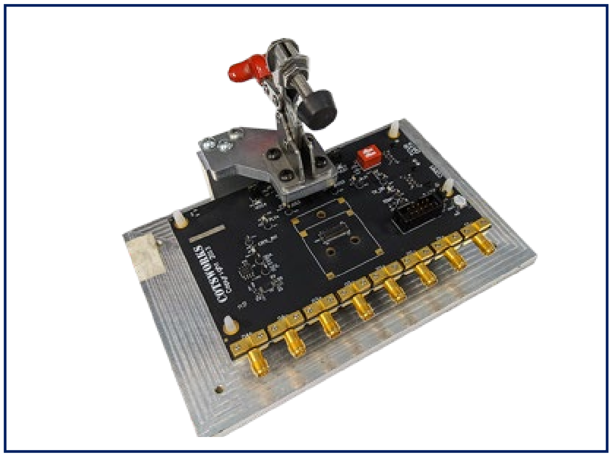
COTSWORKS®

RCP Transceiver Eval Board

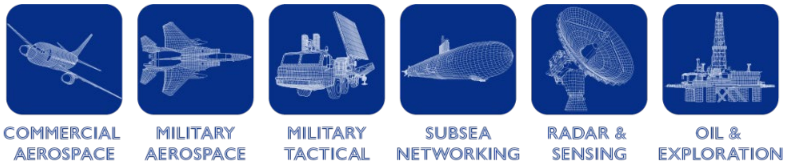
TESTBD-RCP-DDMI

Features:

- 8 SMA electrical interfaces
- Designed to work with RCP-SX-DX
- Clampdown feature standard on all boards
- Built-in mating fine stack connector to the COTSWORKS RCP
- Convenient test points for DDMI interface
- Easy to read LED indicators for visual function verification
- Built in GUI for digital diagnostics
- Easy access TX Disable D.I.P. switches
- Modified RCP test boards are available and made to fit customer requested shapes, sizes, and I/O



This high performance evaluation board allows for fast and reliable testing without the need for a final board design.



General Description

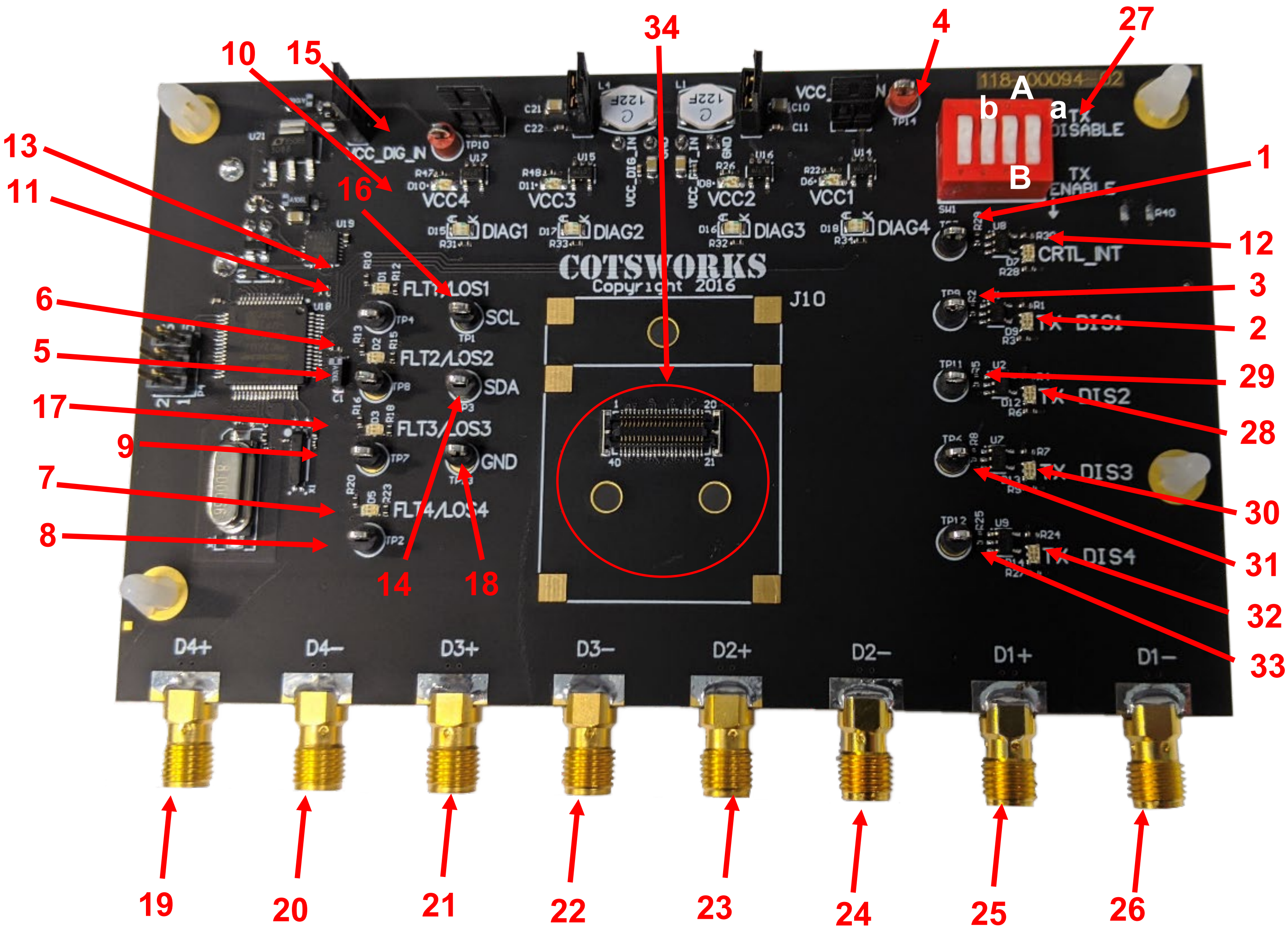
This electrical interface board is ideal for testing all features of the COTSWORKS RCP transceiver.

RCP transceiver test board is designed to simplify early and advanced level testing without having to integrate the transceiver into a host board. The RCP DDMI Interface Adapter Board has a built in GUI as a development tool for customers integrating COTSWORKS RCPs into their design.

This test board can become an interposer board, routing the electrical connection from our Transceiver Platform parts to a customer specified connector on a customer PCB.

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	NOTES
Maximum Supply Voltage	V_{CC}	-	3.47	V	
Storage Temperature	T_{sto}	-55	105	ºC	
Operating Temperature	T_{OP}	-55	105	ºC	

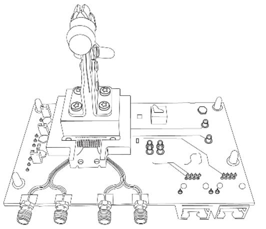
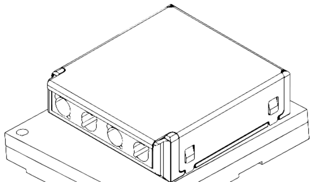


1	**MCU Reset Test Point**	This test point can be used to measure the voltage on the MCU reset pin on the DUT
2	**Channel 1 TX Disable Indicator**	The LED will turn red if the transmitter is disabled from location 21. This means the TX_DIS pin the DUT is driven to Vcc. The LED will turn green if the transmitter is enabled. This means the TX_DIS pin on the DUT is driven to GND.
3	**Channel 1 TX Disable Test Point**	This test point can be used to measure the voltage on the TX_DIS pin on the DUT. It can also be used to drive the TX_DIS pin on the DUT. If the test point is connected to GND, the Transmitter will be enabled. If the test point is connected to Vcc, the Transmitter will be disabled.

4	**Transceiver Power**	Connect a power cable to the red test point at 3.3V. Transceiver power is used to power the DUT and does not power the components on the eval board.
5	**Channel 2 LOS Test Point**	This test point can be used to measure the voltage on the channel 2 LOS pin on the DUT. If the voltage is measured high, the receiver of the DUT is not receiving a signal. If the voltage is measured low, the receiver of the DUT is receiving a signal.
6	**Channel 2 LOS Indicator**	The LED will turn red if the receiver of the DUT is not receiving a signal. The LED will turn green if the receiver of the DUT is receiving a signal.
7	**Channel 4 TX Fault Indicator**	The LED will turn red if channel 4 of the DUT is faulted. The LED will turn green if channel 4 of the DUT is not faulted.
8	**Channel 4 TX Fault Test Point**	This test point can be used to measure the voltage on the channel 4 TX fault poin on the DUT. If the voltage is measured high, the transmitter on channel 4 is faulted. If the voltage is measured low, the transmitter on channel 4 is not faulted.
9	**Channel 3 LOS Test Point**	This test point can be used to measure the voltage on the channel 3 LOS pin on the DUT. If the voltage is measured high, the receiver of the DUT is not receiving a signal. If the voltage is measured low, the receiver of the DUT is receiving a signal.
10	**Digital Power Indicator**	The blue LED will turn on if there is 3.3V on the digital power plane supplied from location 16. Digital power is used to power the components on the eval board and does not power the DUT.
11	**Channel 1 TX Fault Test Point**	This test point can be used to measure the voltage on the channel 1 TX fault poin on the DUT. If the voltage is measured high, the transmitter on channel 1 is faulted. If the voltage is measured low, the transmitter on channel 1 is not faulted.
12	**MCU Reset Indicator**	The LED will turn red if the MCU is not in a reset state. The LED will turn green if the MCU is in a reset state.

13	**Channel 1 TX Fault Indicator**	The LED will turn red if channel 1 of the DUT is faulted. The LED will turn green if channel 4 of the DUT is not faulted.
14	**SDA Test Point**	If supported by the DUT, communication through the I2C bus can be established through this test point.
15	**Digital Power**	Connect the supplied 2-pin power cable to 3.3V. Digital power is used to power the components on the eval board and does not power the DUT.
16	**SCL Test Point**	If supported by the DUT, communication through the I2C bus can be established through this test point.
17	**Channel 3 LOS Indicator**	The LED will turn red if the receiver of the DUT is not receiving a signal. The LED will turn green if the receiver of the DUT is receiving a signal.
18	**Ground Test Point**	This test point is connected to circuit ground.
19	**Channel 4 TX+ Input**	Provide non-inverted input signal for the optical transmitter through a 50Ω SMA cable. Check DUT datasheet for input signal specifications.
20	**Channel 4 TX- Input**	Provide inverted input signal for the optical transmitter through a 50Ω SMA cable. Check DUT datasheet for input signal specifications.
21	**Channel 3 RX- Output**	Inverted output signal from the optical receiver. Connect 50Ω SMA cable
22	**Channel 3 RX+ Output**	Non-inverted output signal from the optical receiver. Connect 50Ω SMA cable.
23	**Channel 2 RX+ Output**	Non-inverted output signal from the optical receiver. Connect 50Ω SMA cable.
24	**Channel 2 RX- Output**	Inverted output signal from the optical receiver. Connect 50Ω SMA cable.
25	**Channel 1 TX+ Input**	Provide non-inverted input signal for the optical transmitter through a 50Ω SMA cable. Check DUT datasheet for input signal specifications.
26	**Channel 1 TX- Input**	Provide inverted input signal for the optical transmitter through a 50Ω SMA cable. Check DUT datasheet for input signal specifications.
27	**TX Disable Switch**	If switch a is in position B and the indicator at location 2 is green, channel 1 will be enabled.
		If switch a is in position A, channel 1 will be disabled.
		If switch b is in position B and the indicator at location 2 is green, channel 4 will be enabled.
		If switch b is in position A, channel 4 will be disabled.

28	**Channel 2 TX Disable Indicator**	The LED will turn red if the transmitter is disabled from location 21. This means the TX_DIS pin the DUT is driven to Vcc. The LED will turn green if the transmitter is enabled. This means the TX_DIS pin on the DUT is driven to GND.
29	**Channel 2 TX Disable Test Point**	This test point can be used to measure the voltage on the TX_DIS pin on the DUT. It can also be used to drive the TX_DIS pin on the DUT. If the test point is connected to GND, the Transmitter will be enabled. If the test point is connected to Vcc, the Transmitter will be disabled.
30	**Channel 3 TX Disable Indicator**	The LED will turn red if the transmitter is disabled from location 21. This means the TX_DIS pin the DUT is driven to Vcc. The LED will turn green if the transmitter is enabled. This means the TX_DIS pin on the DUT is driven to GND.
31	**Channel 3 TX Disable Test Point**	This test point can be used to measure the voltage on the TX_DIS pin on the DUT. It can also be used to drive the TX_DIS pin on the DUT. If the test point is connected to GND, the Transmitter will be enabled. If the test point is connected to Vcc, the Transmitter will be disabled.
32	**Channel 4 TX Disable Indicator**	The LED will turn red if the transmitter is disabled from location 21. This means the TX_DIS pin the DUT is driven to Vcc. The LED will turn green if the transmitter is enabled. This means the TX_DIS pin on the DUT is driven to GND.
33	**Channel 4 TX Disable Test Point**	This test point can be used to measure the voltage on the TX_DIS pin on the DUT. It can also be used to drive the TX_DIS pin on the DUT. If the test point is connected to GND, the Transmitter will be enabled. If the test point is connected to Vcc, the Transmitter will be disabled.
34	**DUT Connection Point**	Connection point for RCP DUT. Place screw posts from DUT inside the through holes on securing fixture, place DUT pins on corresponding pins from 40-pin header on test board with DUT fiber connection point facing the same direction as the SMA female connection points, and secure in place with plunger for connection.

Test Board Modification into Interposer Board		
		Possible Modifications Include • Custom form factors, connectors, and layout • Ruggedization for shock, vibration, and environmental requirements

Ordering Information

TESTBD-RCP-DDMI
RCP Transceiver Eval Board with DDMI

Contact sales@COTSWORKS.com for mechanical dimensional information, Interposer Modifications, and other configuration options.

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