CHANGE TP109 (LNA) TO -10dB

LEAVE OTHER TEST POINTS AS IS

27.4 OHM 1W RESISTORS ON LNA, MAIN PAGE WERE DIFFERENT MANUFACTURERS

LEDs PAINFUL: SERIES RESISTORS 10K (R51,R52,R53,R54,R112

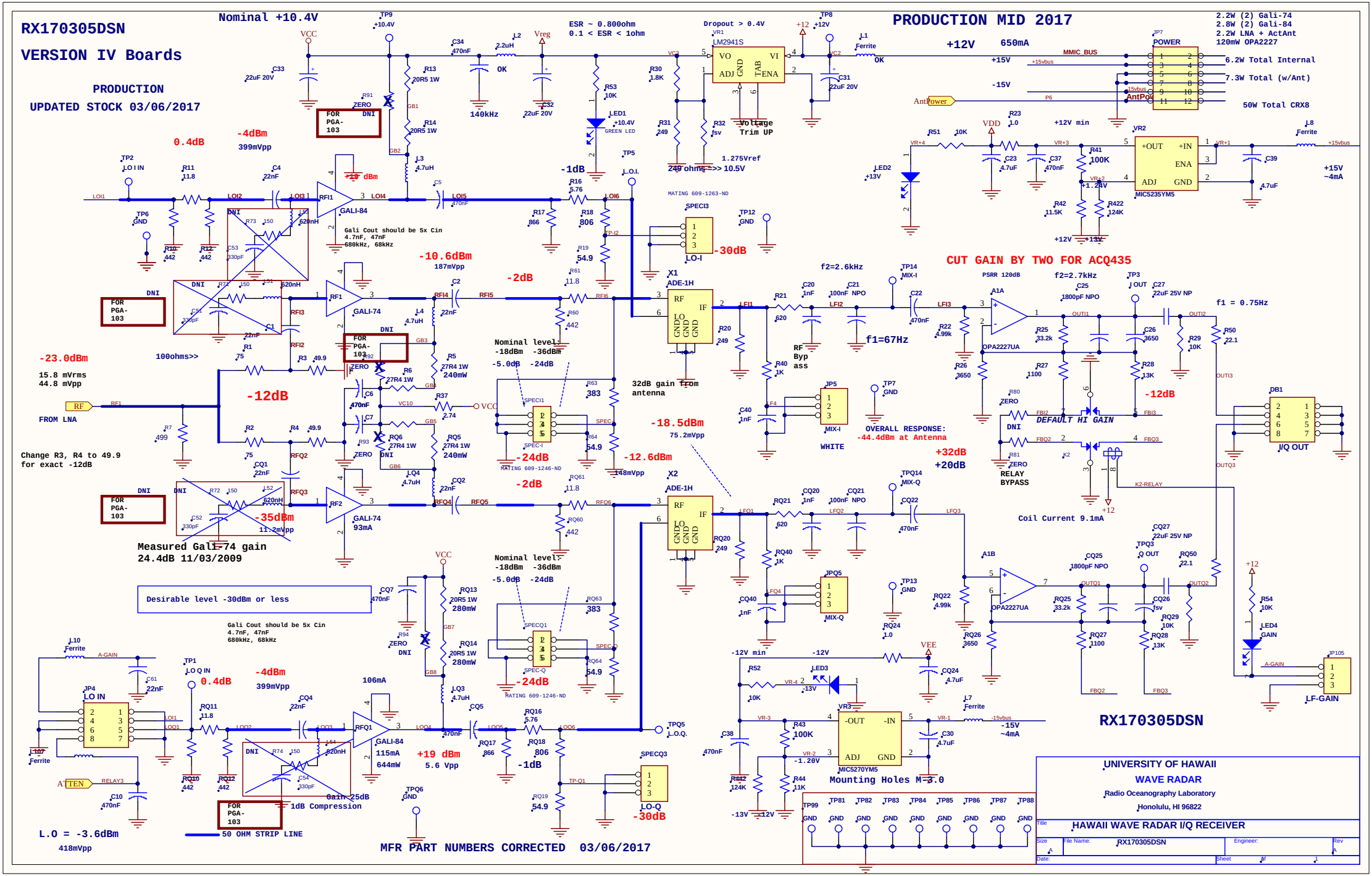
Title

CRX-8 CHANGE NOTES

Size	Document Number	Rev
A		A

Date:

Sheet 1 of 1


RX170305DSN
VERSION IV Boards
PRODUCTION
UPDATED STOCK 03/06/2017
Nominal +10.4V
PRODUCTION MID 2017
2.2W (2) Gali-74
2.8W (2) Gali-84
2.2W LNA + ActAnt
120mW OPA2227
+12V 650mA
6.2W Total Internal
7.3W Total (w/Ant)
50W Total CRX8
ESR ~ 0.800ohm
0.1 < ESR < 1ohm
Dropout > 0.4V
LM2941S
Voltage Trim UP
1.275Vref
249 ohms <>> 10.5V
+15V ~4mA
-15V ~4mA
MIC5235YM5
MIC5270YM5
CUT GAIN BY TWO FOR ACQ435
f2=2.6kHz
f2=2.7kHz
f1 = 0.75Hz
f1=67Hz
PSRR 120dB
OPA2227UA
DEFAULT HI GAIN
RELAY BYPASS
Coil Current 9.1mA
OVERALL RESPONSE:
-44.4dBm at Antenna
RF Bypass
32dB gain from antenna
Nominal level:
-18dBm -36dBm
-5.0dB -24dB
-0.4dB
-4dBm
399mVpp
-1dB
-30dB
-10.6dBm
187mVpp
-2dB
-23.0dBm
15.8 mVrms
44.8 mVpp
100ohms>>
-12dB
-18.5dBm
75.2mVpp
-12.6dBm
148mVpp
+32dB
+20dB
-35dBm
11.2mVpp
Measured Gali-74 gain
24.4dB 11/03/2009
Change R3, R4 to 49.9
for exact -12dB
Desirable level -30dBm or less
Gali Cout should be 5x Cin
4.7nF, 47nF
680kHz, 68kHz
106mA
+19 dBm
5.6 Vpp
Gain 25dB
1dB Compression
L.O = -3.6dBm
418mVpp
50 OHM STRIP LINE
Mounting Holes M=3.0
MFR PART NUMBERS CORRECTED 03/06/2017
UNIVERSITY OF HAWAII
WAVE RADAR
Radio Oceanography Laboratory
Honolulu, HI 96822
HAWAII WAVE RADAR I/Q RECEIVER
RX170305DSN

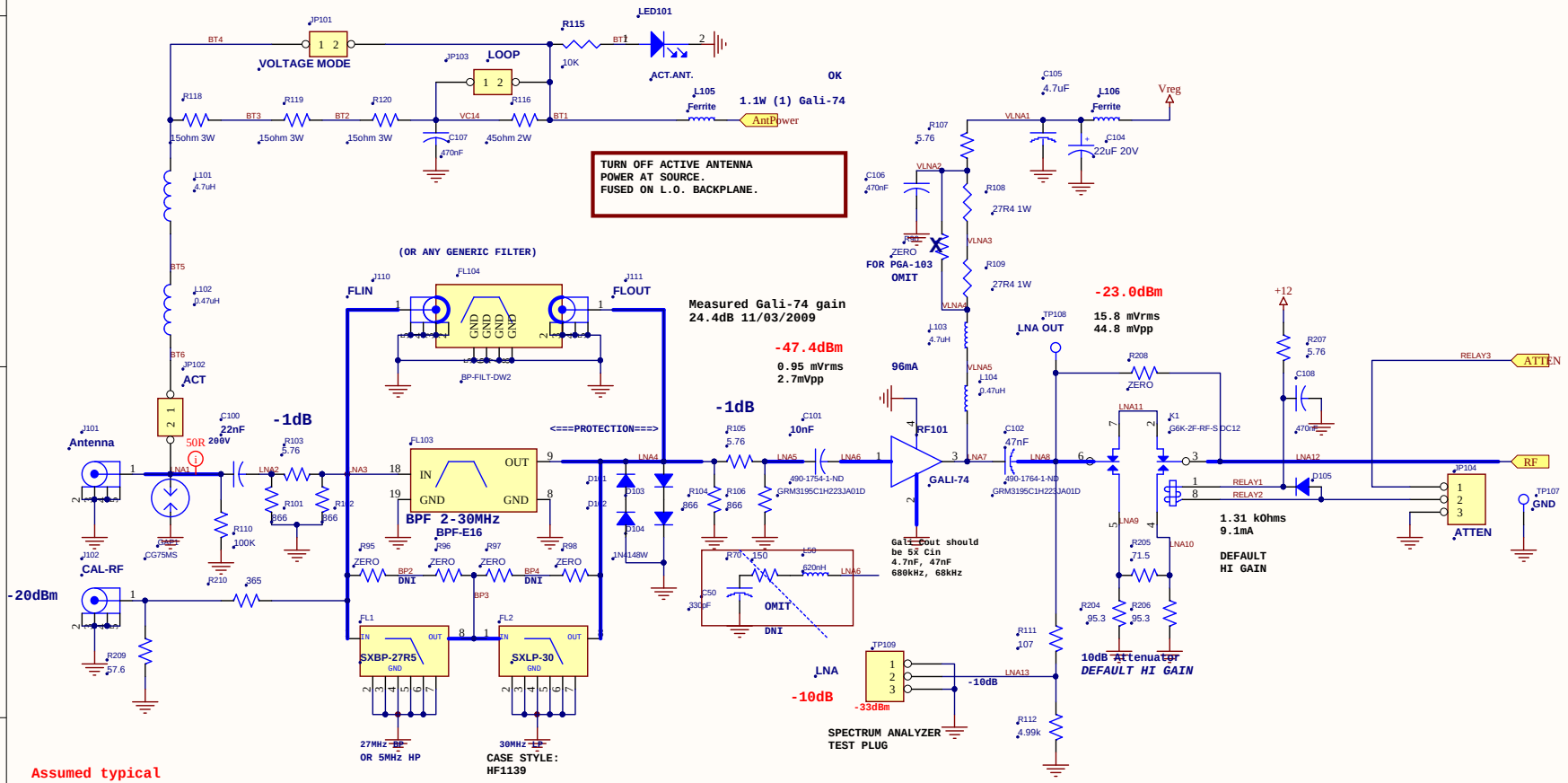
VERSION IV Boards

RX170305DSN

PRODUCTION MID 2017

Note: Levels shown are typical signal levels.
(Levels used in the test/calibration procedure are higher.)

50 OHM STRIPLINE



Assumed typical
signal level

-44.4dBm

1.35 mVrms
3.81 mVpp

Filter response is affected
by load impedance.

Minimal attenuator reduces mismatch.

and prevents instability from filter
interaction with Gali-74 input

2/10/2015

PRODUCTION MID 2017
MFR PART NUMBERS ADDED

RX170305DSN

DATE	COMMENT
8/2015	JP103 current limiting for new loop antennas
10/2015	10dB Atten Relay

UNIVERSITY OF HAWAII
WAVE RADAR
Radio Oceanography Laboratory
Honolulu, HI 96822

Title: HAWAII WAVE RADAR LNA
Size: A | File Name: RX170305DSN | Engineer: | Rev: E
Date: | Sheet 1 of 1