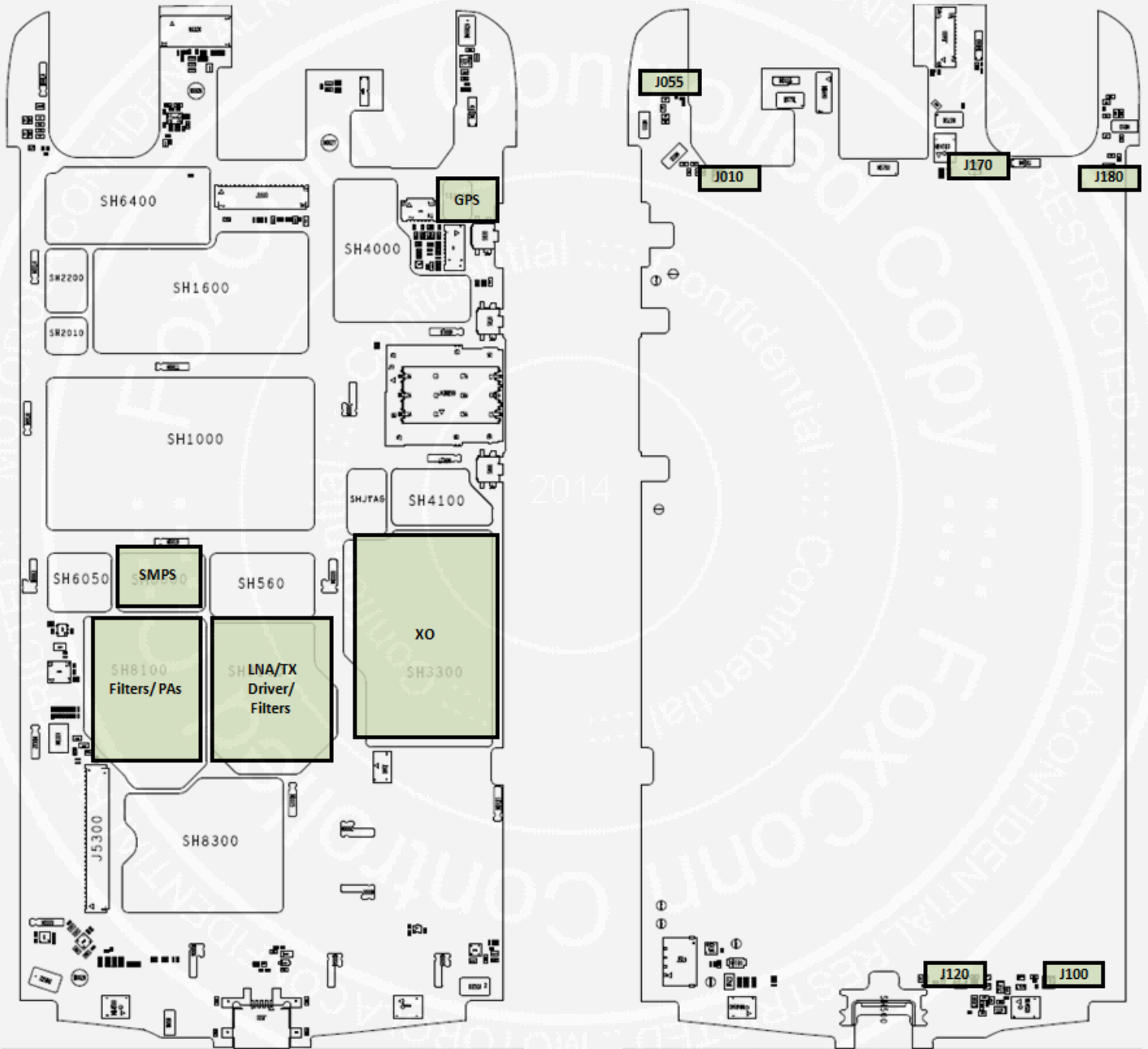


Figure 1.0

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XO:

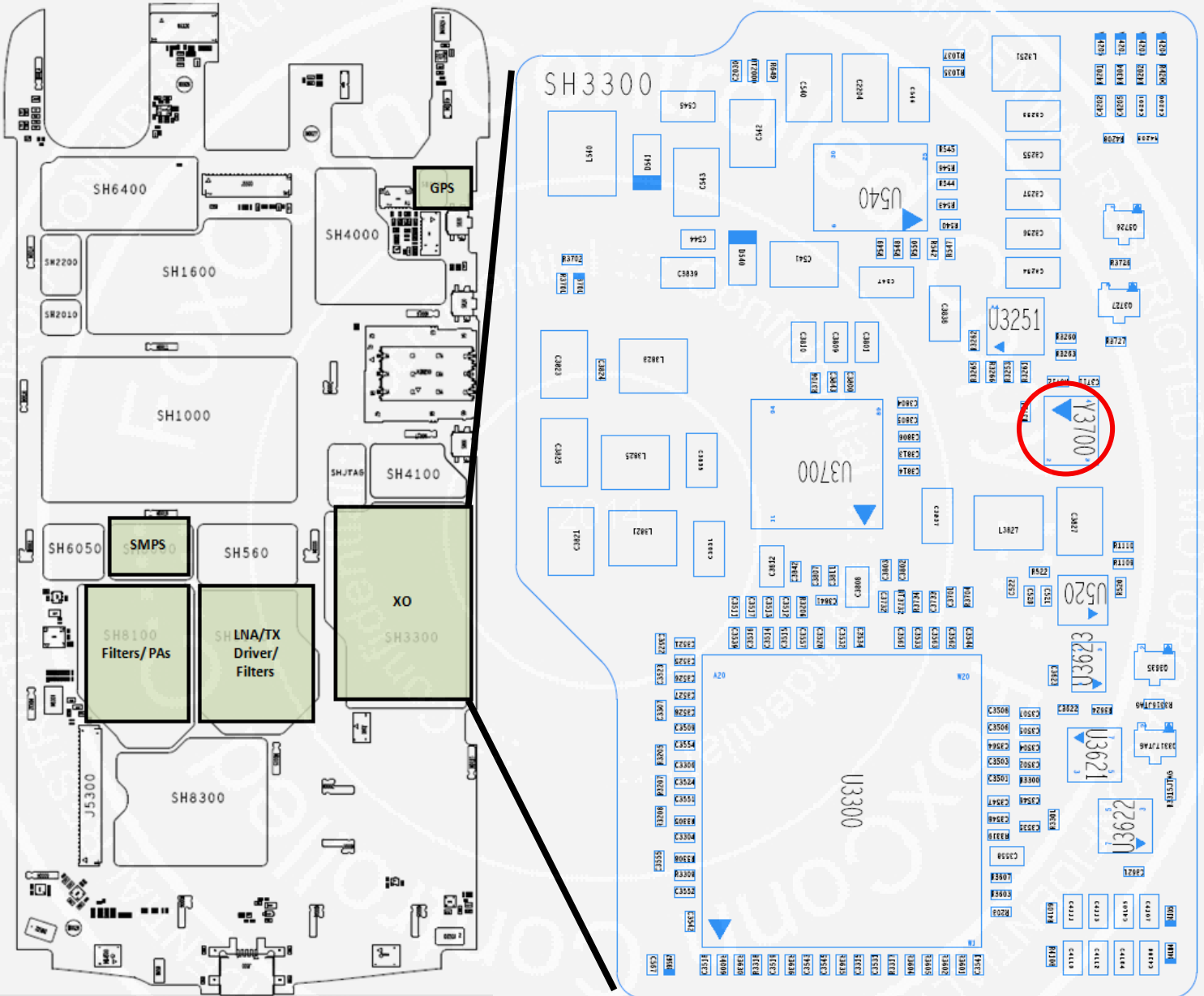


Figure 1.1

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SMPS:

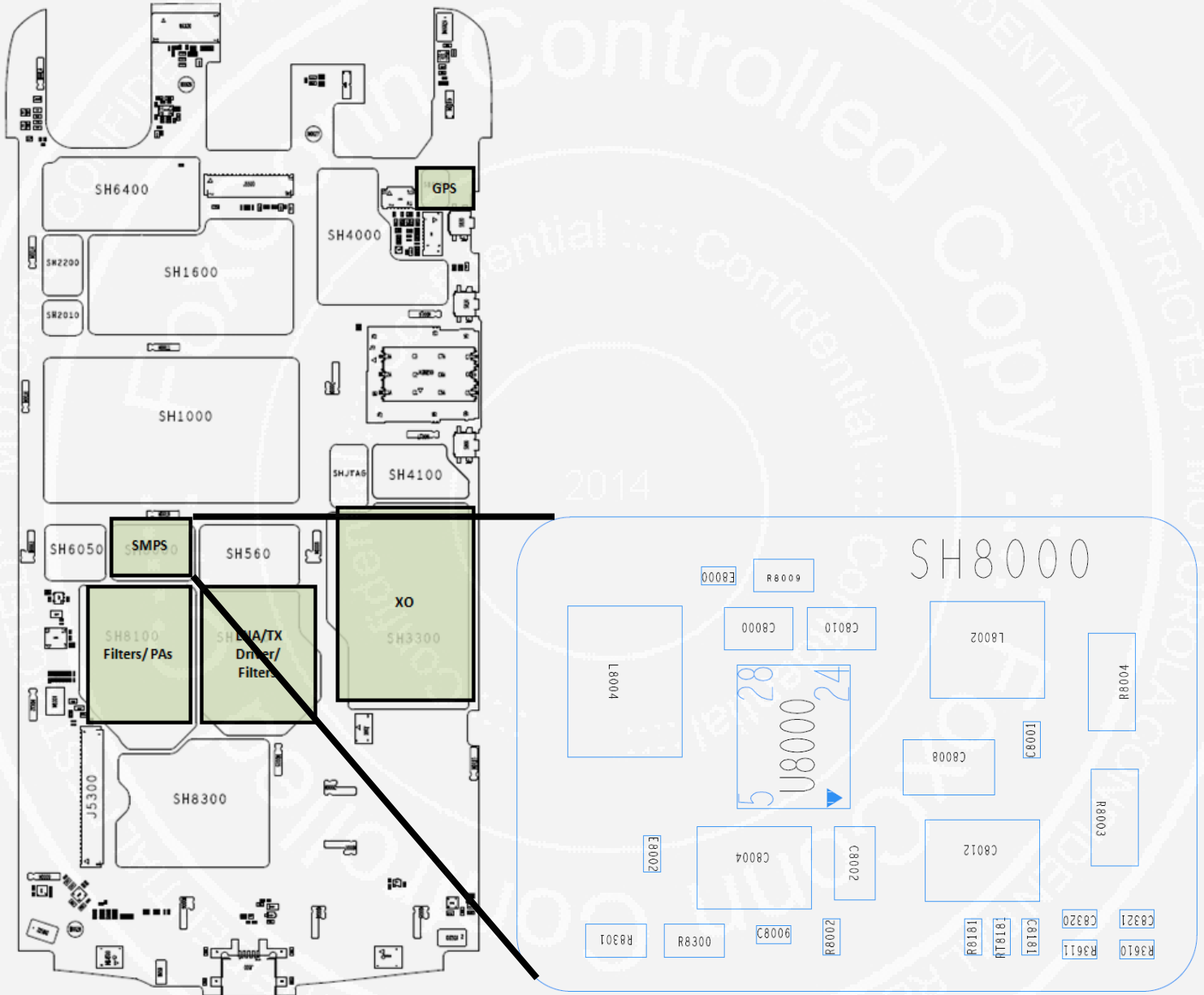


Figure 1.2

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Filters/PA:

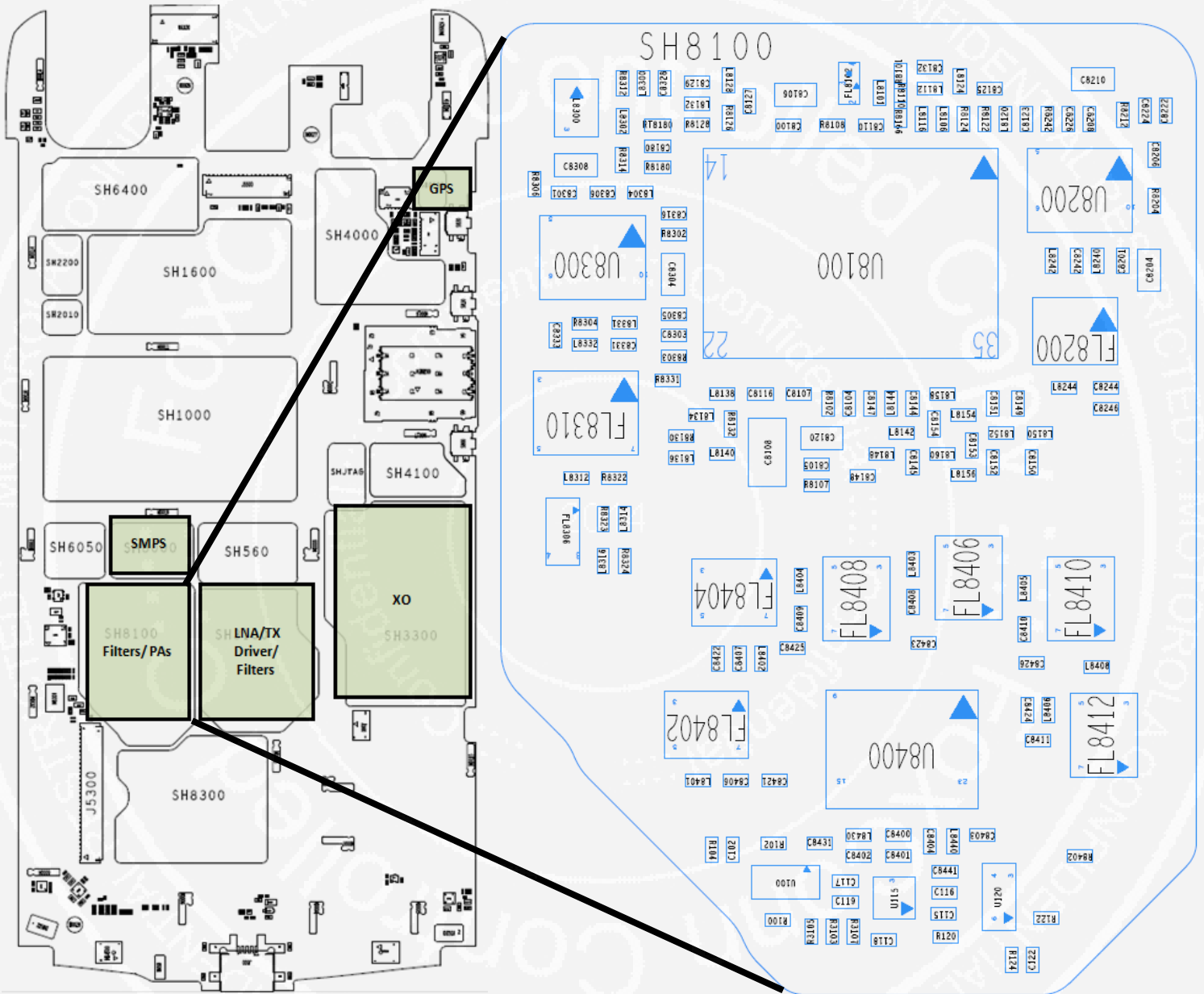


Figure 1.3

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LNA / TX Driver / Filters:

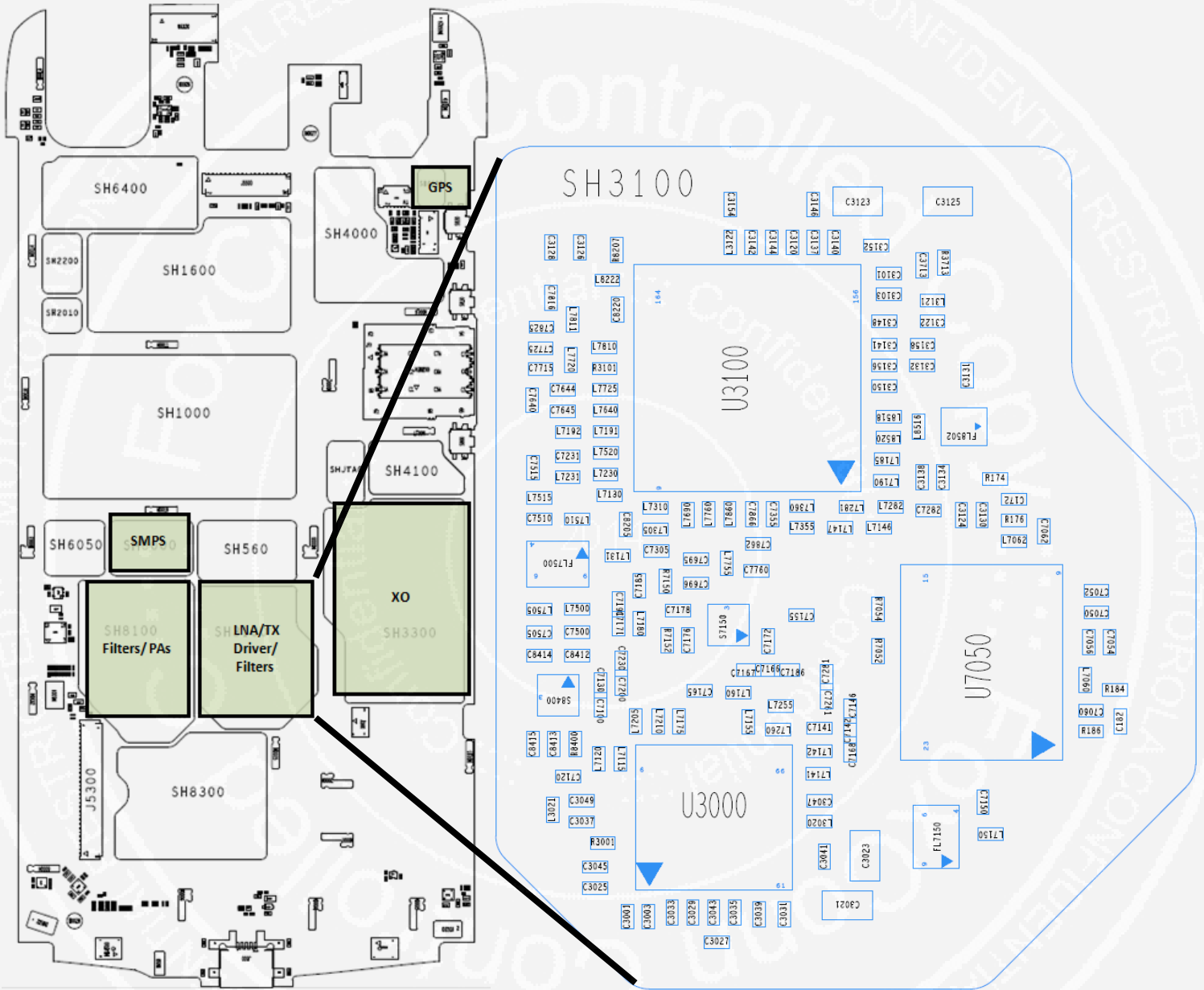


Figure 1.4

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GPS LNA/Filter:

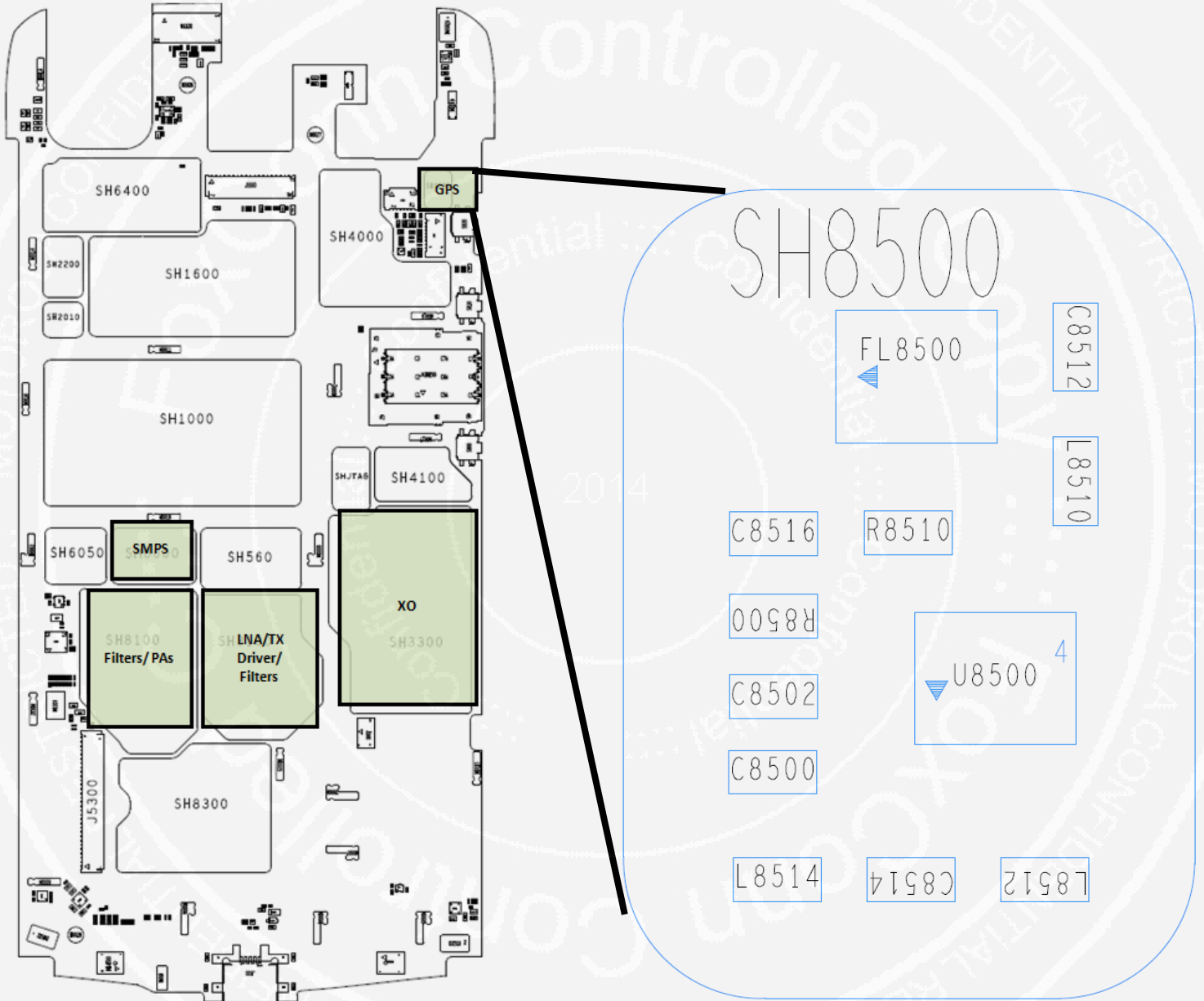


Figure 1.5

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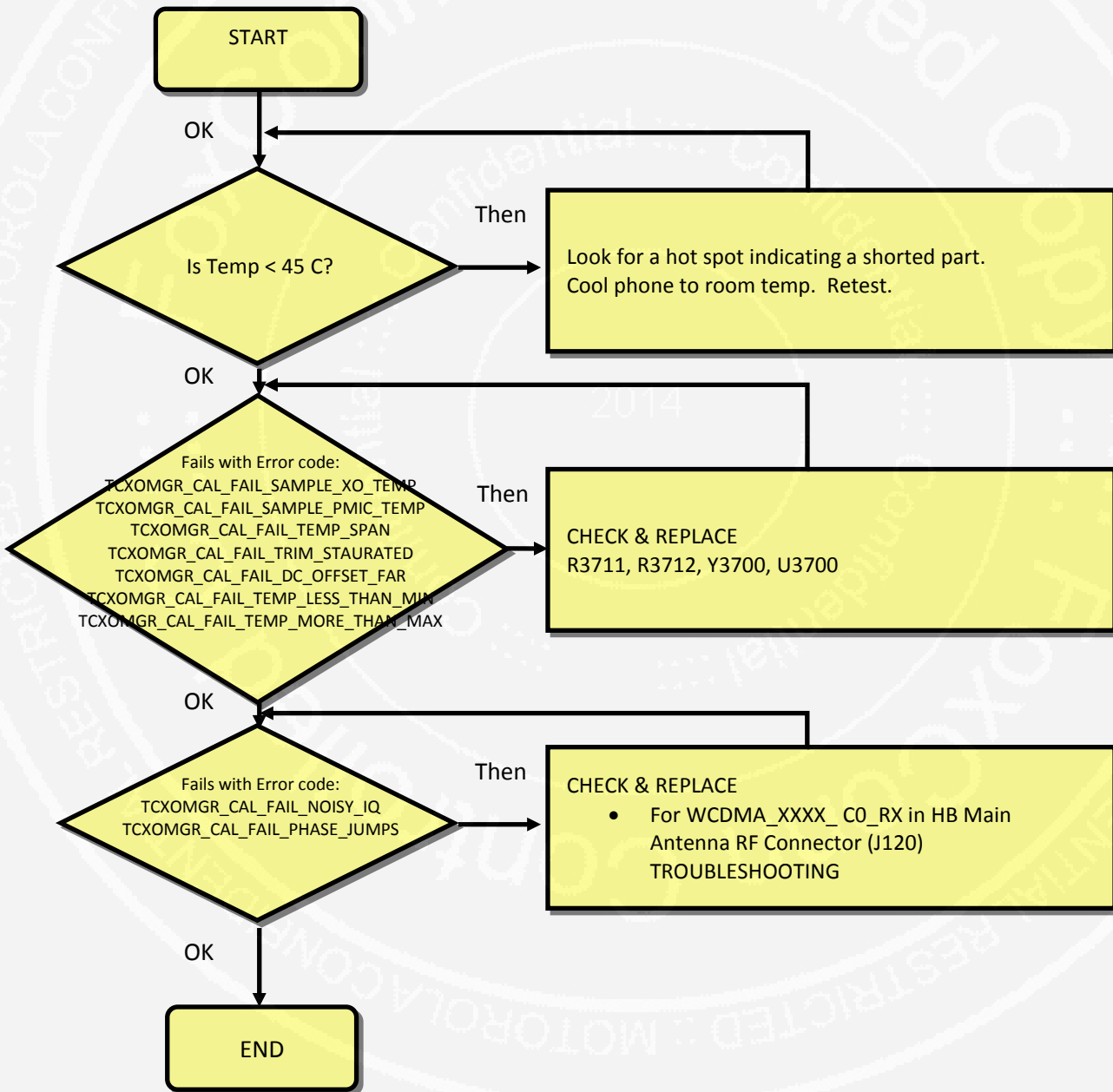
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XO_CAL_QC_XXXX_DC_WCDMA TROUBLESHOOTING:

The coarse XO cal is the first step in the crystal calibration. Coarse XO cal has nothing to do with the thermistor or board heating. You should be able to see the XO coming out of the PMIC at R3713. If you don't see any 19.2 MHz on an o-scope then there is something wrong in PMIC block or the XO itself. If one band passes and the other band fails, then there might be a missing part in the RF line-up for that band. If all the bands fail and there is 19.2 MHz getting to WTR, then this would narrow it down to the WTR.

Check Chart:



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Schematic and board overlay:

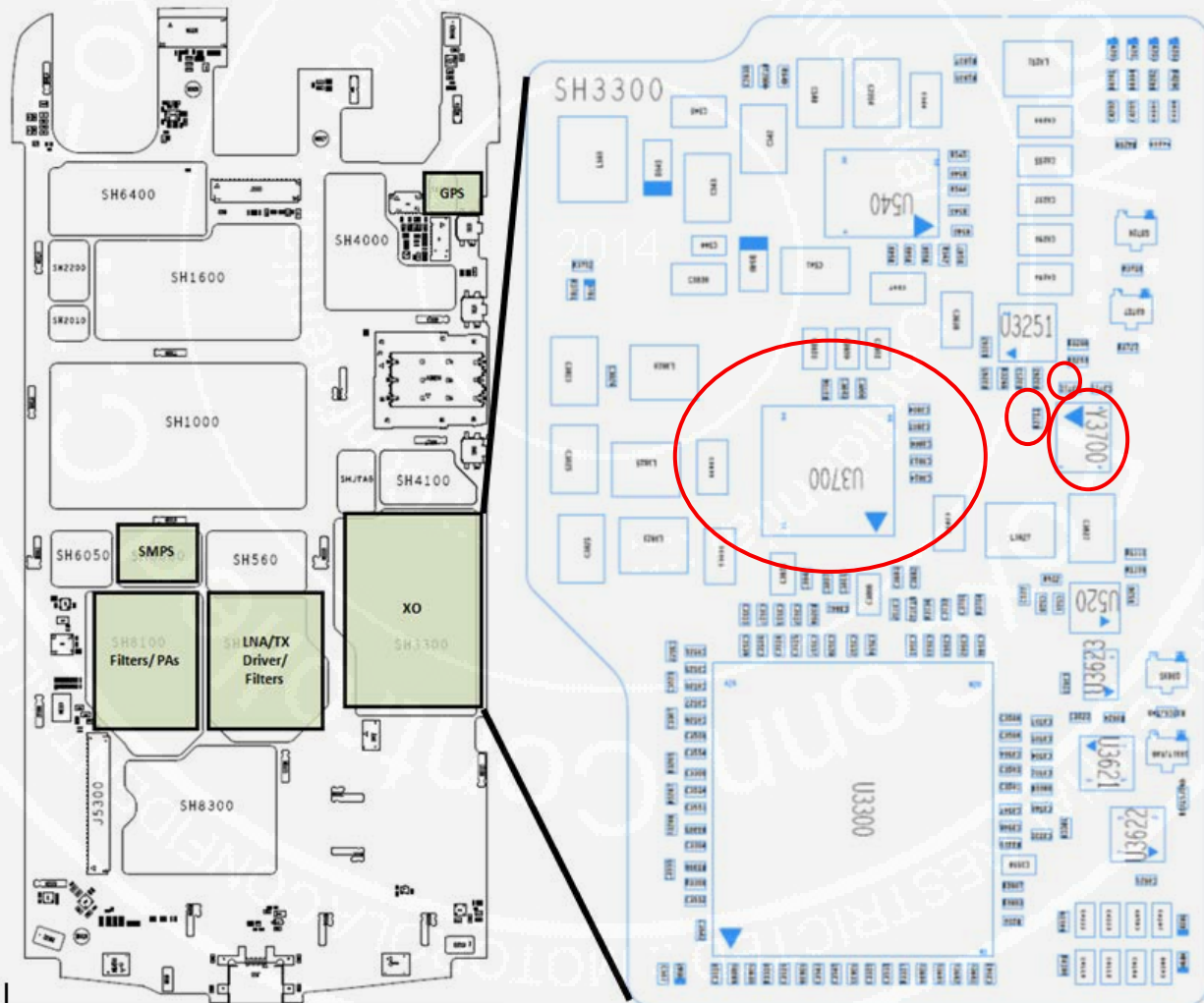
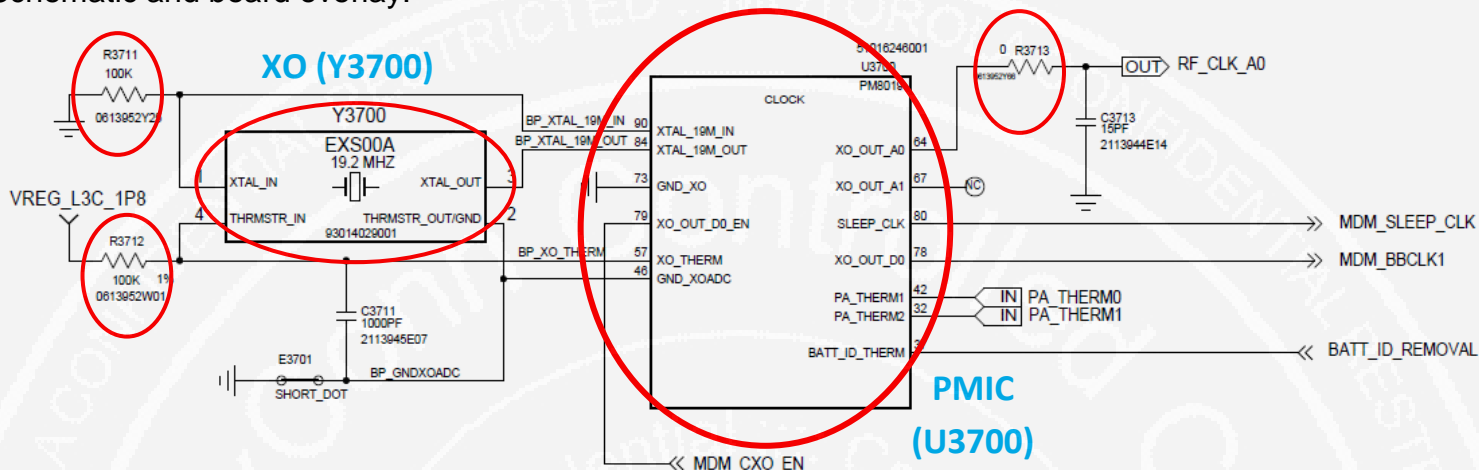


Figure 2.0

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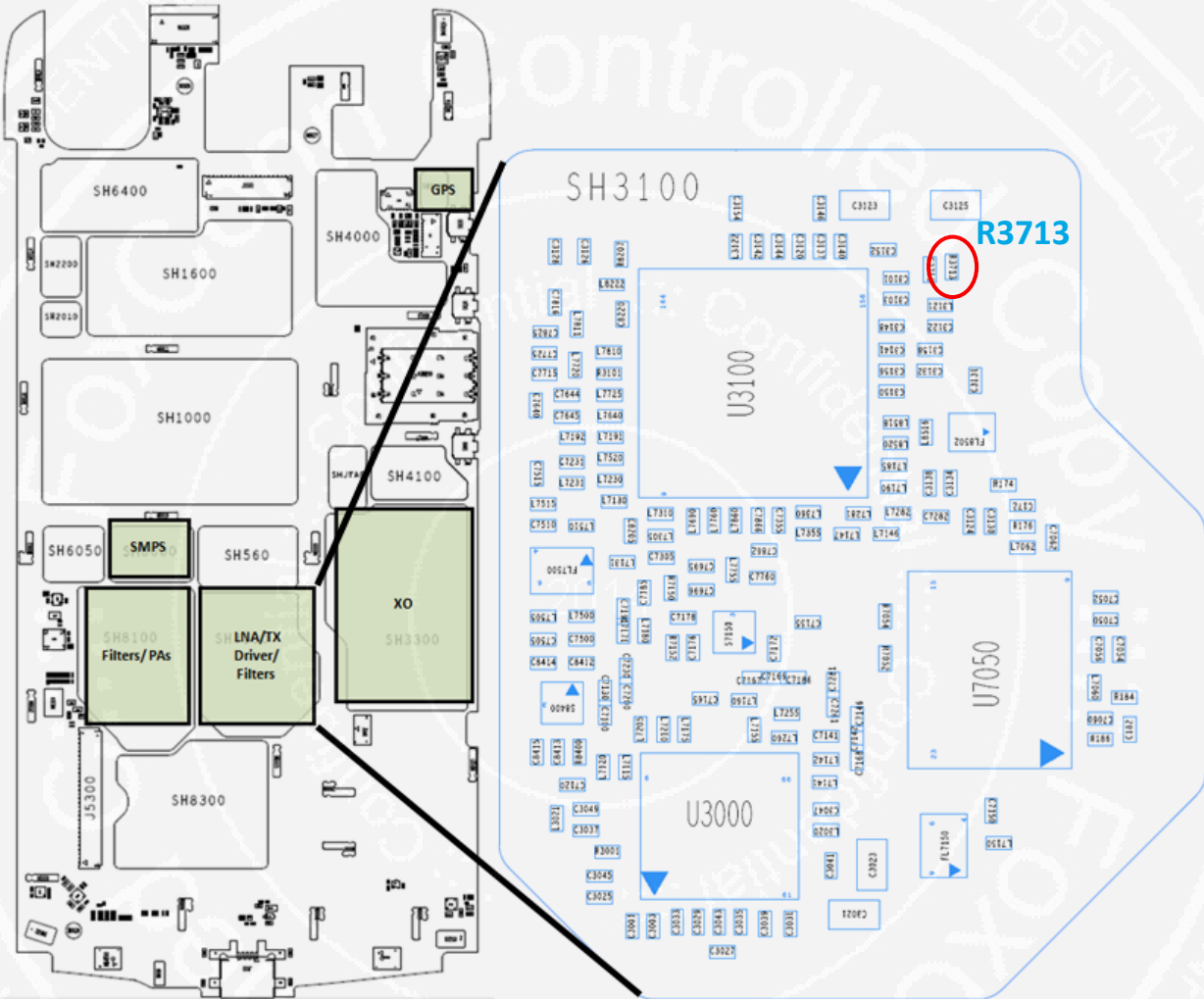


Figure 2.1

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LB Main Antenna RF Connector (J100) TROUBLESHOOTING:
LB Reference Schematic:

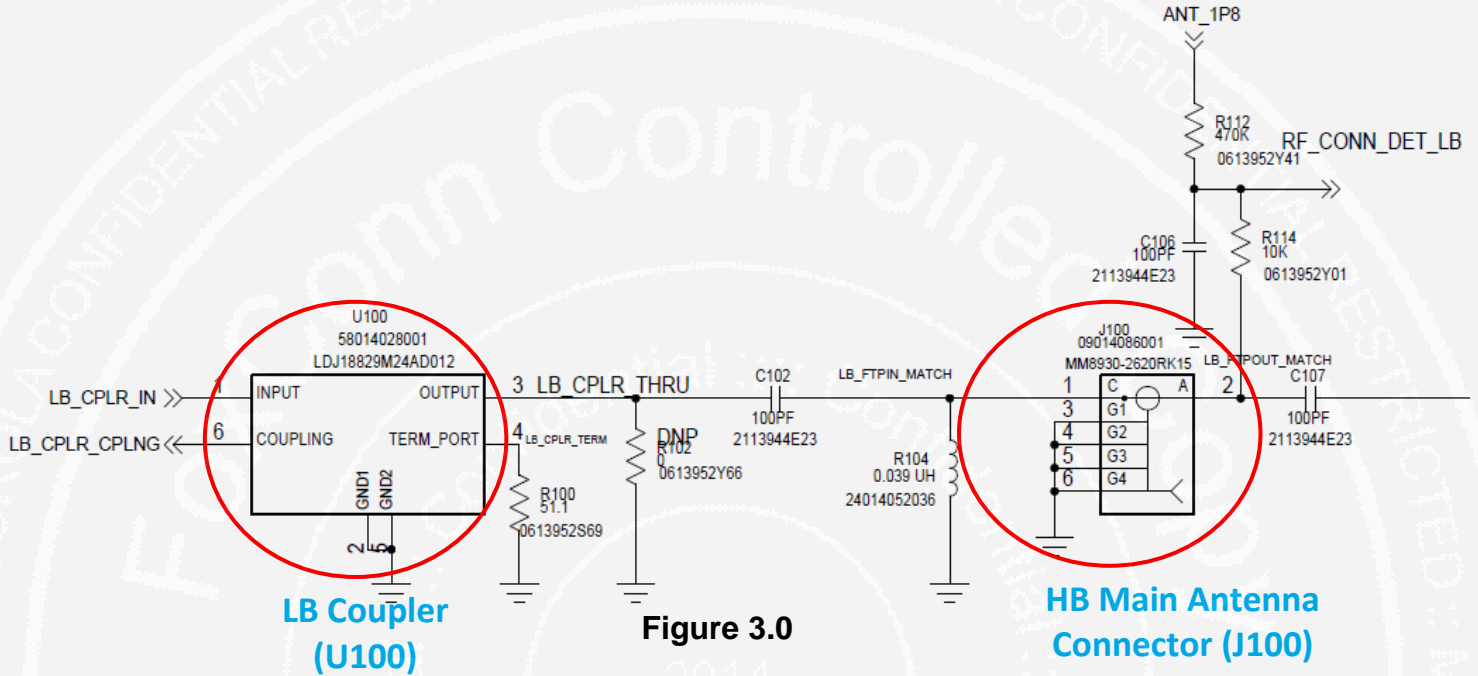


Figure 3.0

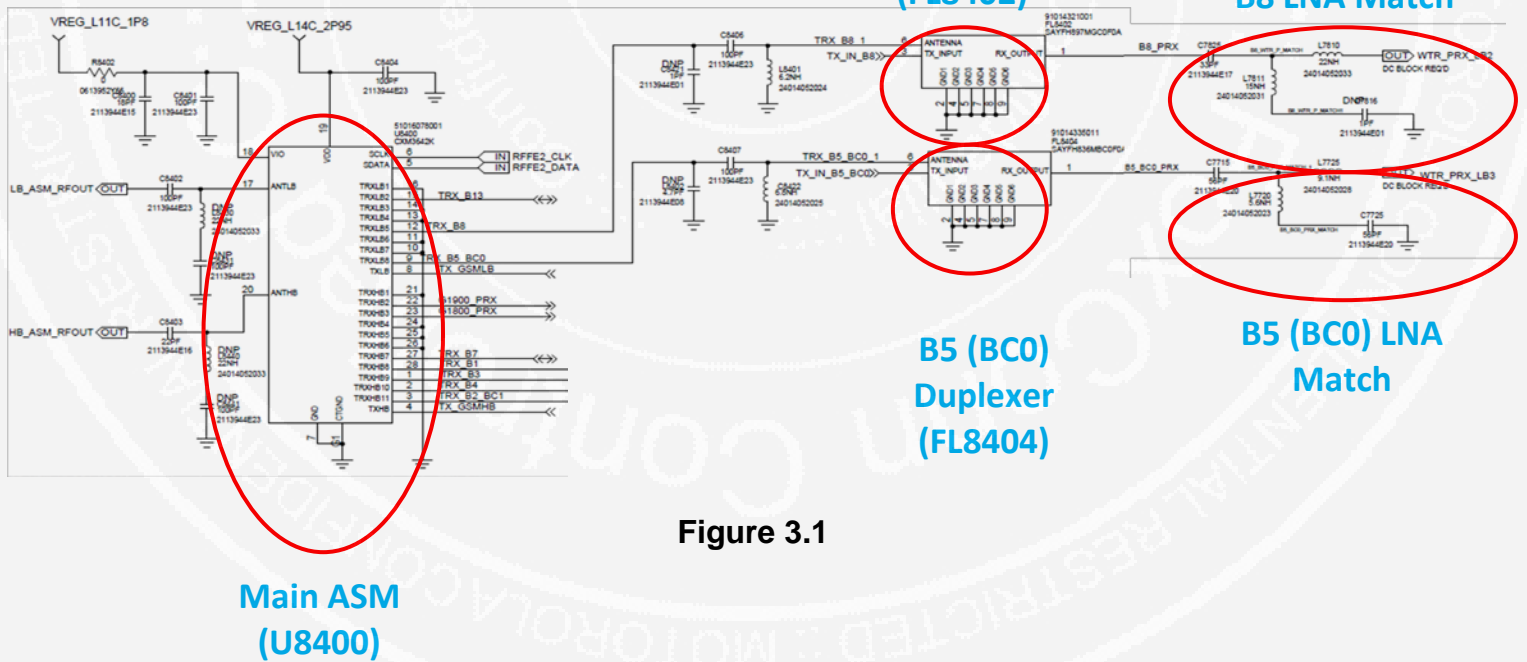


Figure 3.1

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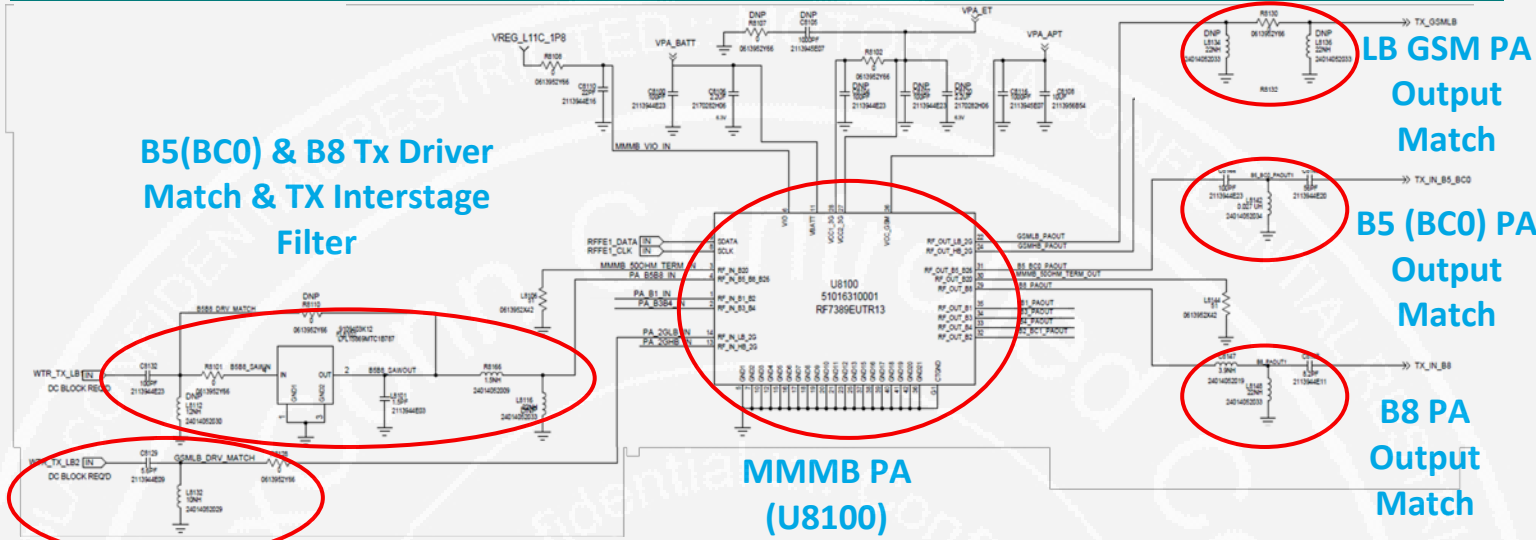
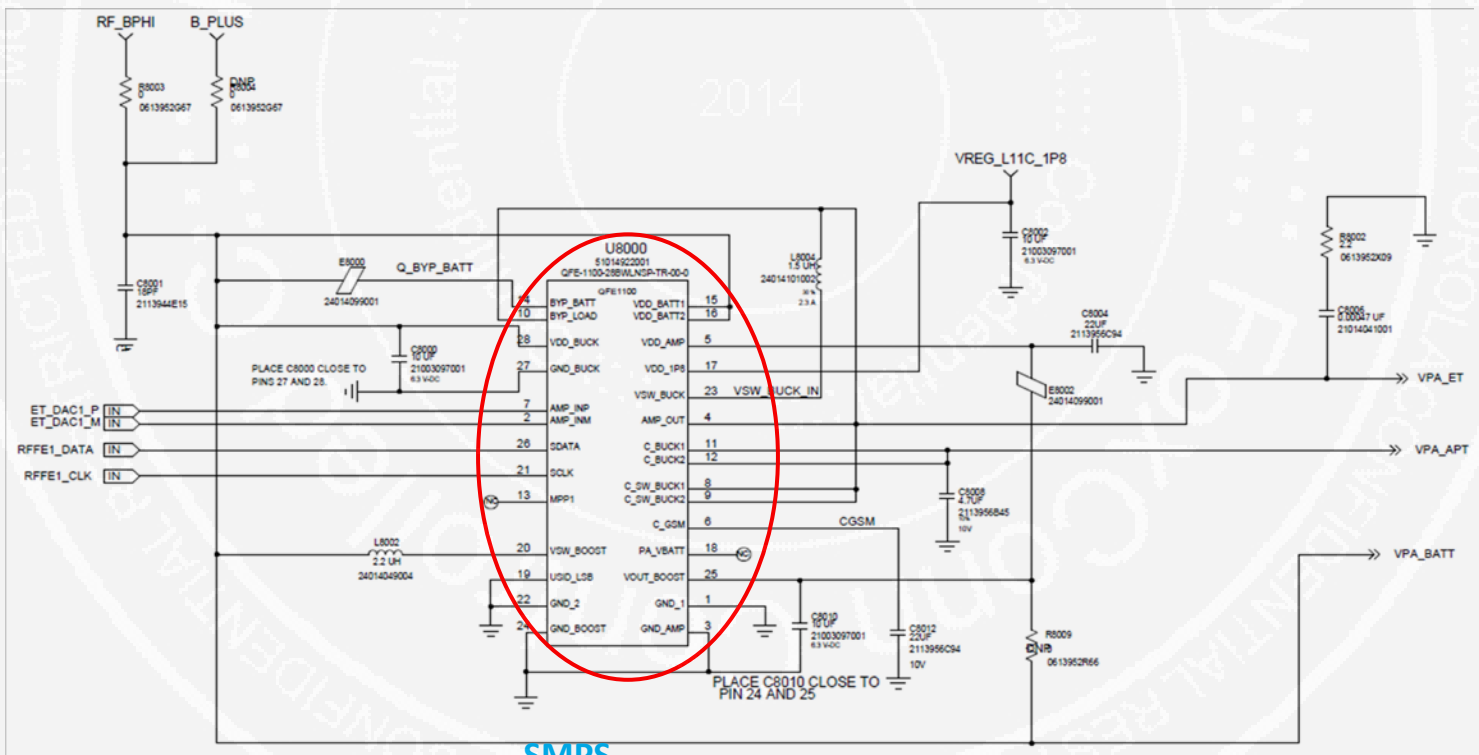


Figure 3.2



SMPS (U8000) Figure 3.3

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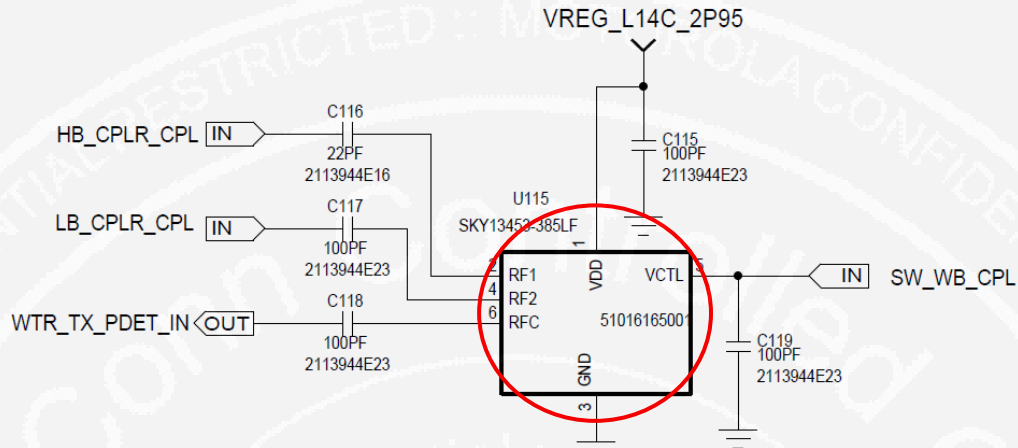
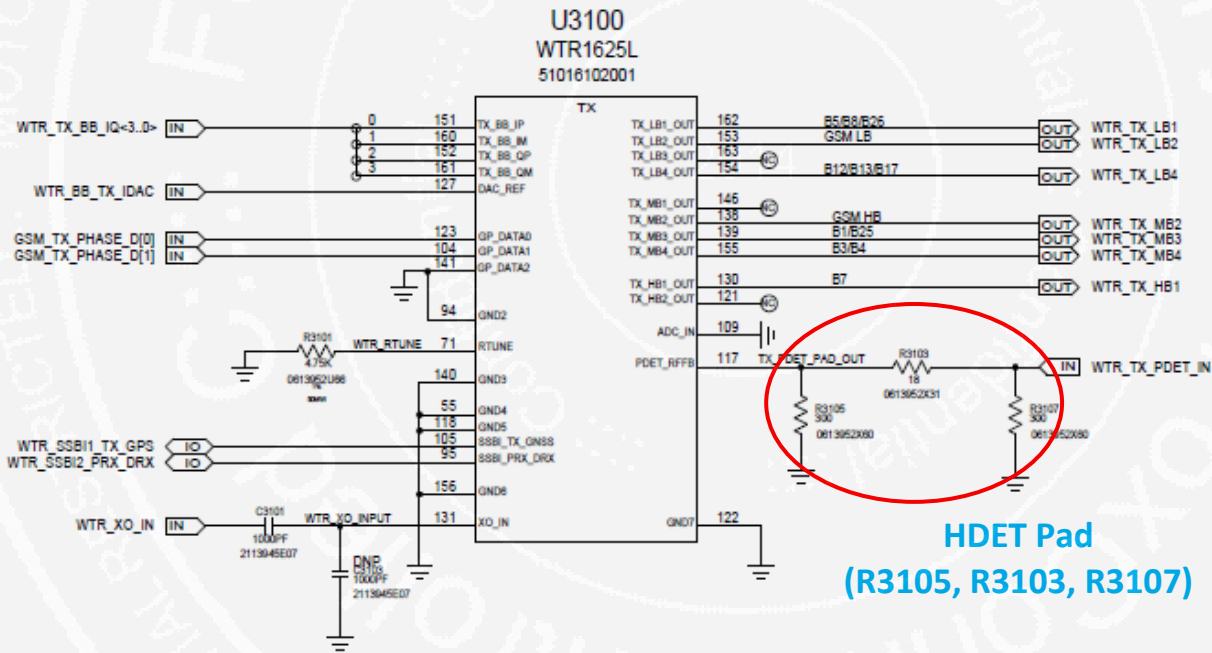


Figure 3.4 HDDET switch (U115)



HDDET Pad (R3105, R3103, R3107)

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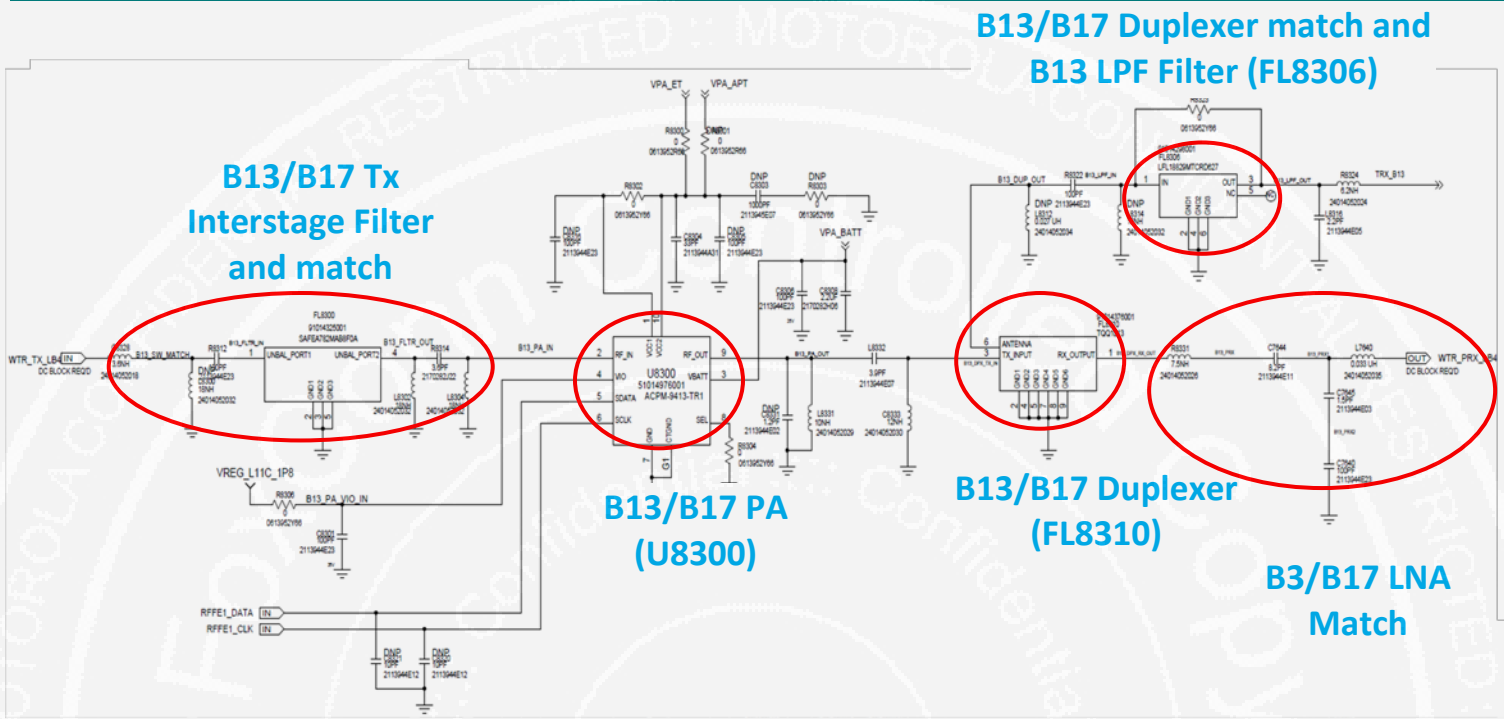


Figure 3.6
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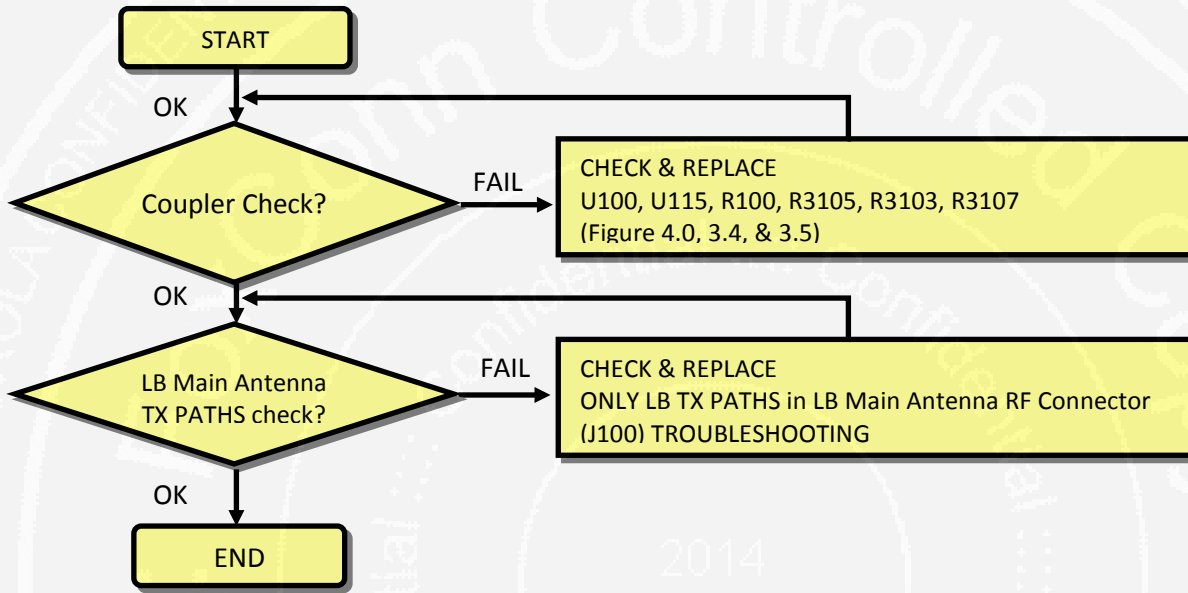
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LB HDET TROUBLESHOOTING:

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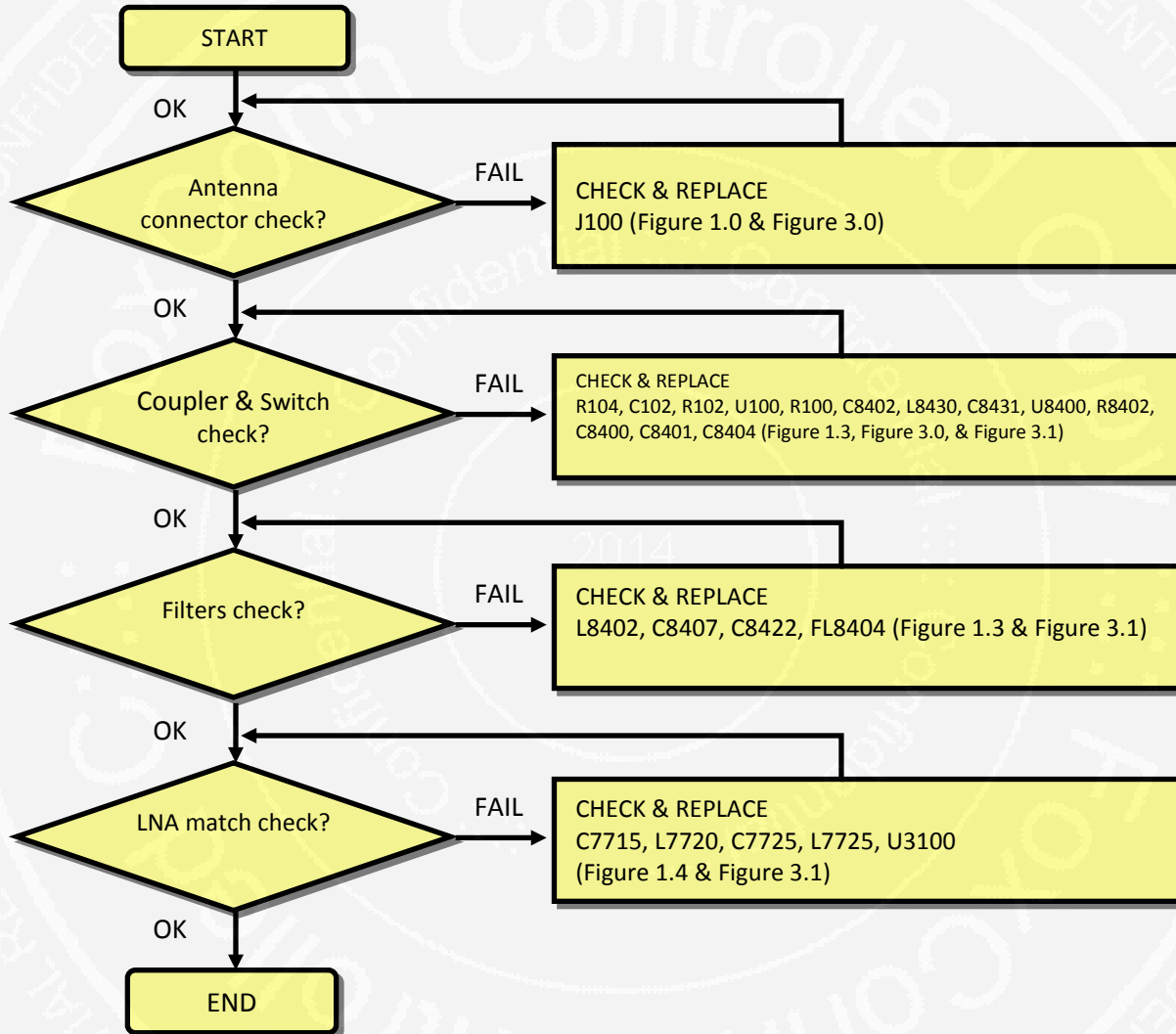
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CDMA_800_C0_RX, GSM_850(G850)_RX, WCDMA_850_C0_RX, & LTE_Band_5_C0_RX:
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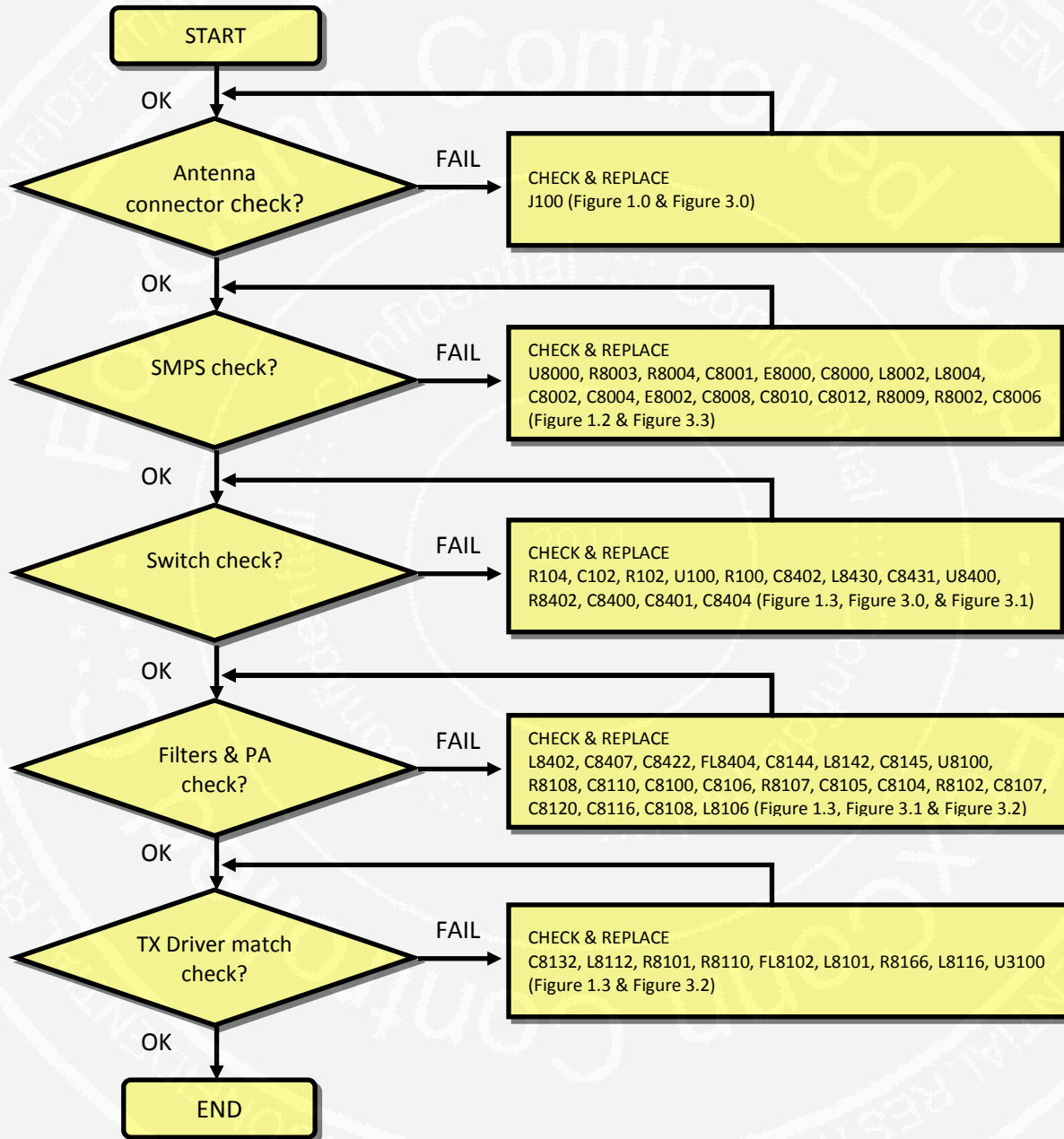
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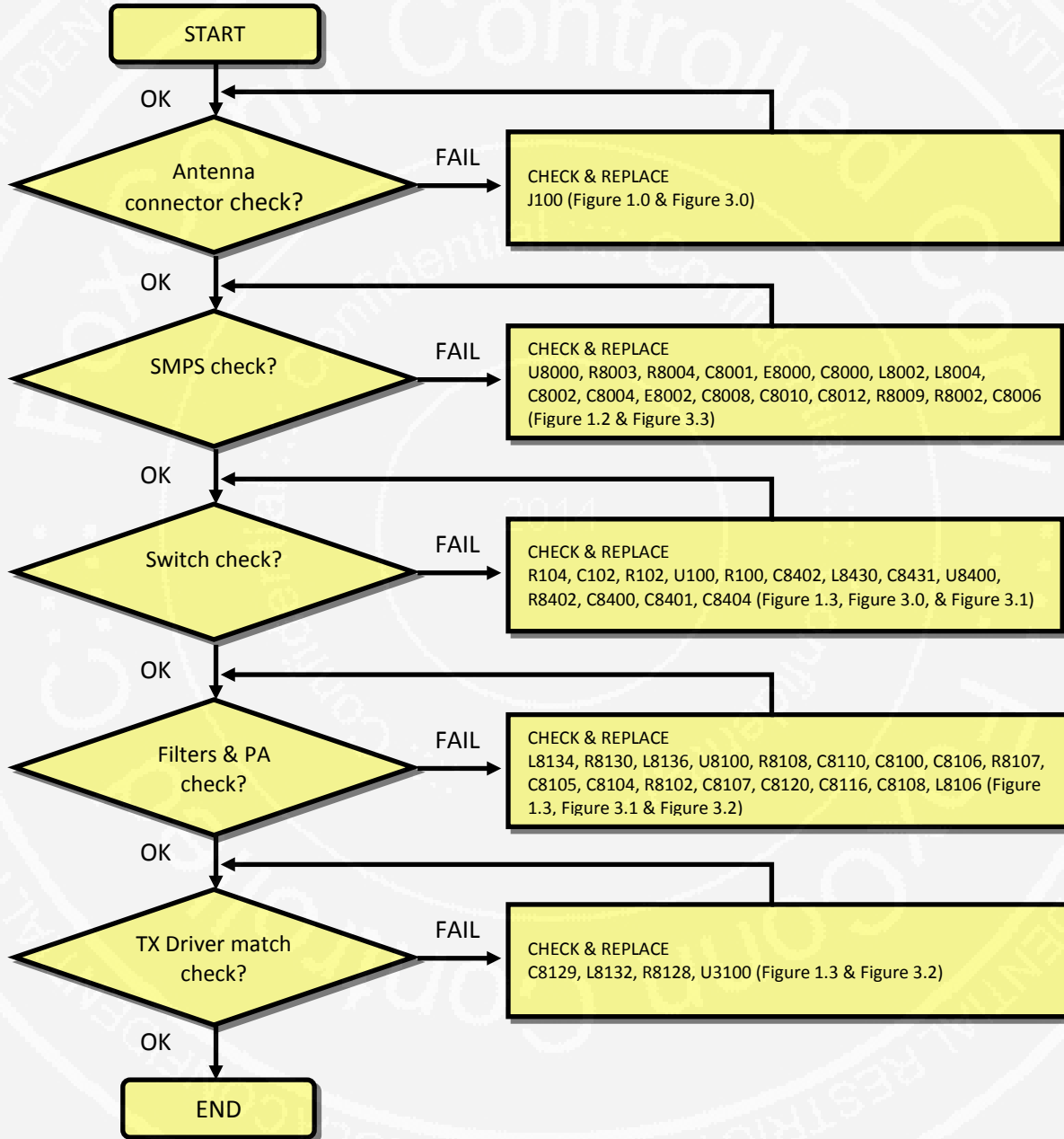
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GSM_850(G850)_TX, EDGE_850_TX, GSM_900_TX, & EDGE_900_TX

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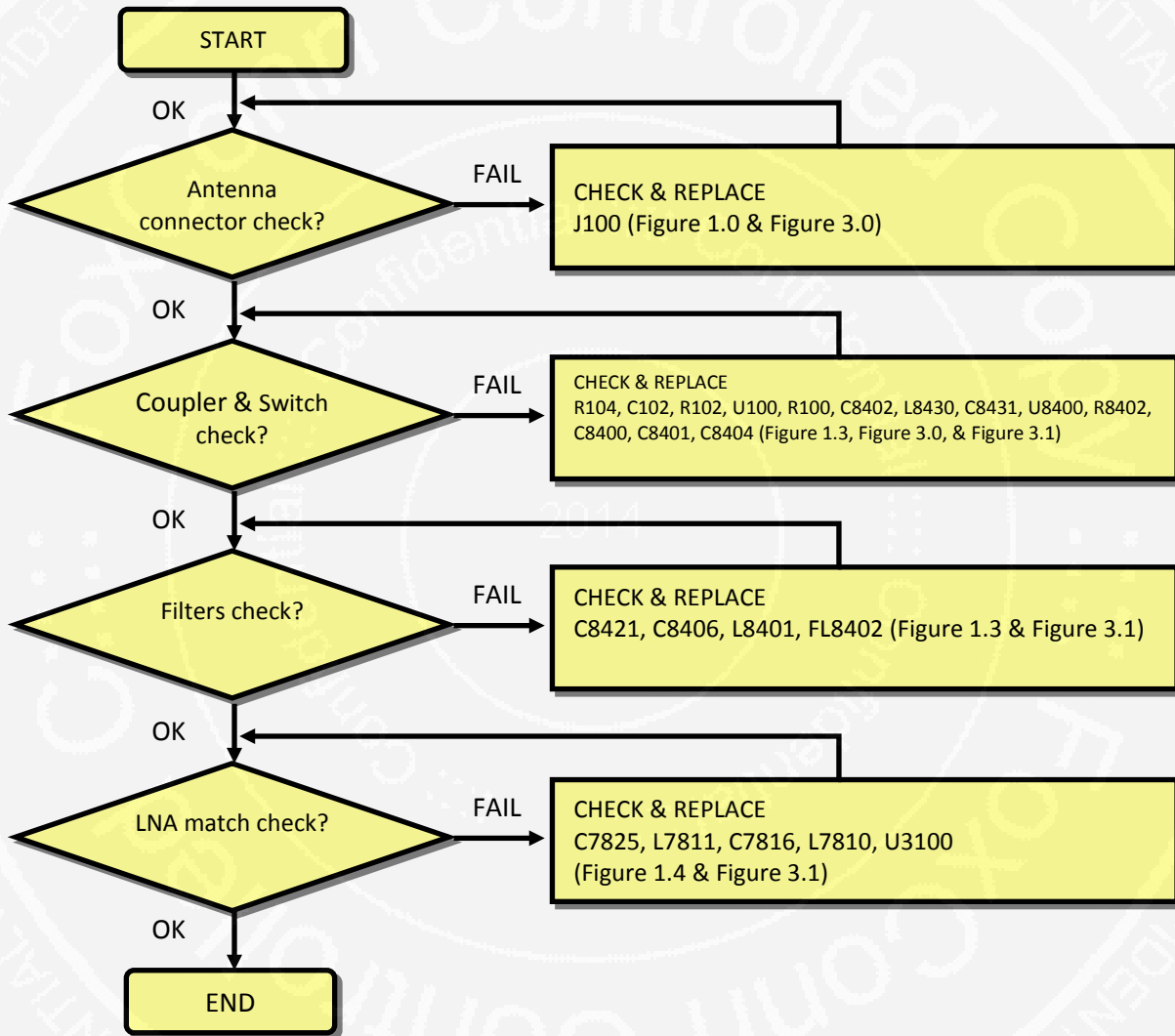
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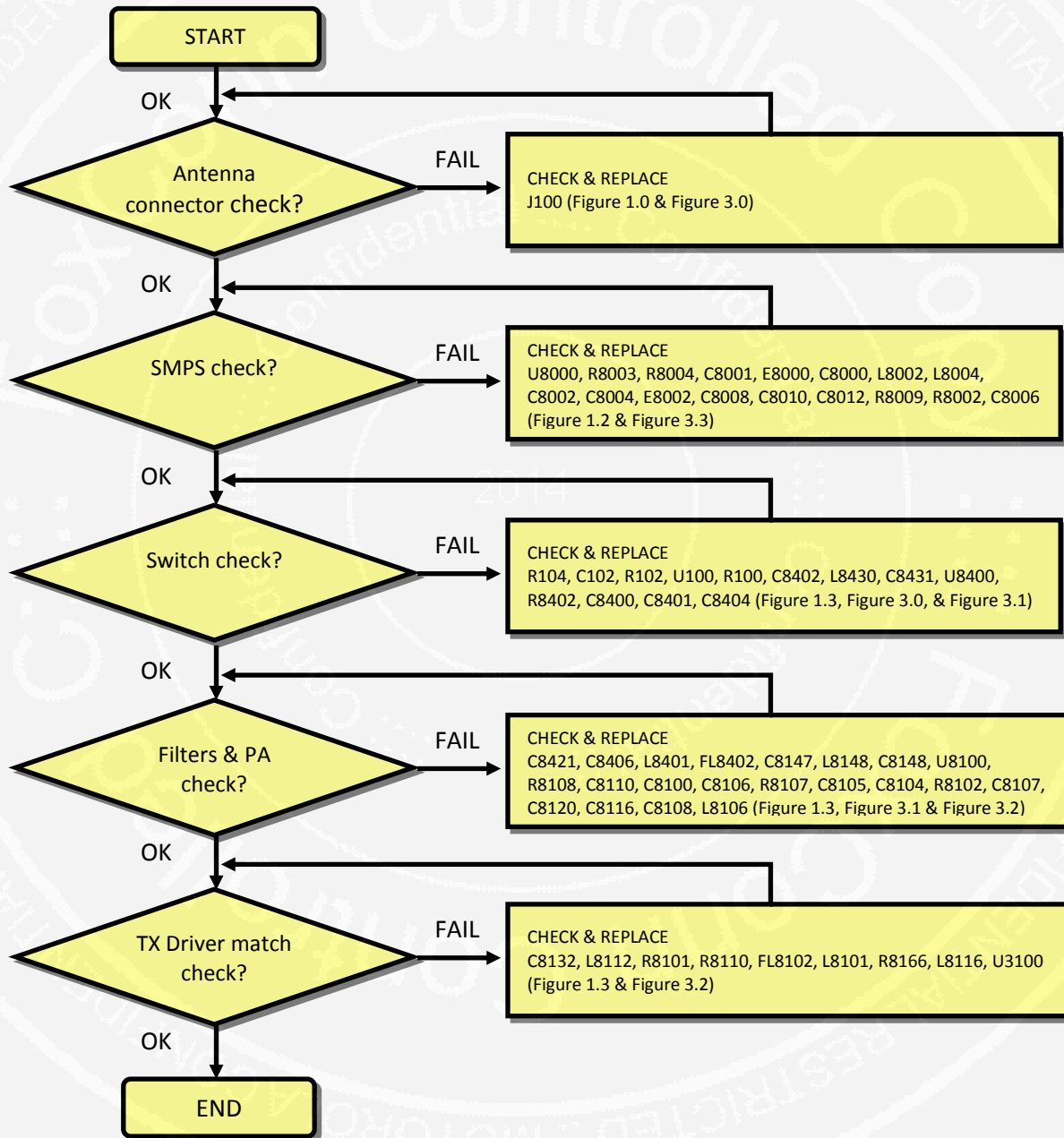
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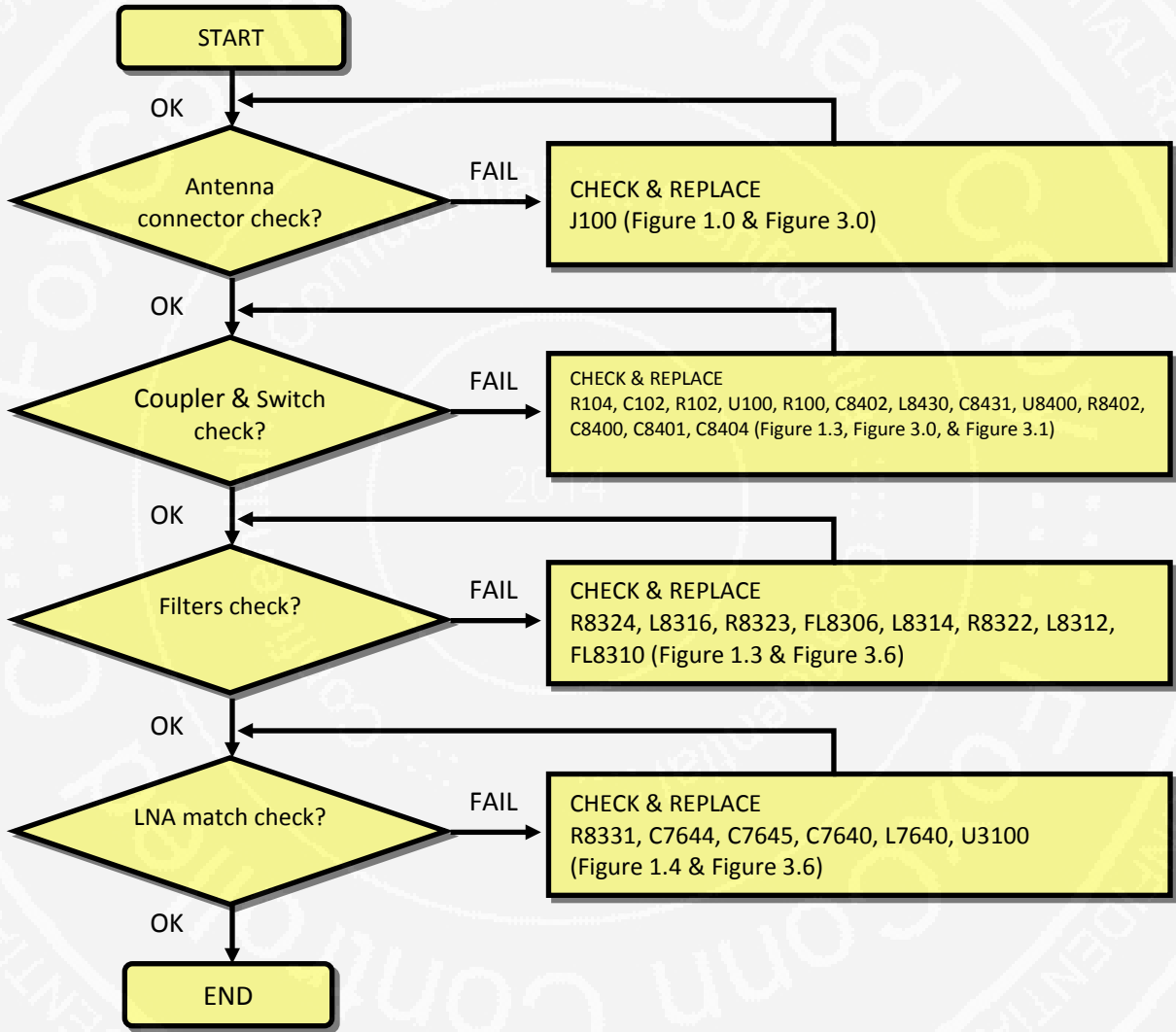
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LTE_Band_13_C0_RX & LTE_Band_17_C0_RX
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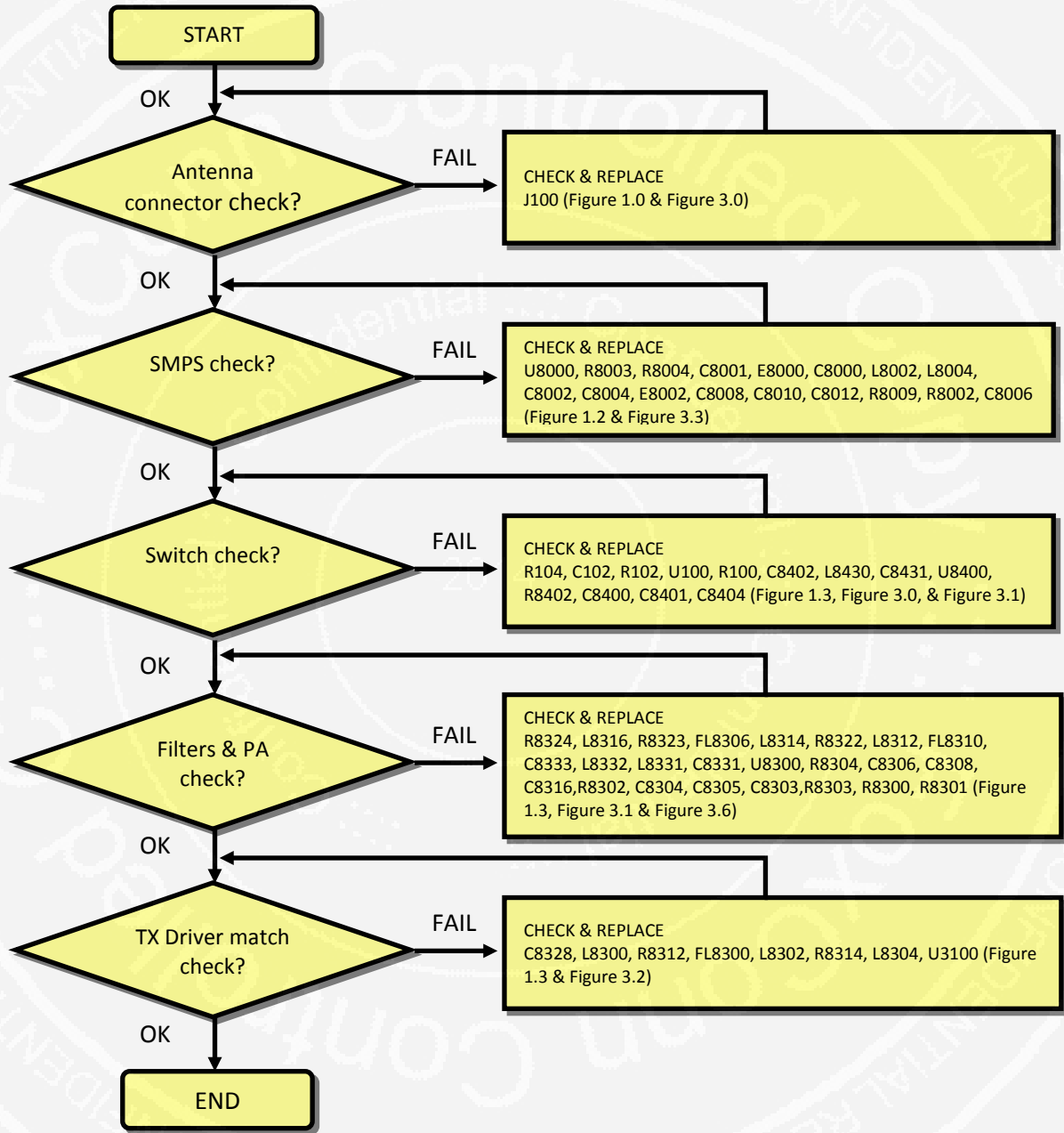
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LTE_Band_13_C0_TX & LTE_Band_17_C0_TX
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**HB Main Antenna RF Connector (J120) TROUBLESHOOTING:
HB Reference Schematics:**

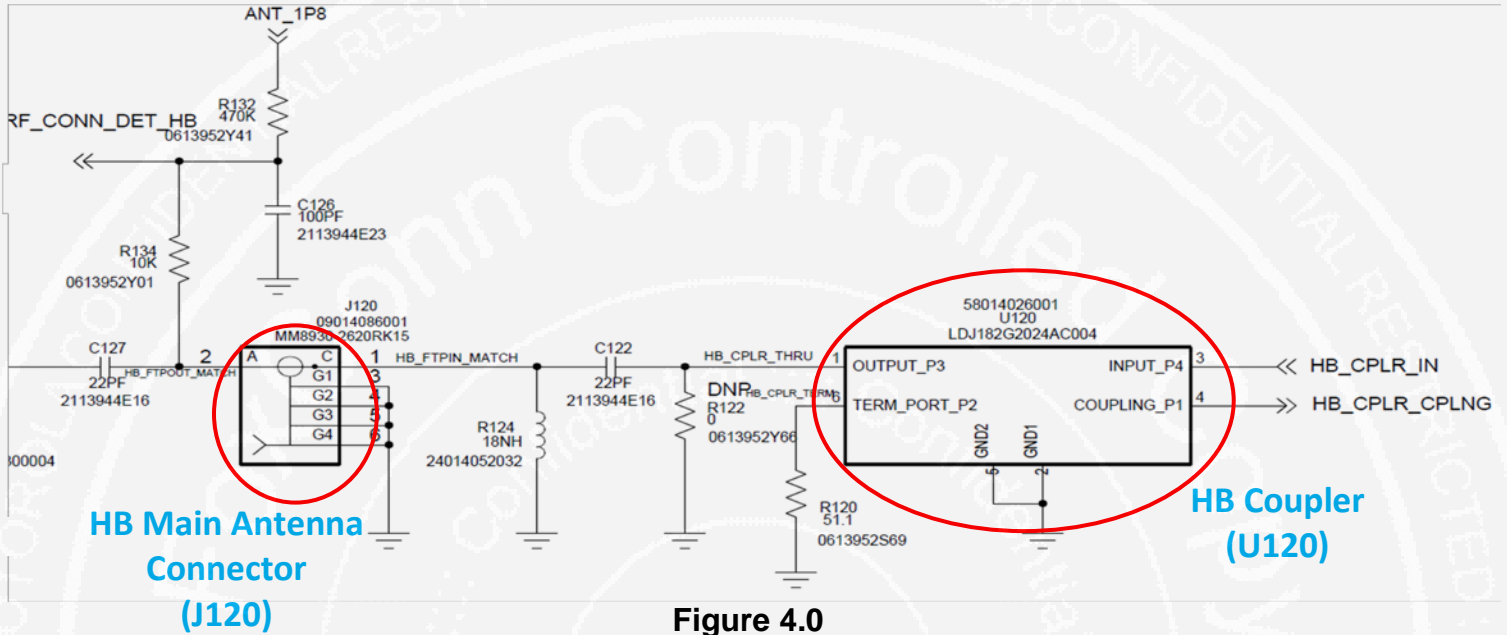


Figure 4.0

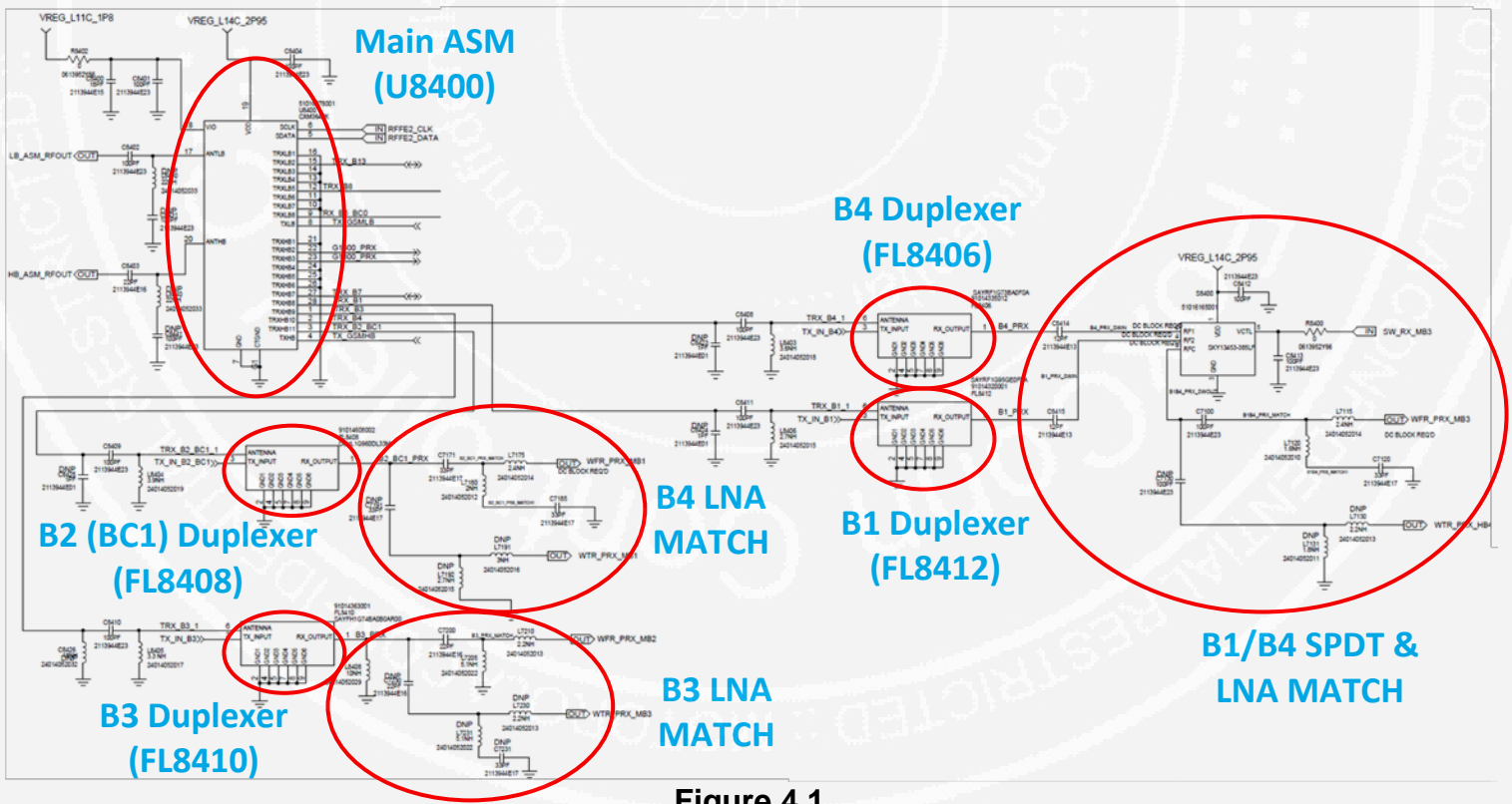


Figure 4.1

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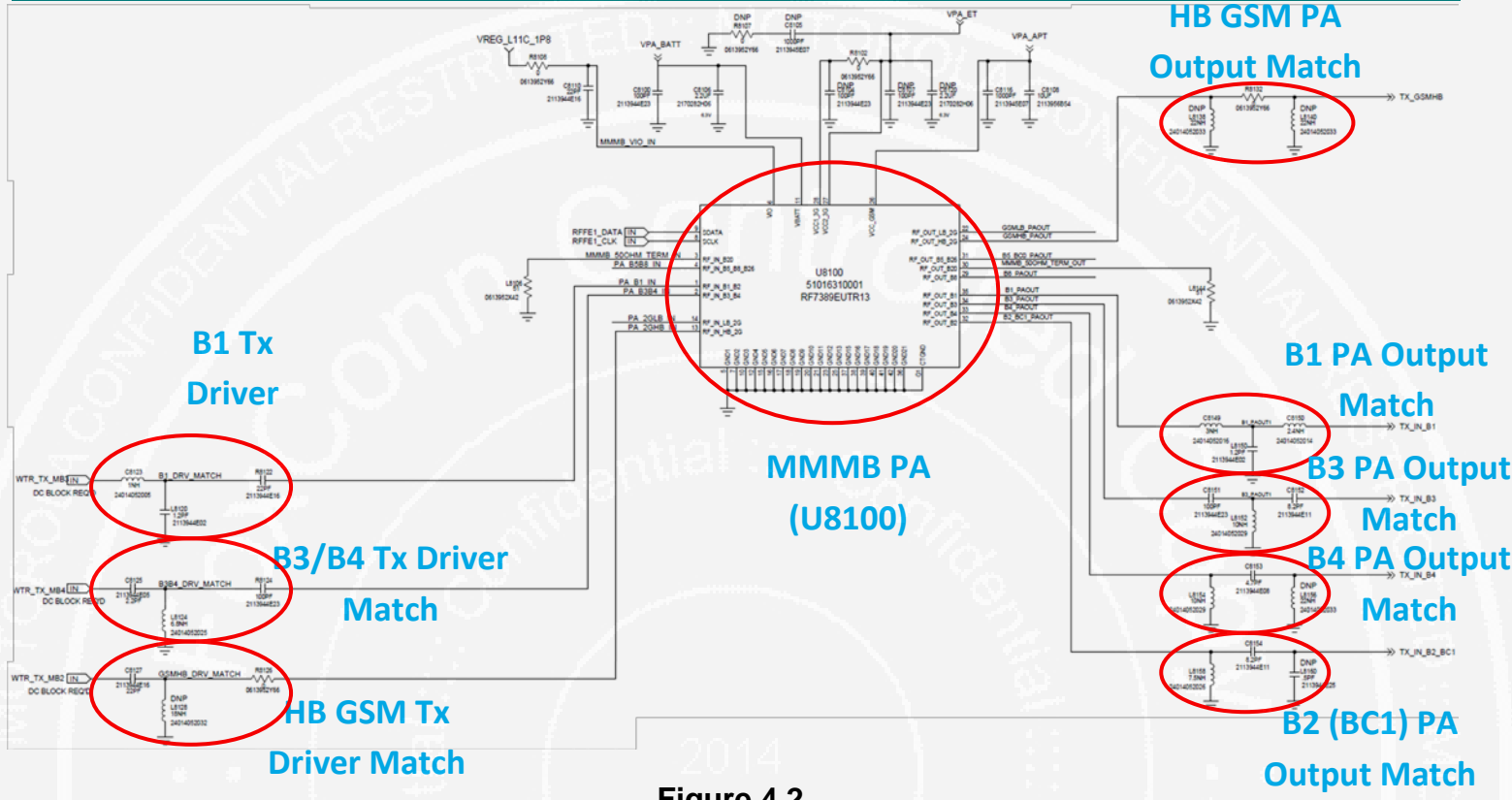


Figure 4.2

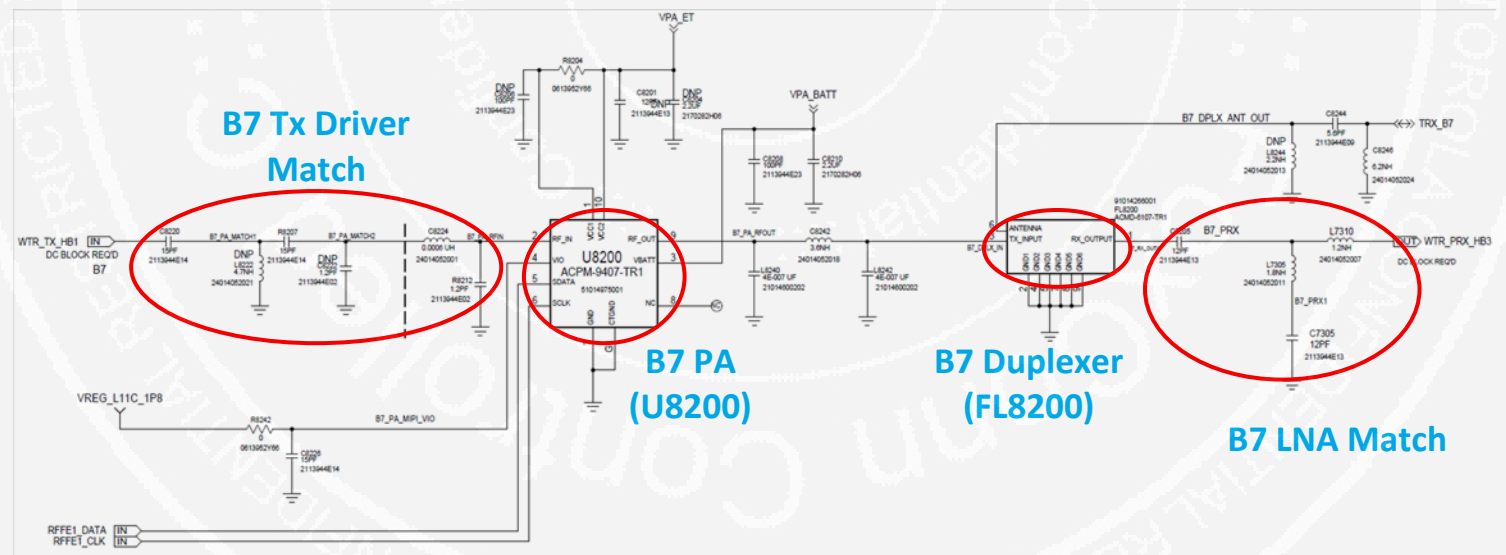


Figure 4.3

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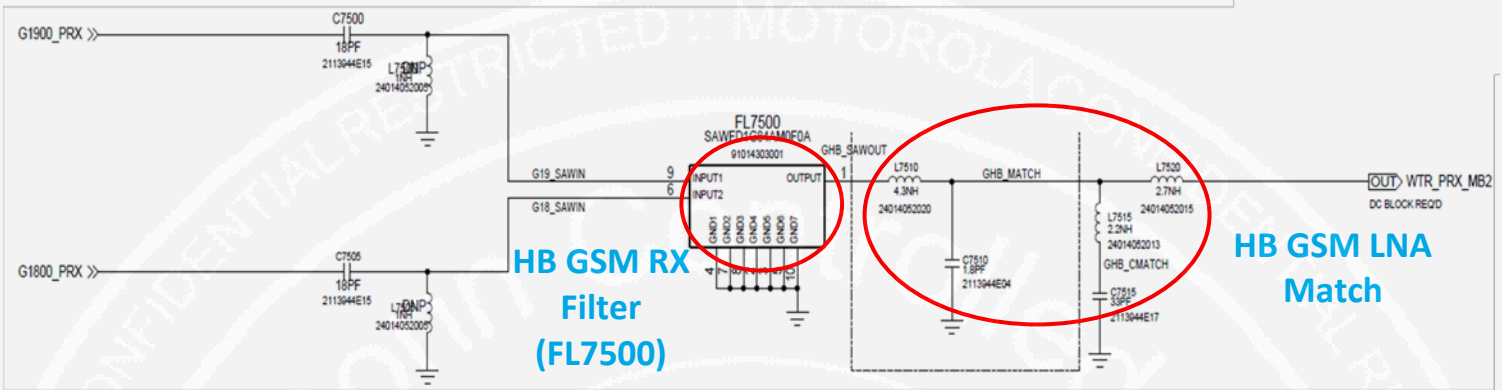


Figure 4.4

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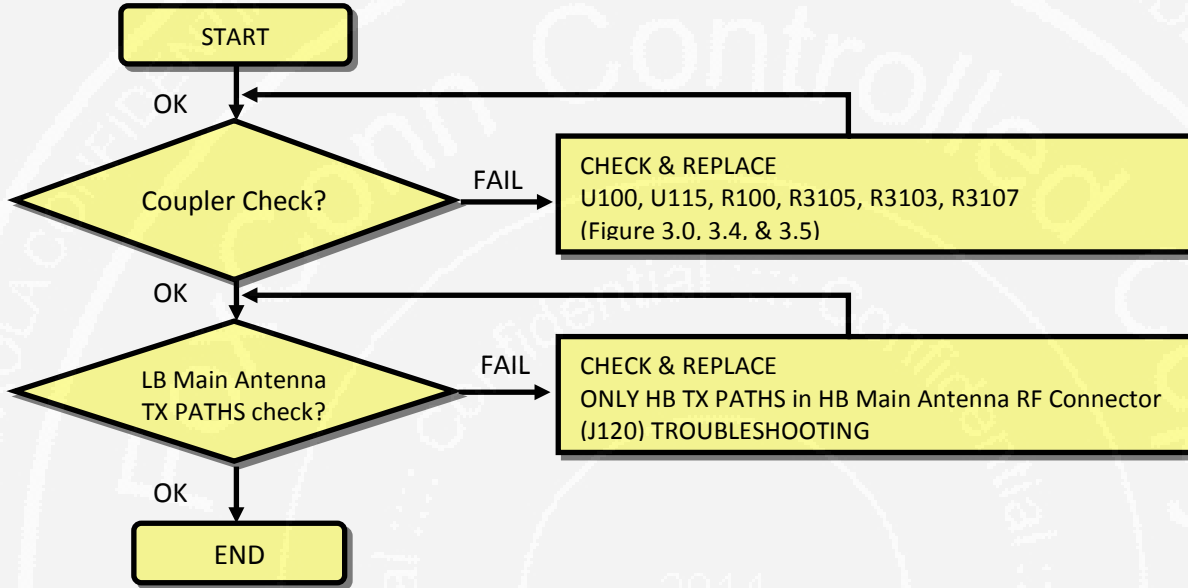
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HB HDET TROUBLESHOOTING:

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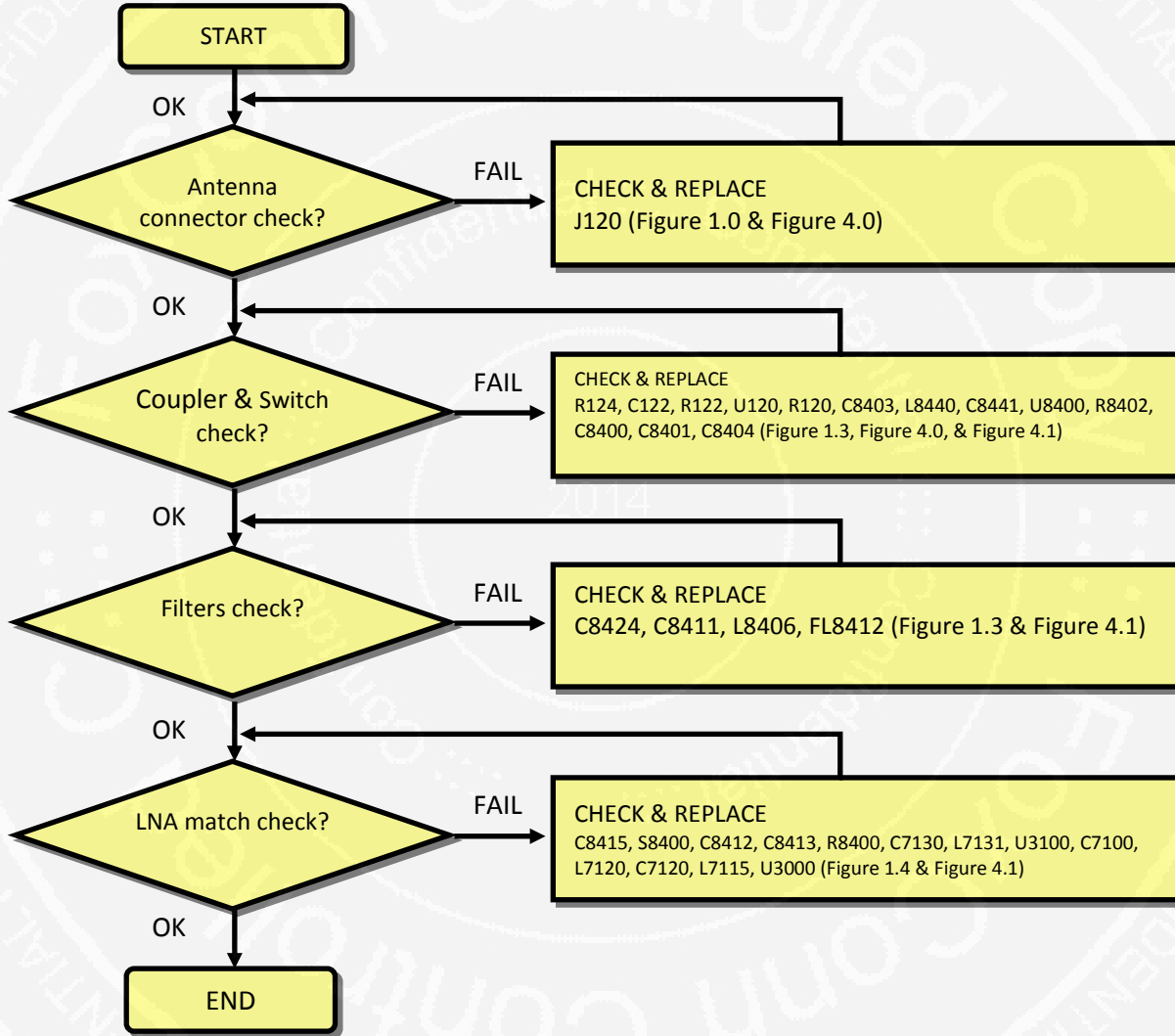
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WCDMA_2100_C0_RX

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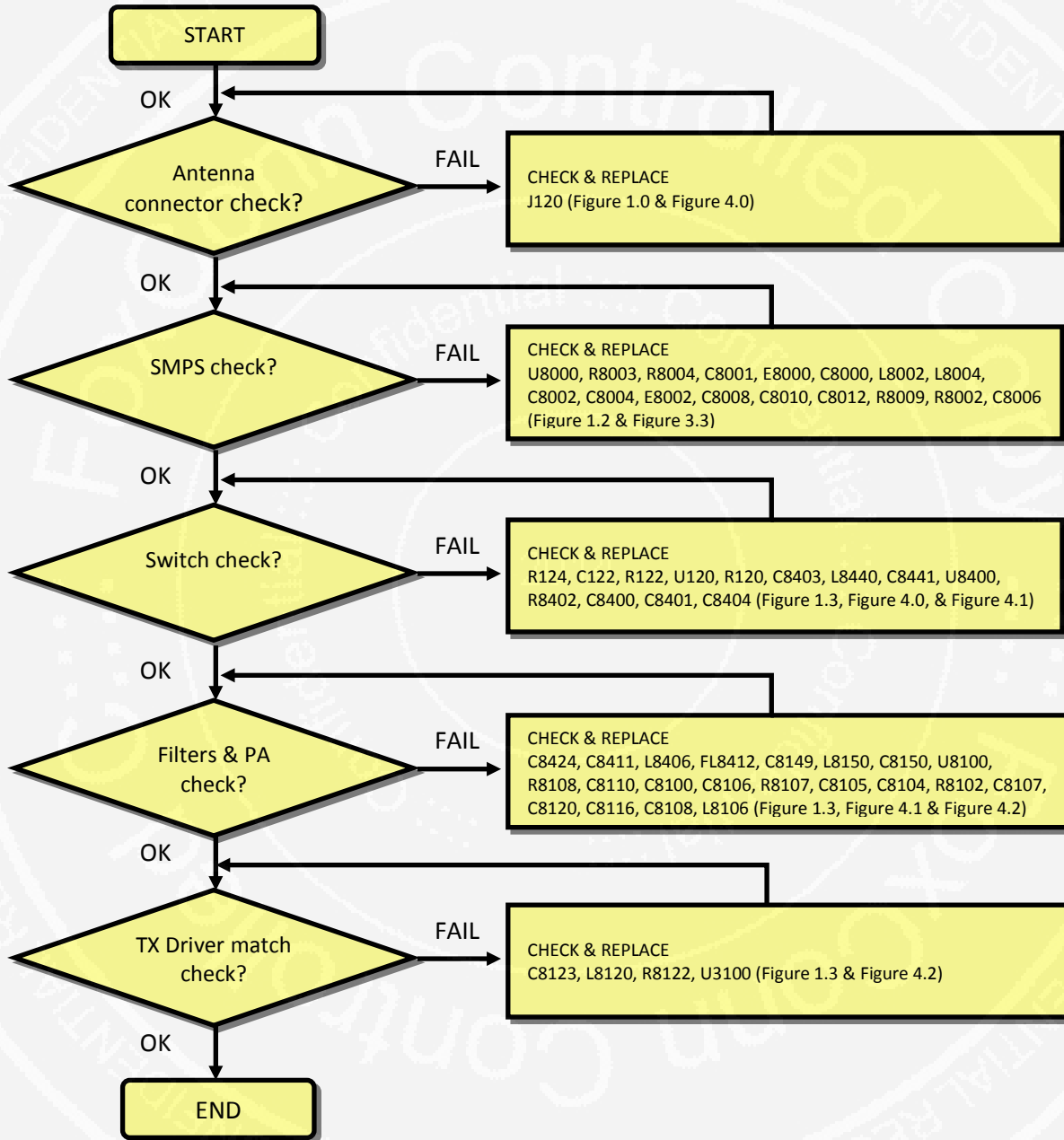
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WCDMA_2100_C0_TX

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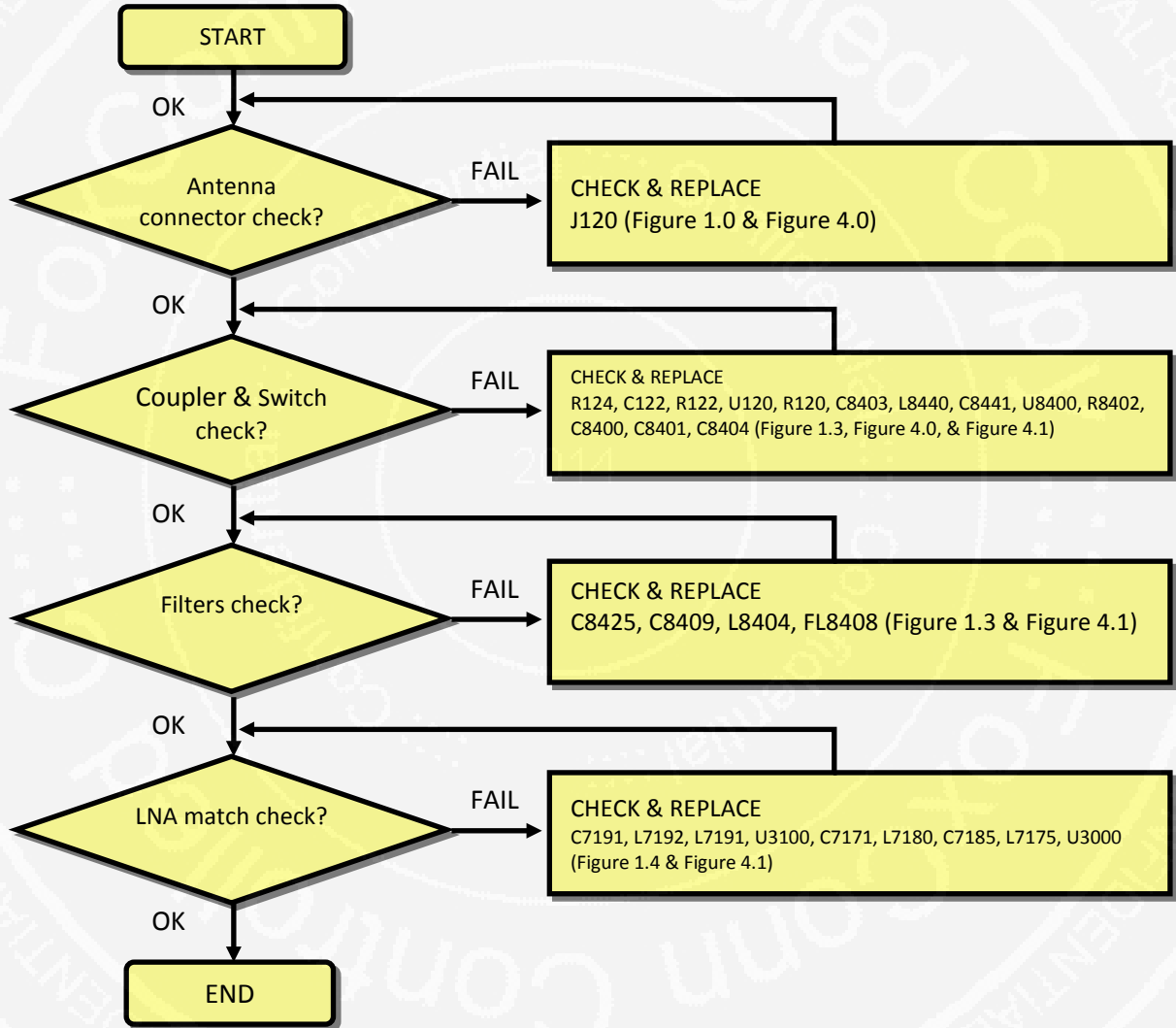
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CDMA_1900_C0_RX, WCDMA_1900_C0_RX & LTE_Band_2_C0_RX:
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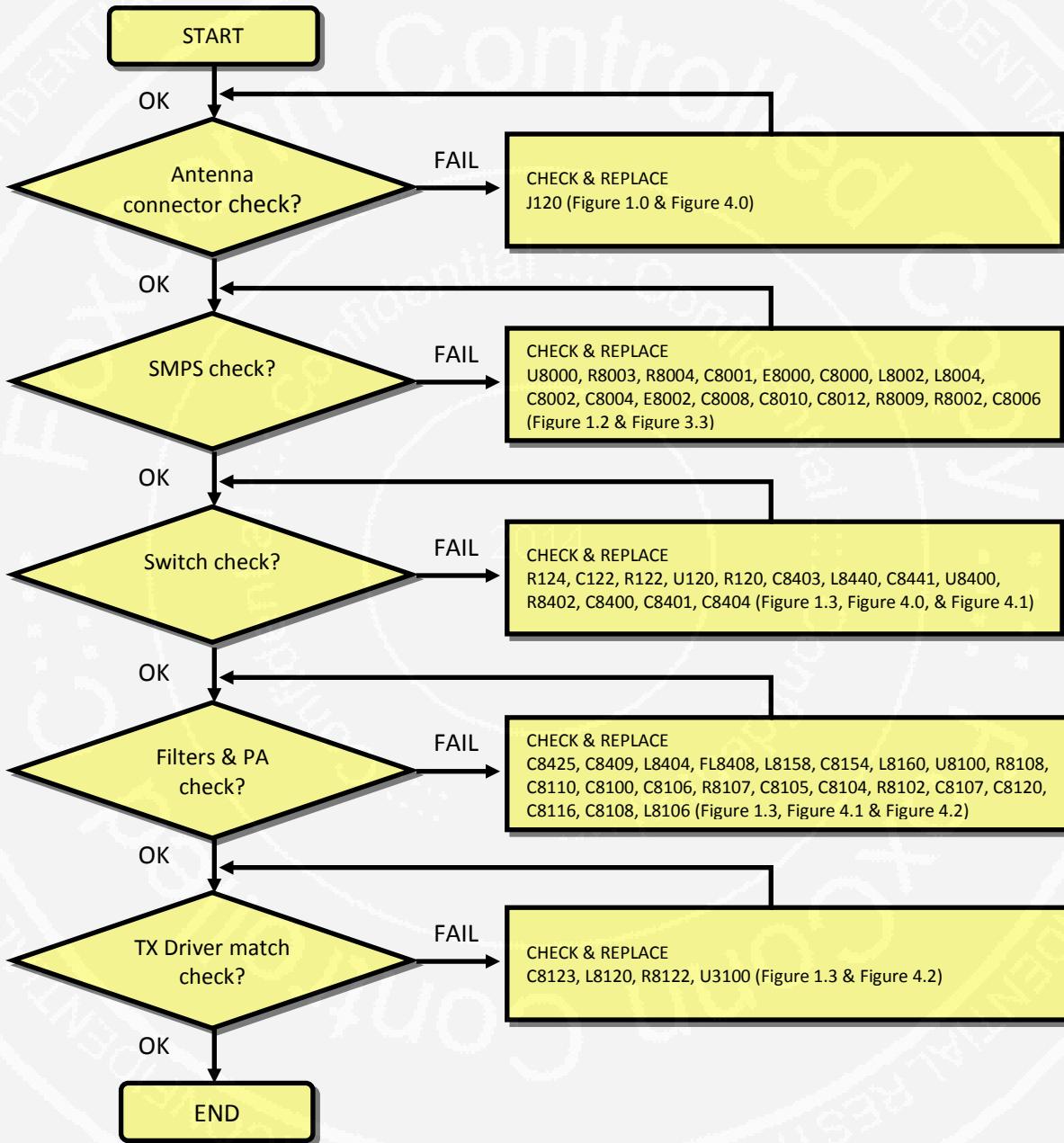
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CDMA_1900_C0_TX, WCDMA_1900_C0_TX & LTE_Band_2_C0_TX:

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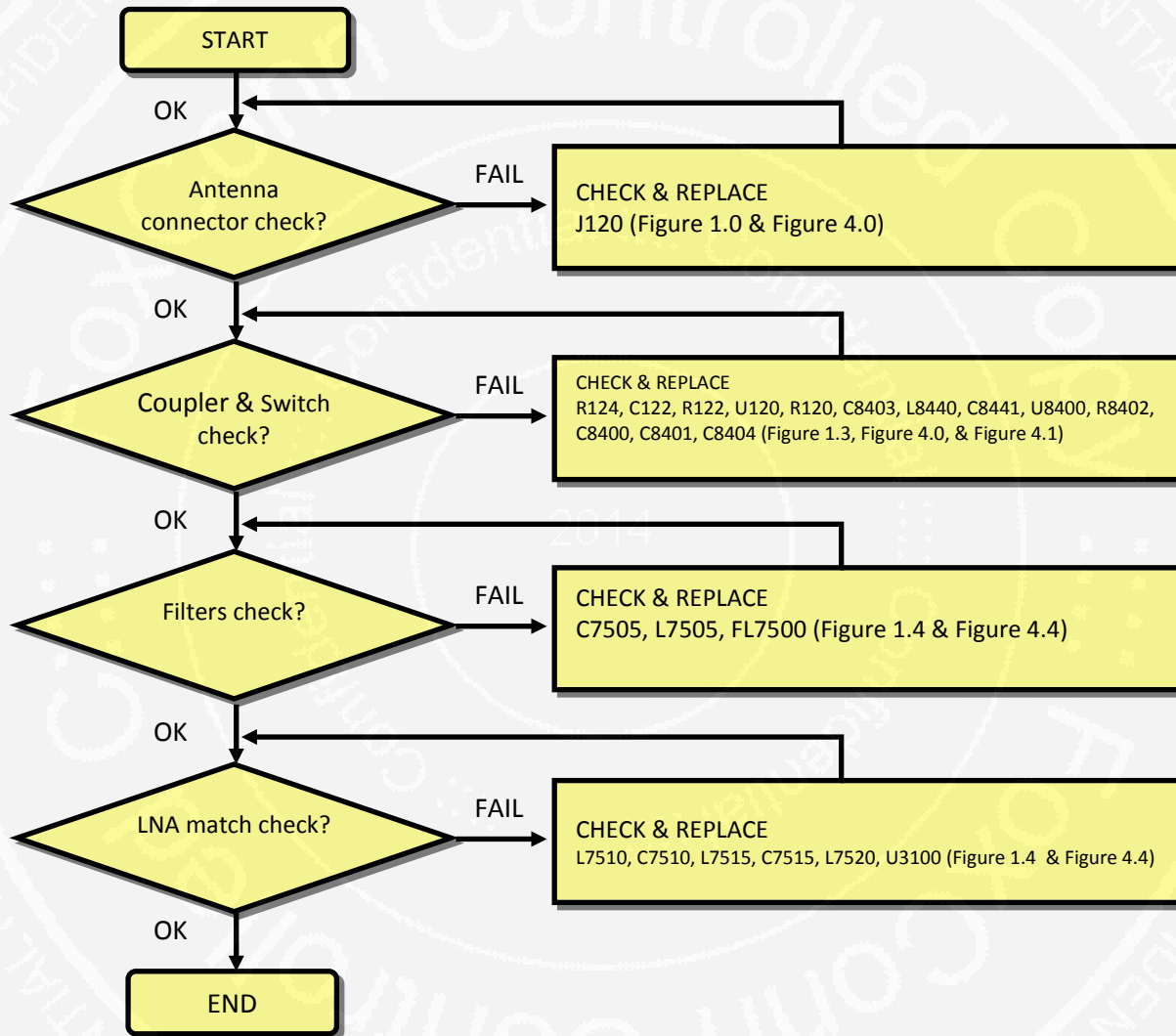
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GSM_1800(G18)_RX

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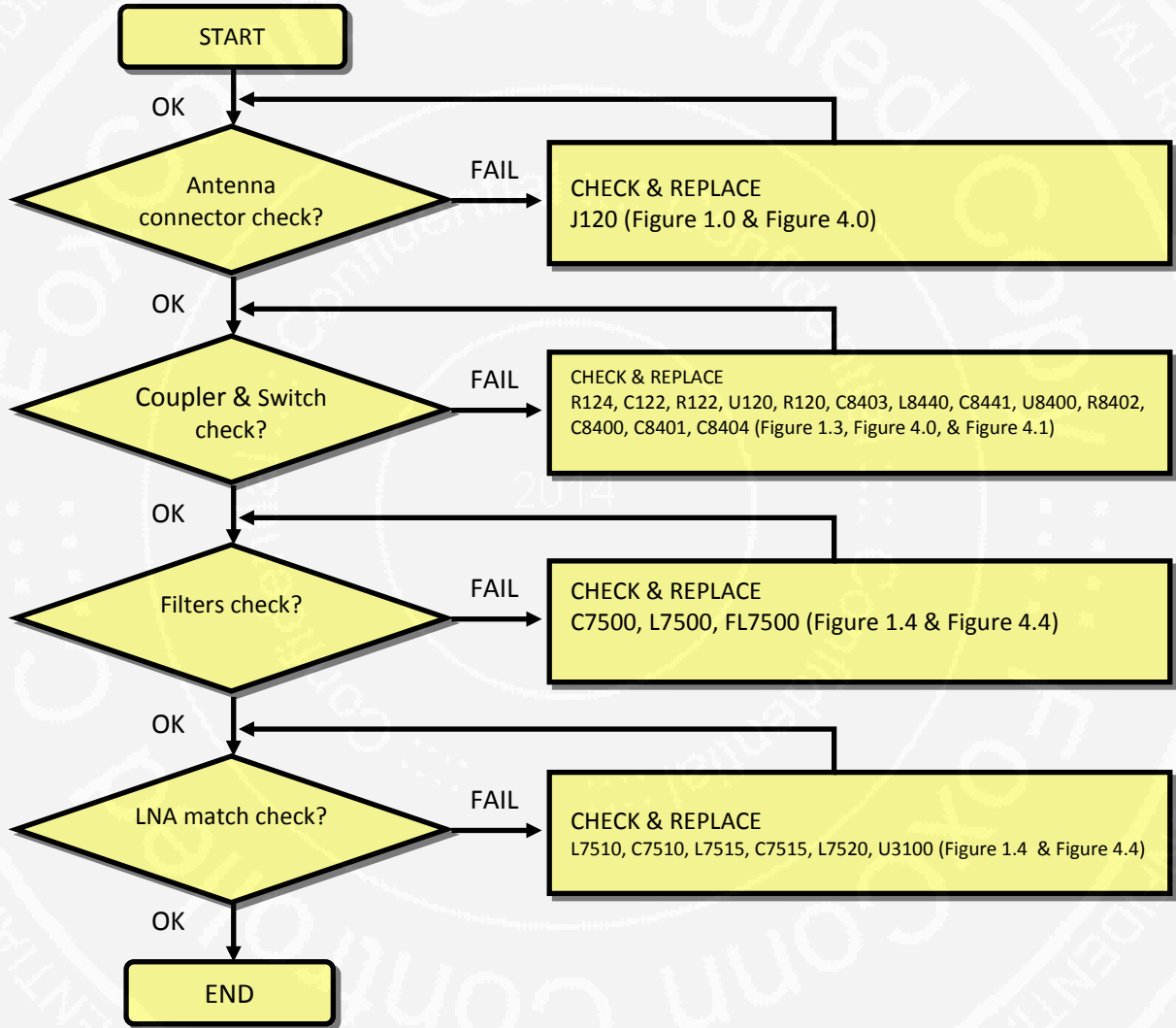
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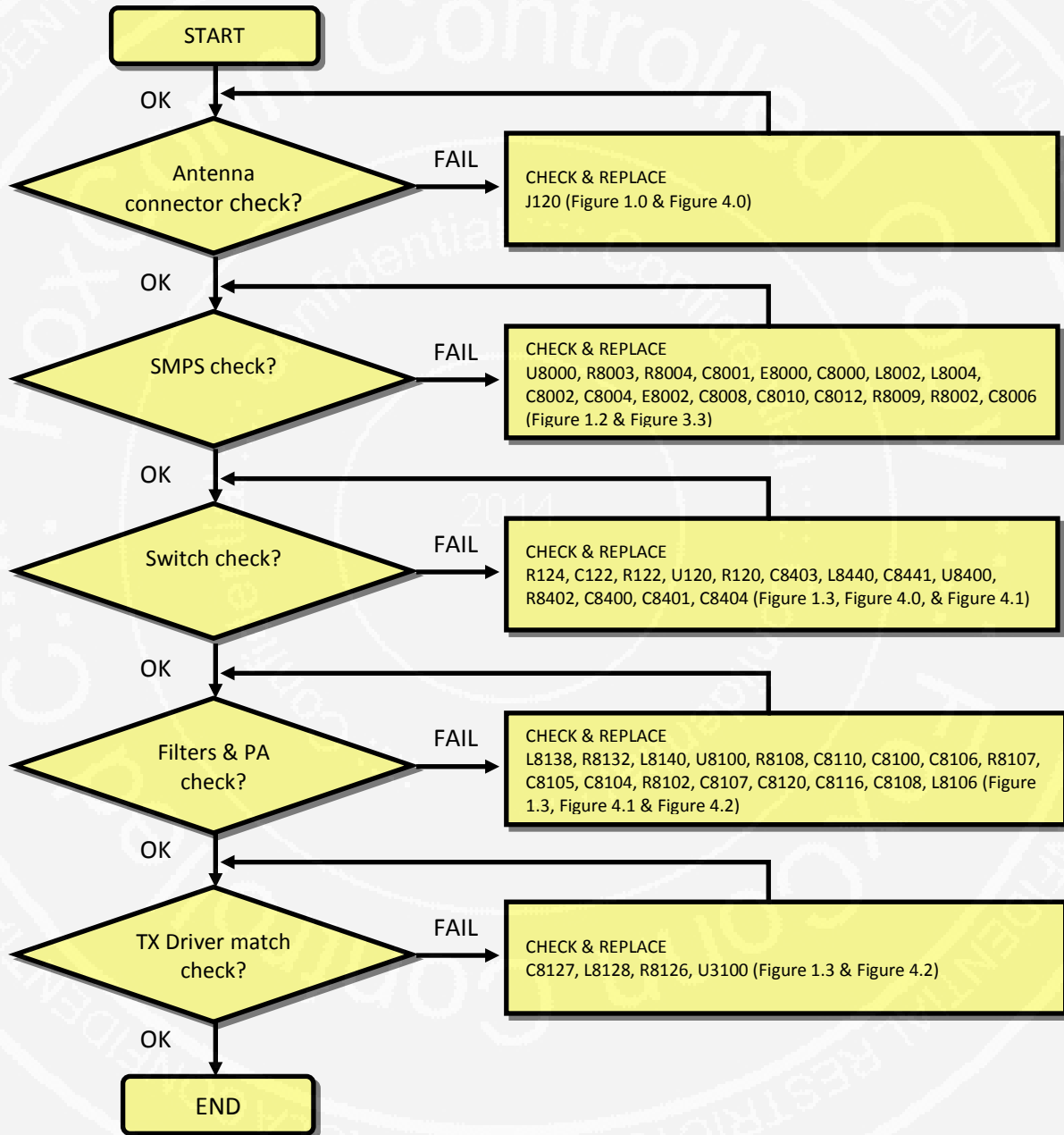
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GSM_1800_TX, EDGE_1800_TX, GSM_1900_TX, & EDGE_1900_TX

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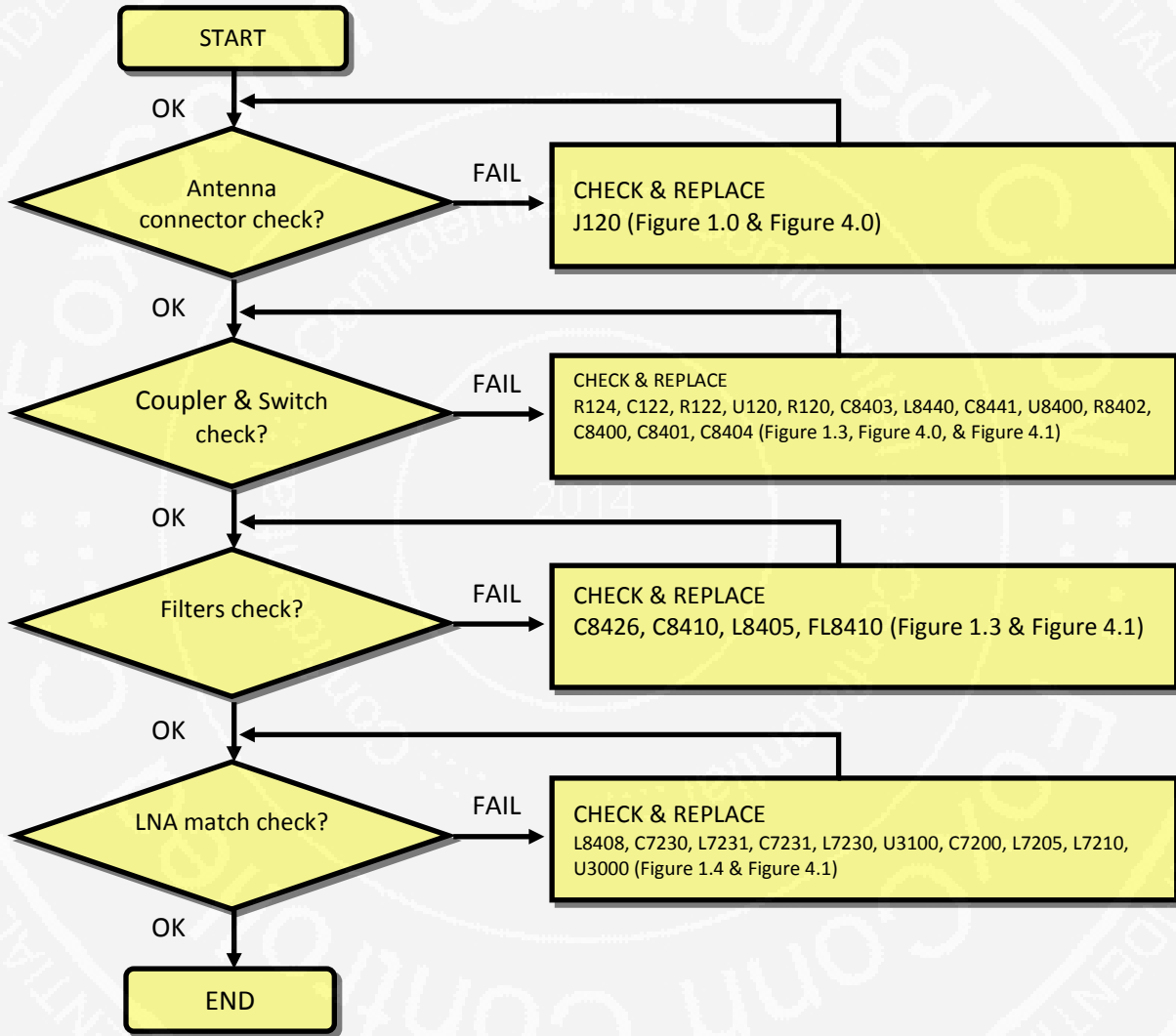
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LTE_Band_3_C0_RX
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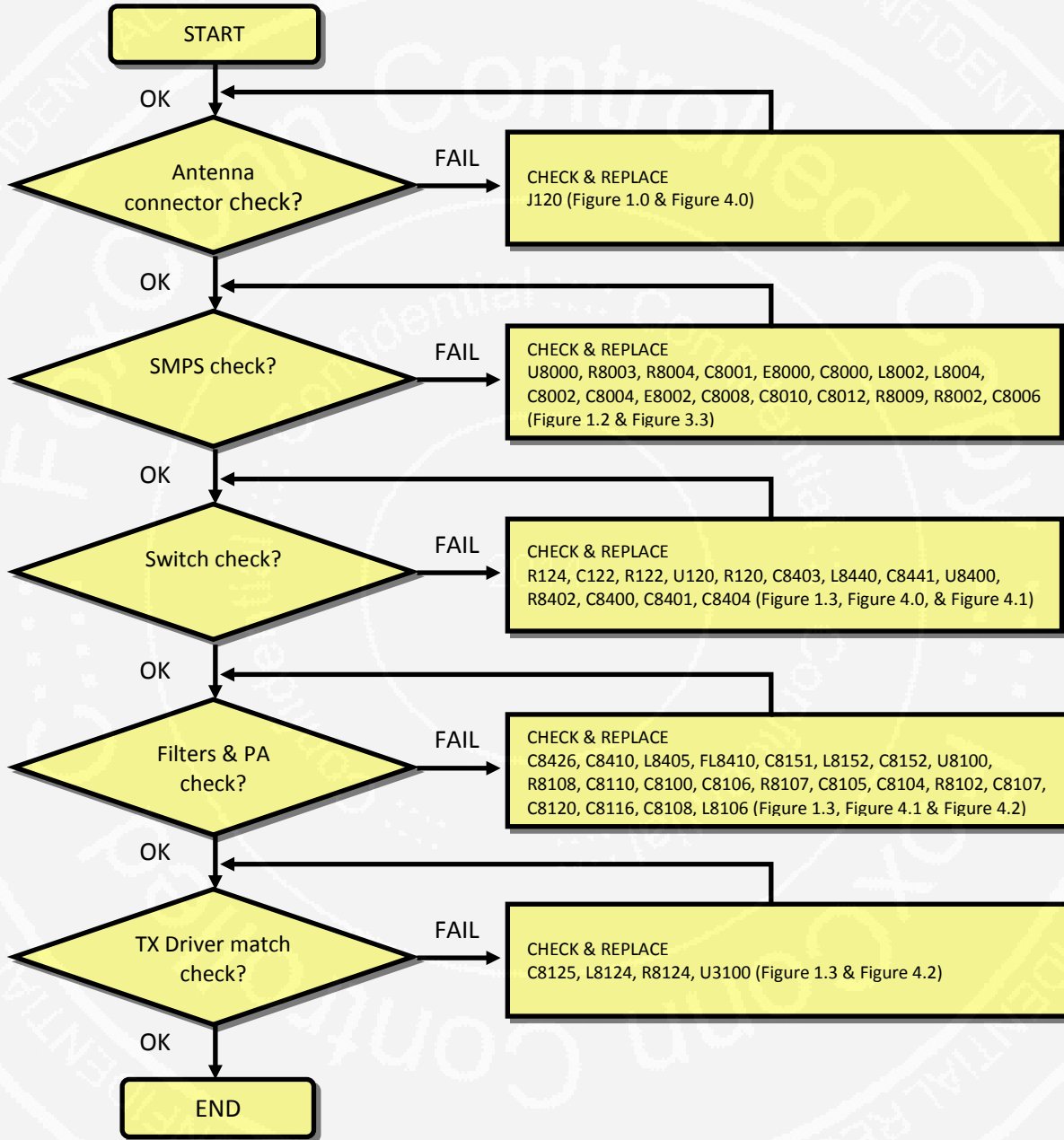
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LTE_Band_3_C0_TX
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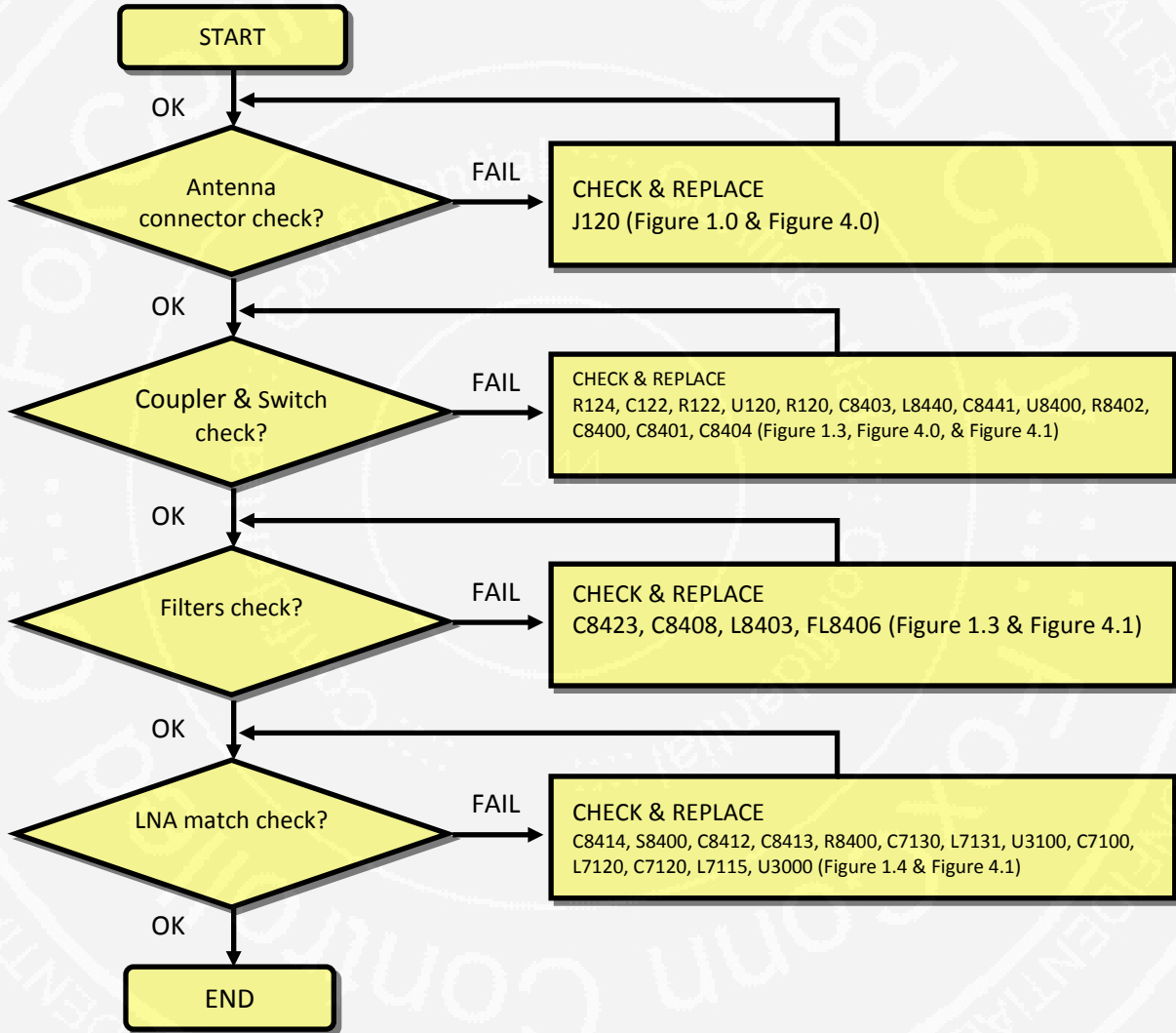
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WCDMA_1700_C0_RX & LTE_Band_4_C0_RX

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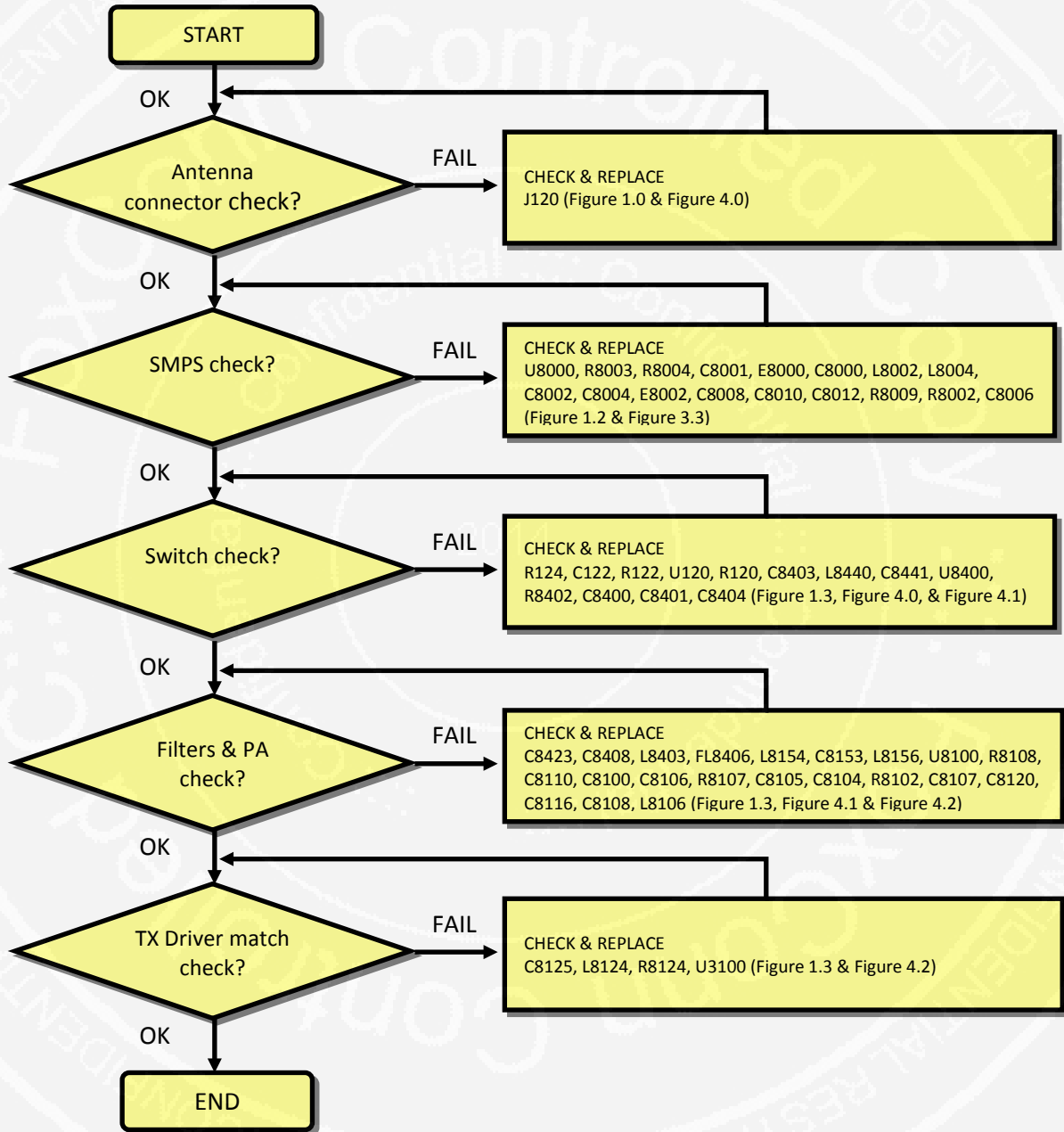
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WCDMA_1700_C0_RX & LTE_Band_4_C0_TX

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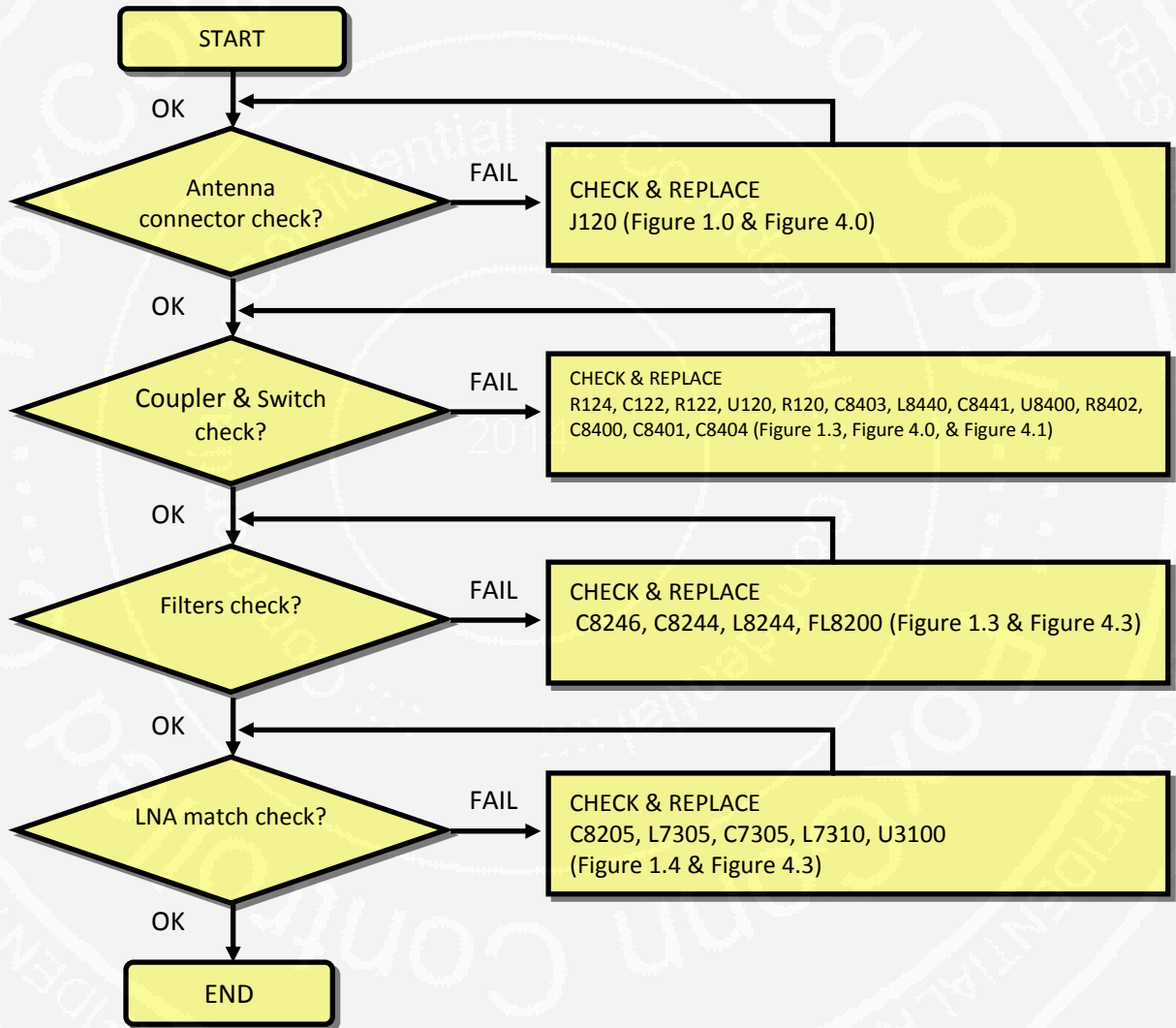
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LTE_Band_7_C0_RX

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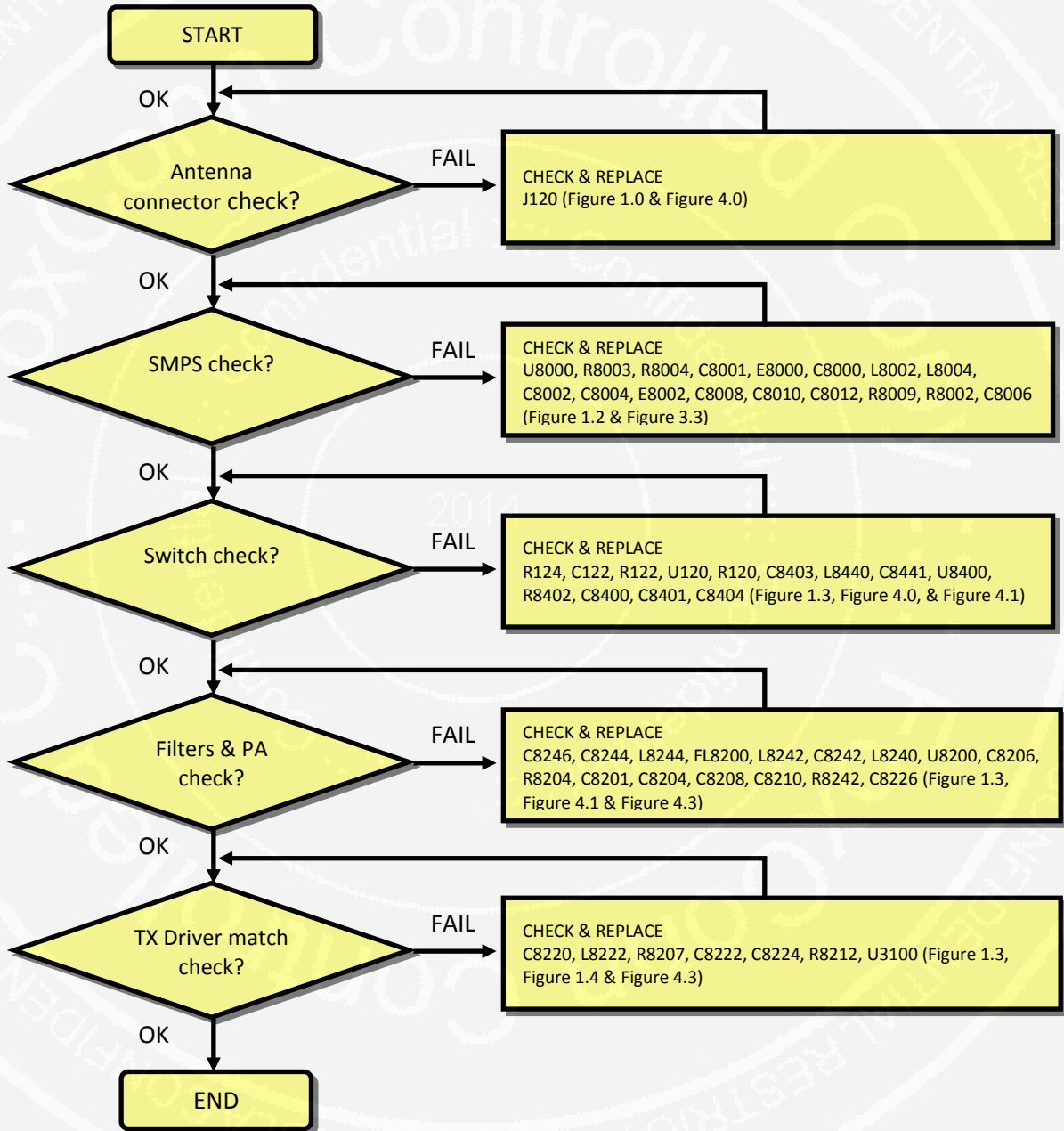
Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

LTE_Band_7_C0_TX

Check Chart



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Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

LB Diversity Antenna RF Connector (J170) TROUBLESHOOTING:
Schematics:

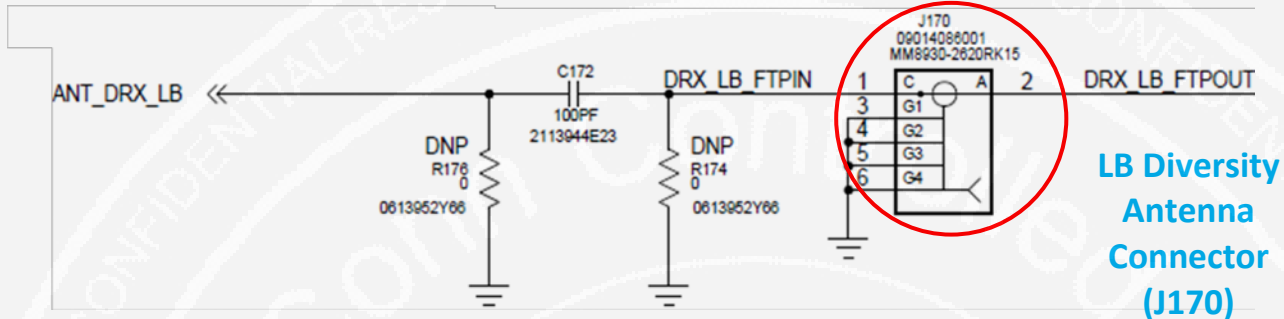


Figure 5.0

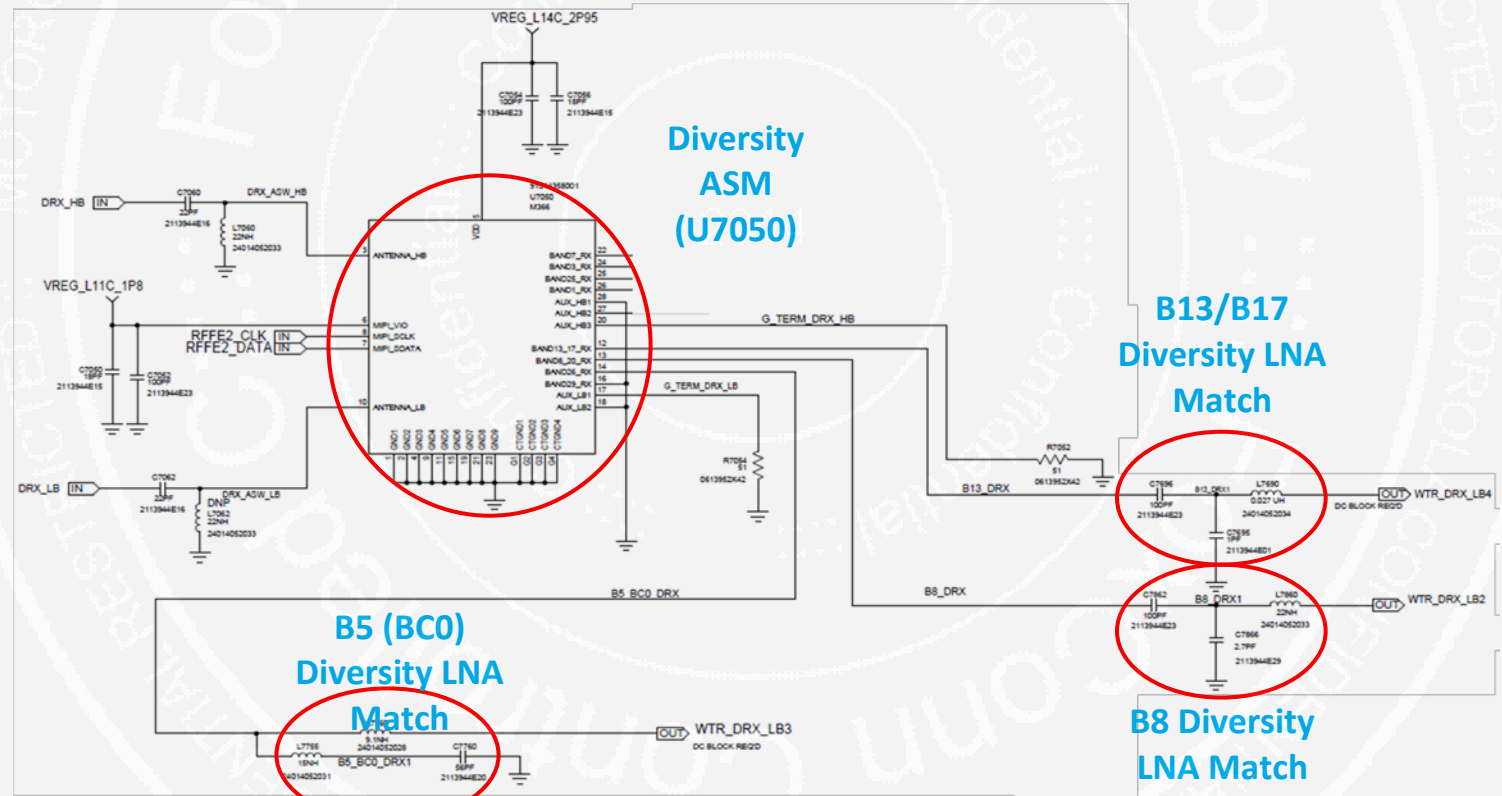


Figure 5.1

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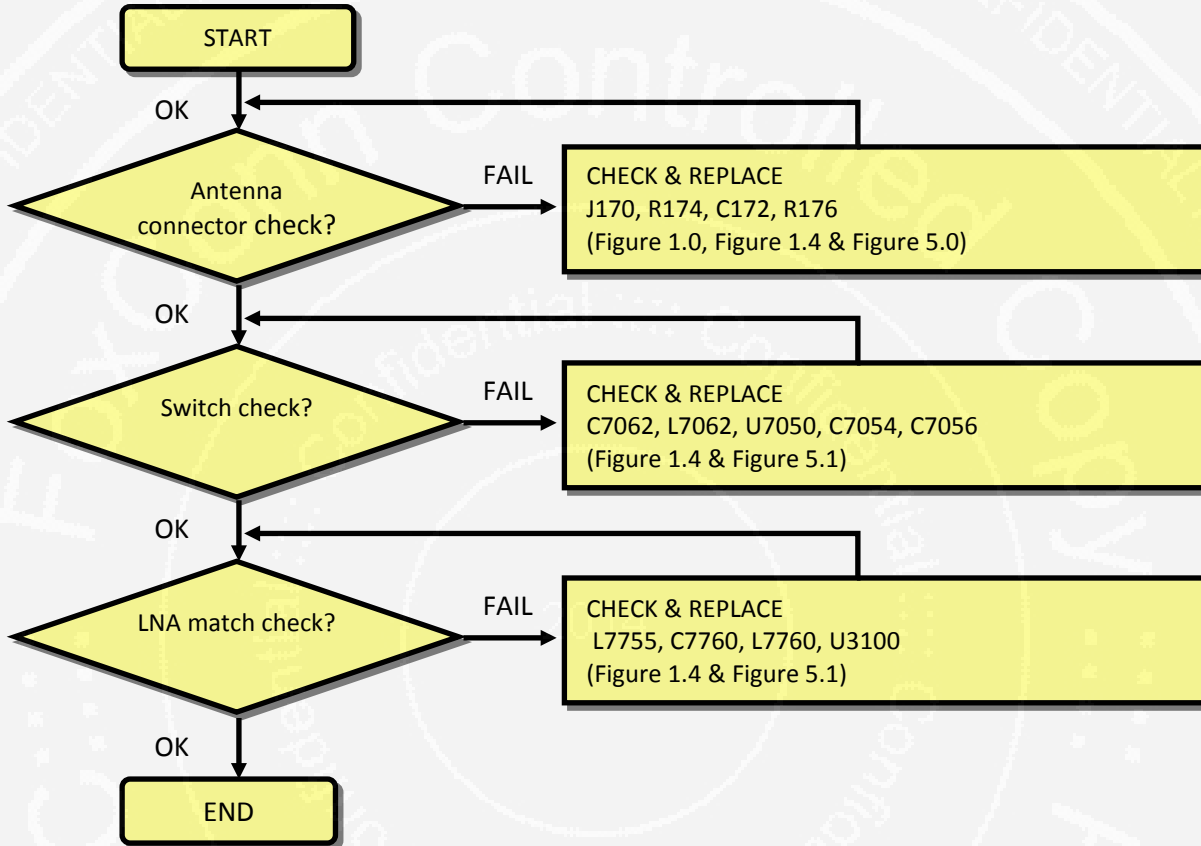
Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

CDMA_800_C1_RX, WCDMA_850_C1_RX, & LTE_Band_5_C1_RX

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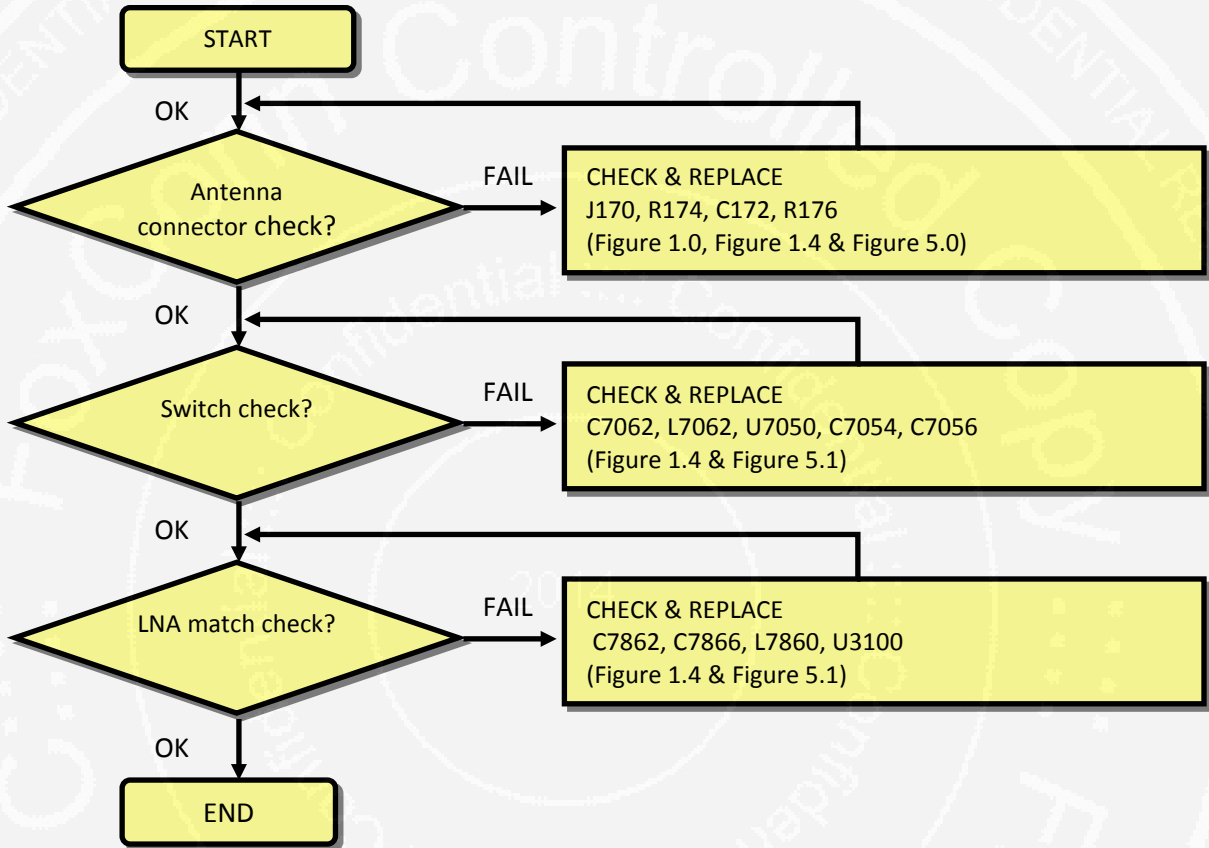
Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

WCDMA_900_C1_RX

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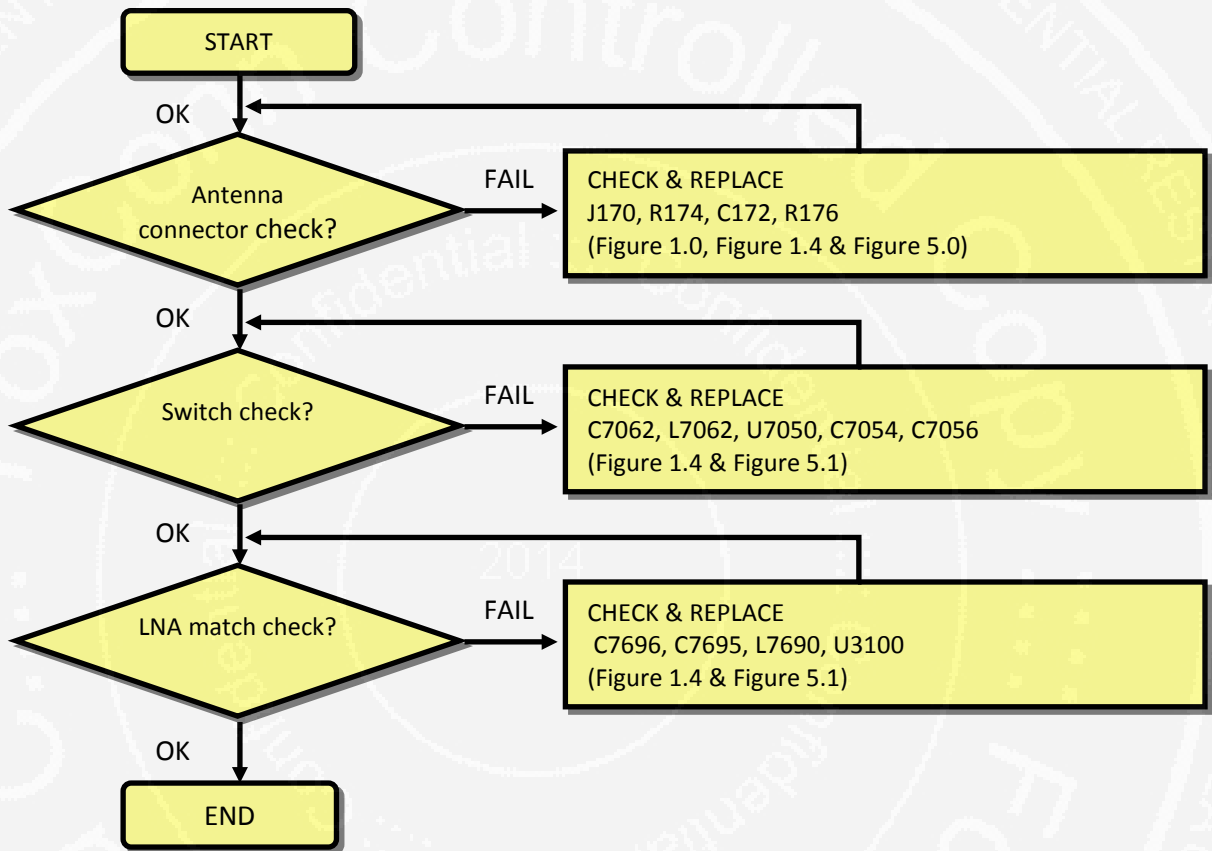
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Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

LTE_Band_13_C1_RX & LTE_Band_17_C1_RX
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Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

HB Diversity Antenna RF Connector (J180) TROUBLESHOOTING:
Schematics:

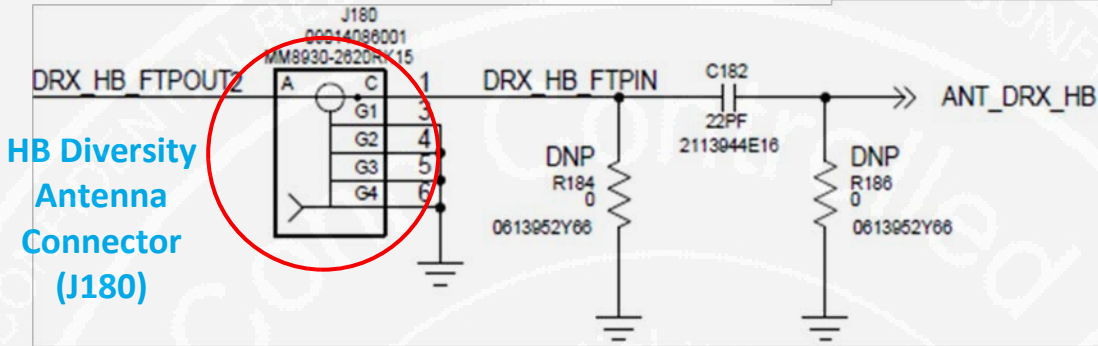


Figure 6.0

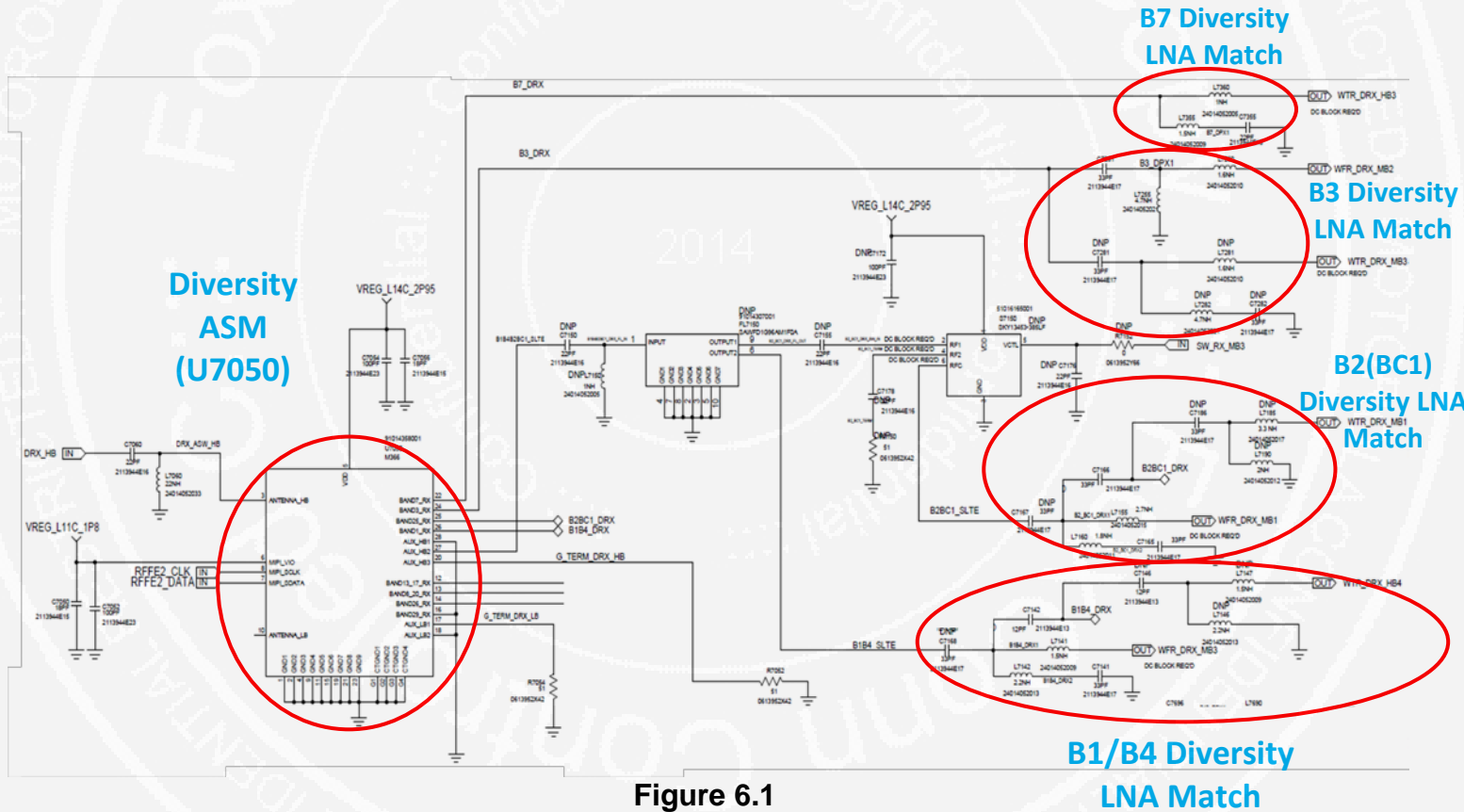


Figure 6.1

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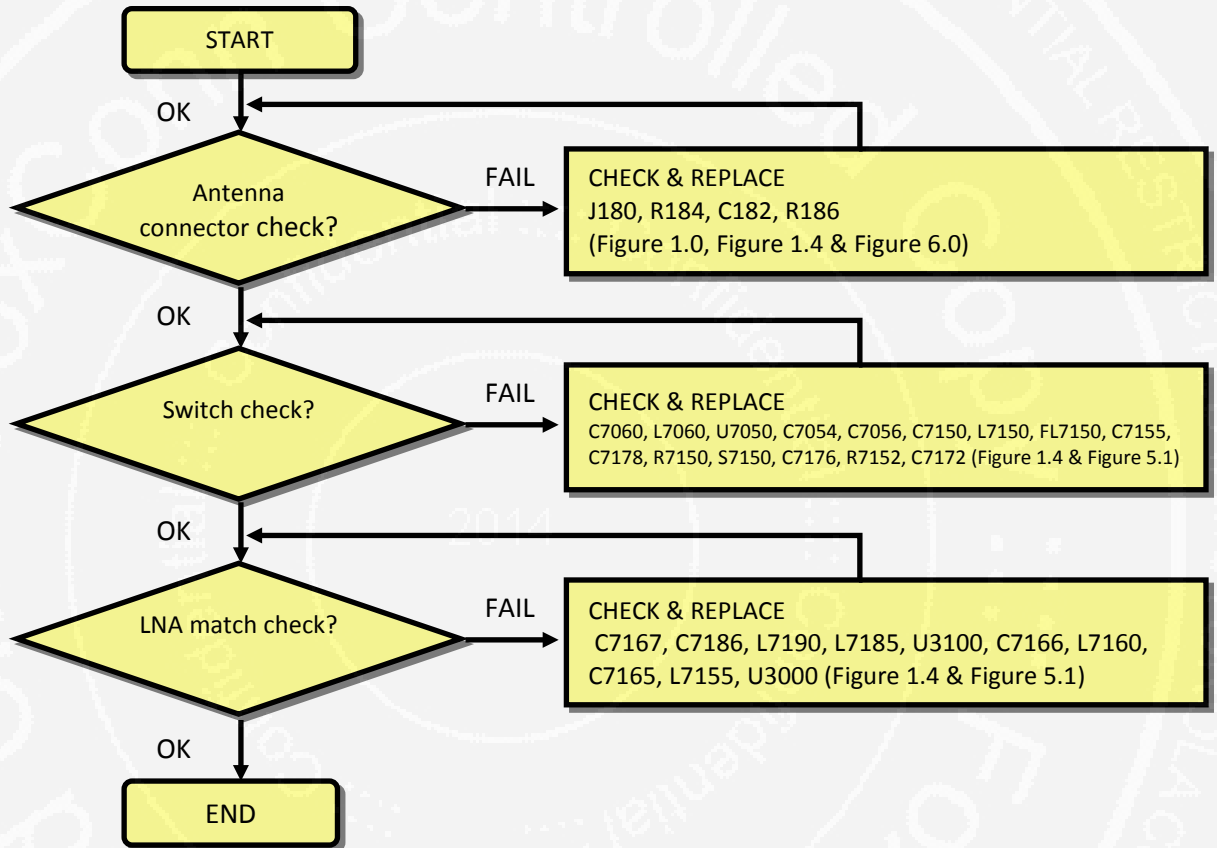
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Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

CDMA_1900_C1_RX, WCDMA_1900_C1_RX, & LTE_Band_2_C1_RX
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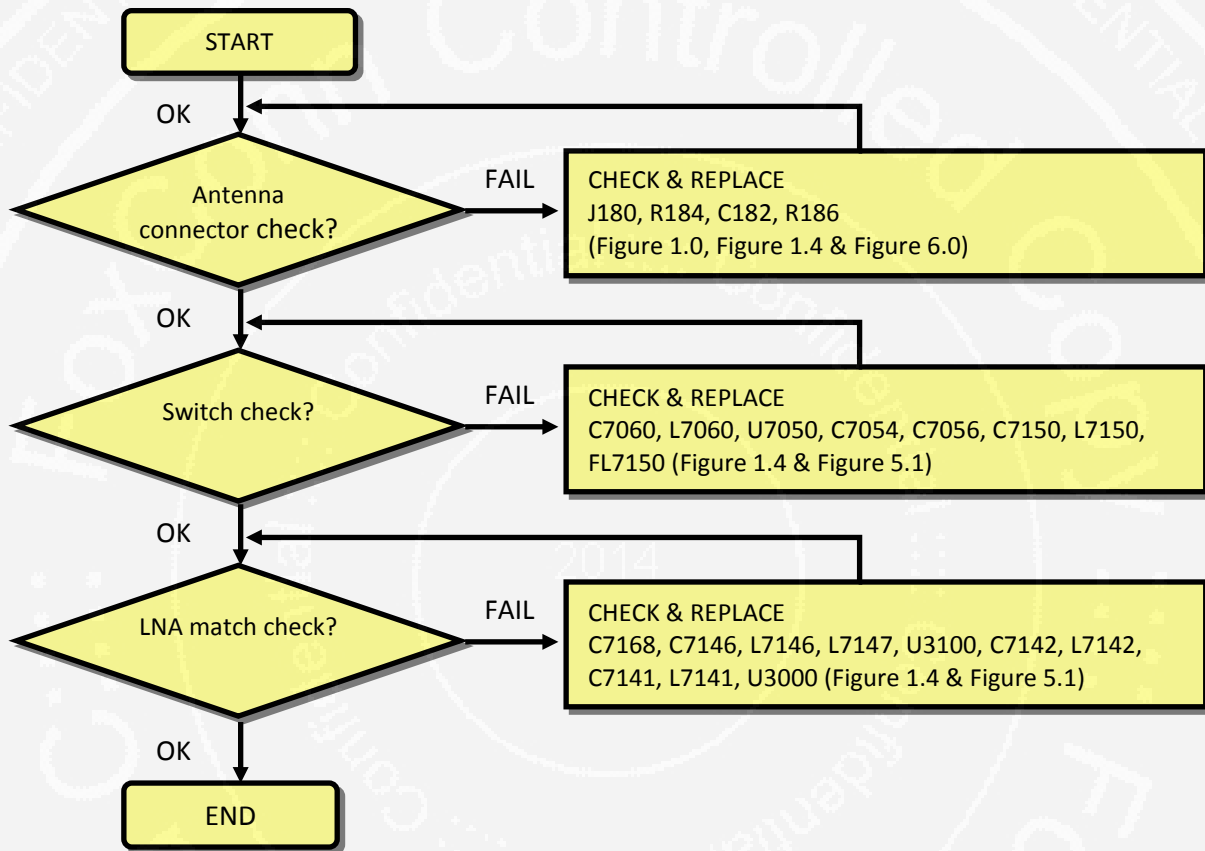
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Quark Board Test Troubleshooting Guide

MODEL

Quark Board Test

WCDMA_2100_C1_RX, WCDMA_1700_C1_RX, & LTE_Band_4_C1_RX
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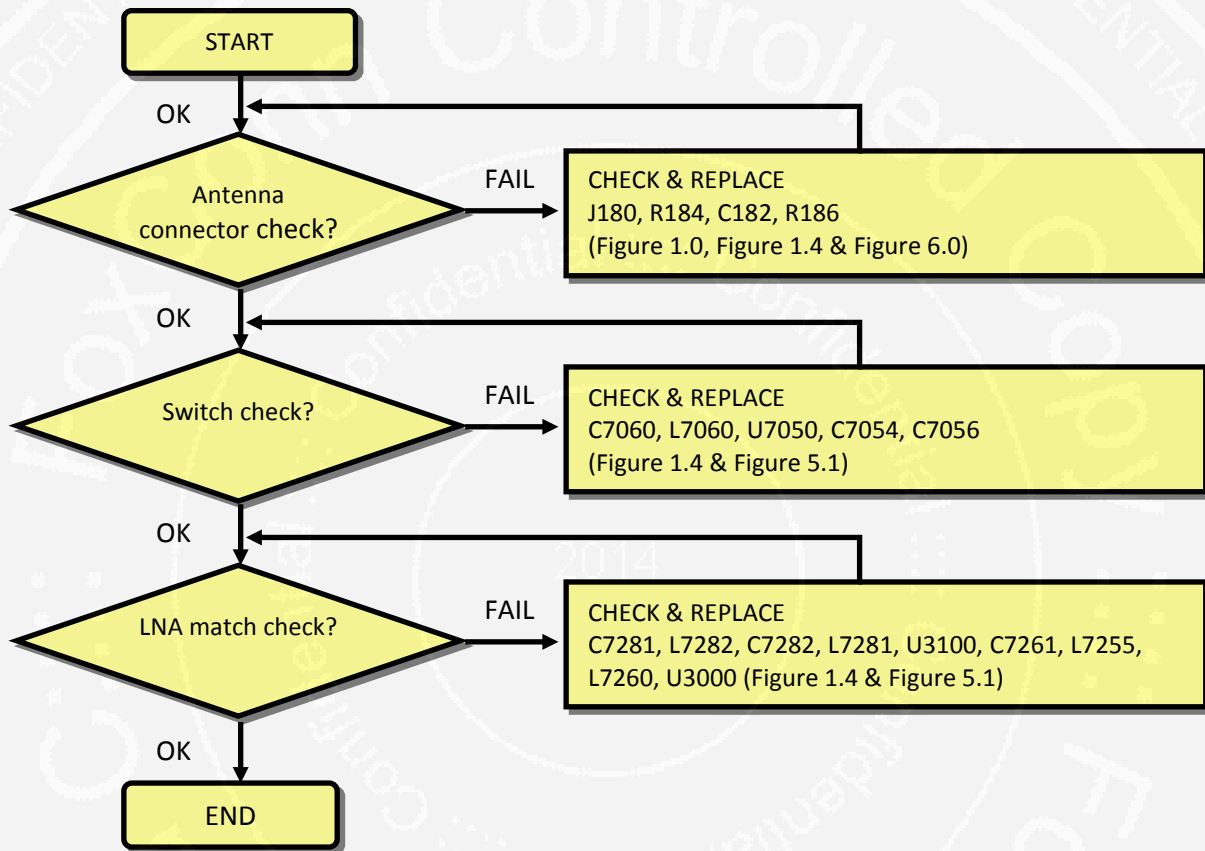
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MODEL

Quark Board Test

LTE_Band_3_C1_RX
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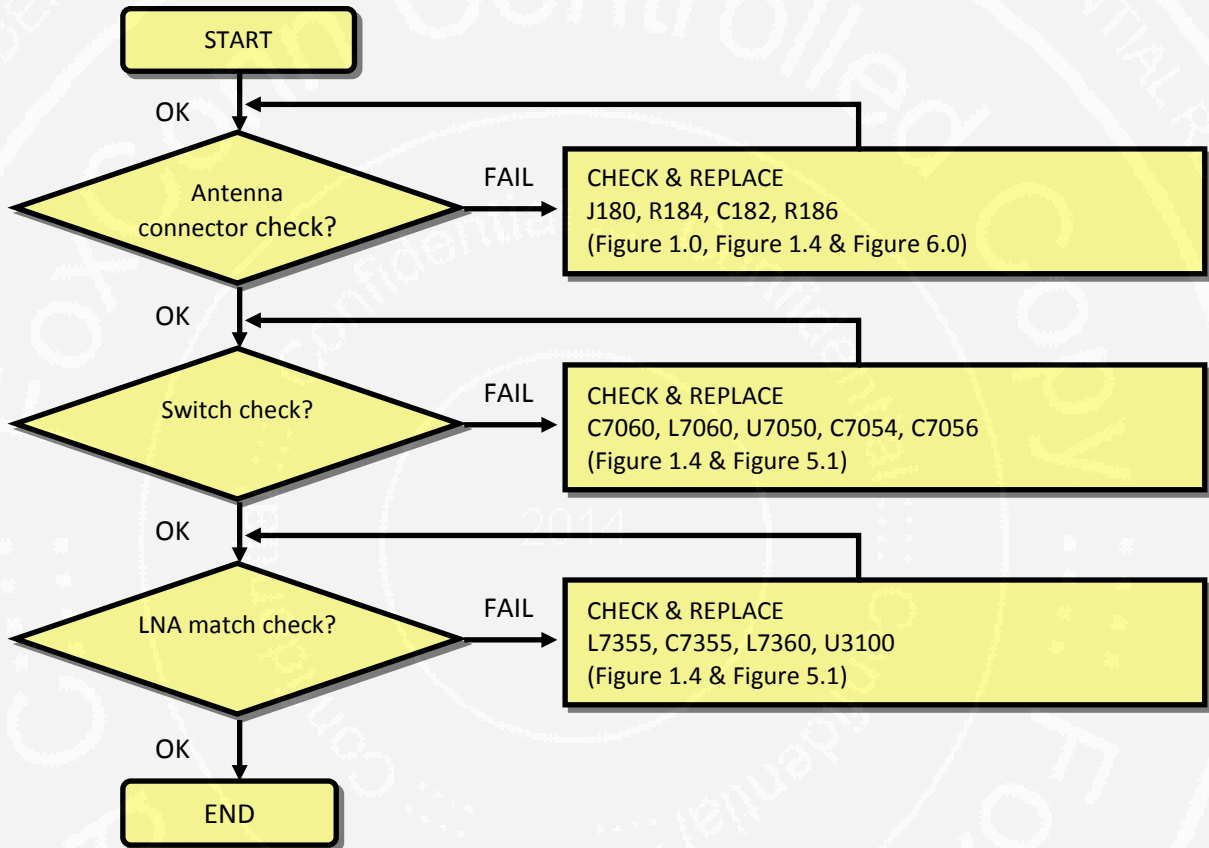
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MODEL

Quark Board Test

LTE_Band_7_C1_RX
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