**ON Semiconductor**

# Test Procedure for the NCS2564DTBGEVB Evaluation Board

1. **Board Setup:**
- 0.1 uF input coupling capacitors
- 220uF output coupling capacitors
- 75 ohms input matching impedance
- 75 output resistors

2. **Power Supply:**
- Plug the GND first.
- Limit the current to 100mA.
- Then, plug Vcc at 5V
- Turn on the supply.

3. **Standard definition channel:**
- Load the BNC output with a BNC 75 ohms load
- Apply 1Vpp with 0V offset, 1MHz sinewave on the input Cvbs IN (pin 1)
- Measure a sine wave of 1MHz on the output (pin 14) centered around 0V with an amplitude of 1Vpp after the capacitor.
- Jumpers positions : Cvbs ENb = 0, SD/HD ENb = 0, SDb/HD = 0
- Icc should be around 40mA with only the SD channel plugged.

4. **High Definition Channel:**
- Load the BNC output with a BNC 75 ohms load
- Apply 1Vpp with 0V offset, 20MHz sinewave on the inputs SD/HD IN1, SD/HD IN2, SD/HD IN3 (pins 5, 6, 7)
- Measure a sine wave of 20MHz on the outputs (pins 8, 9, 10) centered around 0V with an amplitude of 1Vpp after the capacitor.
- Jumpers positions : Cvbs ENb = 1, SD/HD ENb = 0, SDb/HD = 1
- Icc should be around 50mA with all HD channels plugged.

5. **Filter selections testing:**
Test the functionality of the selector using the true table below:

| Cvbs_Enb | SD/HD Enb | SDb/HD | Results |
|:---:|:---:|:---:|:---:|
| 0 | 0 | 0 | Cvbs Active, CH2-4 actives, SD selected |
| 0 | 0 | 1 | Cvbs Active, CH2-4 actives, HD selected |
| 0 | 1 | 0 | Cvbs Active, CH2-4 inactives, SD selected |
| 0 | 1 | 1 | Cvbs Active, CH2-4 inactives, HD selected |
| 1 | 0 | 0 | Cvbs Inactive, CH2-4 actives, SD selected |
| 1 | 0 | 1 | Cvbs Inactive, CH2-4 actives, HD selected |
| 1 | 1 | 0 | Cvbs Inactive, CH2-4 inactives, SD selected |
| 1 | 1 | 1 | Cvbs Inactive, CH2-4 inactives, HD selected |

- A signal is said active when the amplifier is turned ON, so a signal should be observed on the output.
- A signal is said inactive when the amplifier is turned OFF, so a signal should not be observed on the output.
- A filter is said selected when the corresponding jumper is on the designated position (SD or HD). It selects the bandwidth of the filter.

## 6. Bench Setup