Test Procedure for the NCS8353MNGEVB Evaluation Board

Equipment Required

One 8-to-24 V (12 V nominal) power supply is used to supply the demo board (+24V_IN banana 2x connector). Prior to connecting the power supply cable; ensure that the power source is off. If possible, limit the current of the DC supply to 100mA. An on-board 3.3 V regulator (Figure 2) is used to derive the voltage reference for the gain (G0,G1) and power limit (PL0,PL1) pins, so no additional supply voltage is required. Reference tables 1 and 2 for appropriate logic settings for the desired gain and power limit.

Gain and Power Limit Logic tables

Table 1: Power Limit Configuration

PL1	PL0	Power Limit
0	0	10 W
0	1	12 W
1	0	15 W
1	1	20 W

Table 2: Gain Configuration

G1	G0	AMPLIFIER GAIN (dB)
0	0	20
0	1	26
1	0	32
1	1	36

Prepare for testing

1. Before powering up the board verify voltage and input polarity, connect the input source while it is off.
2. Place a jumper on the 3.3V_EN header pins.
3. Connect an input source to the R_IN and L_IN RCA input connectors.
   a. Most waveform generators are single-ended sources so a jumper needs to be populated on R_G and L_G pin headers. If the source is differential similar to an Audio Precision then no jumpers are required for R_G and L_G.
4. Set the input source to 100mVpp, 1kHz sinewave output.
5. Connect the ROUT and LOUT banana connectors to 8 ohm speakers or high wattage resistors and then to an oscilloscope or audio analyzer.
6. Configure the gain to 20dB (G0=G1=0) and the power limit to 10W (PL0=PL1=0) via the slider switch (S201) by ensuring the slide switches are in the 'OFF' position.
7. Turn the supply on then enable the circuit through the EN slider switch on S201. The supply current should measure less than 50mA.
8. Increase the supply limit to 500mA.
9. Turn on the signal source.
10. Observe the reconstructed sinewave on the ROUT and LOUT banana connectors. It should measure 1Vp, 1kHz.