



## Test Procedure for the NCN7200MTGEVB Evaluation Board

### EQUIPMENT

The following table details the equipment used in the context of this application note manual:

**EQUIPMENT TABLE**

Description	Quantity
Regulated DC Power Supply	1
Banana Cable	2
Oscilloscope with SMA Adapters	1
Differential Waveform Generator	1
SMA Cable	2-4
Ethernet Cable	2-3
Computer with Ethernet Port	1

**TRUTH TABLE**

PD	SEL	Function
L	L	AX to BX: LEDAX to LEDBX
L	H	AX to CX: LEDAX to LEDCX
H	X	Hi-Z

### GETTING STARTED...

This demo board features three individual sections sharing a common power source.

*Section 1: A half pin-out (differential channels A0+/- and A1+/-) of the device with Ethernet jacks.*

1. Use the regulated DC power supply to set  $V_{DD} = 3.3$  V. Connect the supply between the VDD and GND banana connectors on the PCB using the banana cables.
2. Connect one of the Ethernet Cables between the Ethernet port on the computer and the Common I/O J1.
3. Connect the second Ethernet Cable from the desired I/O at J2 or J3 to a network internet connection. Adjust the Logic Controls PD and SEL for the desired output.
4. When the switch is turned on between the computer and the network connection, use the detected network to confirm operation of the device by accessing the internet.

*Section 2: A single differential pair with SMA connectors.*

1. Use the regulated DC power supply to set  $V_{DD} = 3.3$  V. Connect the supply between the VDD and GND banana connectors on the PCB using the banana cables.
2. Use the jumper to connect the pins on J6 to power the second device U2.
3. Use the SMA cables to connect the Waveform Generator to A0+/- connectors and the Oscilloscope to the B0+/- connectors. Adjust the Logic Controls PD and SEL for the BX outputs.
4. Set the waveform generator to the desired bit rate from 10 Mbps up to 1 Gbps (1000BASE-T) and amplitude up to 3 V<sub>pp</sub> per differential channel.
5. Observe the output at the oscilloscope.

*Section 3: A pass-through on the board for baseline measurements with SMA connectors.*

1. Use the SMA cables to connect the Waveform Generator to connectors J15 and J16, and connect the Oscilloscope to connectors J17 and J18. Adjust the Logic Controls PD and SEL for the desired output.
2. Set the waveform generator to the desired bit rate from 10 Mbps up to 1 Gbps (1000BASE-T) and any nominal amplitude.
3. Observe the output at the oscilloscope.