

Product Name: ZX210SD-x Display Port, DP 1.4 HBR3 , CTS 1.2b Test Fixture TPA-R TDR receptacle

Product Description:

Display Port , DP, 1.4 HBR3 electrical compliance test fixture - Test Access Point Plug (TPA-R TDR) supporting Standard receptacle DP connector for applications requiring electrical compliance test , measurements & signal analysis for signal jitter, eye diagram and full **DP 1.4 cts 1.2b** electrical compliance test covering 1.62GHz, 2.7GHz, 5.4GHz and 8.1GHz signal bandwidth. ZX210SD-x DP Test Fixture supports full High Bit Rate, HBR (2.7GHz) , HBR2 (5.4GHz), HBR3 (8.1GHz) as well as the Reduced Bit Rate/Low Bit Rate (1.62GHz) signal bandwidth. ZX210SD-x is designed meeting DP test fixture , CTS, version 1.2b requirements, measuring -4.5dB insertion loss at 8.1GHz.

- ZX210SD-x supports Display Port's Standard receptacle connector, mating with plug.
- Onboard connector, J1, accessing +3.3V, HOTPLUG, CFG1, CFG2, and GND signals.
- The DP Test Fixture is shipped with cable assembly, accessing the J1 signals at pin headers.
- Multi-Layer PCB design, with improved signal integrity and crosstalk.
- Insertion Loss -4.5dB @ 8.1GHz
- Includes 8" (20cm) long semi-flexible cable assemblies with SMA Plug or Jack connectors.
- Test Fixture supports electrical compliance for:
 - HBR : High Bit Rate (2.7Gbps / lane)
 - HBR2 : High Bit Rate 2 (5.4Gbps / lane)
 - HBR3 : High Bit Rate 3 (8.1Gbps / lane)
- Test Fixture supports full DP 1.4 standard operating bandwidth of 32.4GHz with 8.1GHz per lane.

ZX210SD-x includes 8" (20cm) long semi-flexible cable assemblies with SMA Plug or Jack connectors interfacing directly to scope probe or other cable assemblies. Cable replacement or longer 16" (40cm) cable assemblies can be purchased, see **"Package Includes"**.

The ZX210SD-x DP Test Fixture is characterized using the supplied 8" (20cm) long cable assemblies along with an additional 8" long extension long cable assemblies to scope probes. Tektronix DPO71604C scope using P7313SMA differential probes. Keysight DSA164A Infiniium scope using N2800A probes + differential probe leads N54444A.

Application: Full Display Port, DP, 1.4 HBR3 CTS 1.2b electrical compliance test, Clock Jitter, eye diagram, single ended & differential ended signaling electrical measurement & analysis.

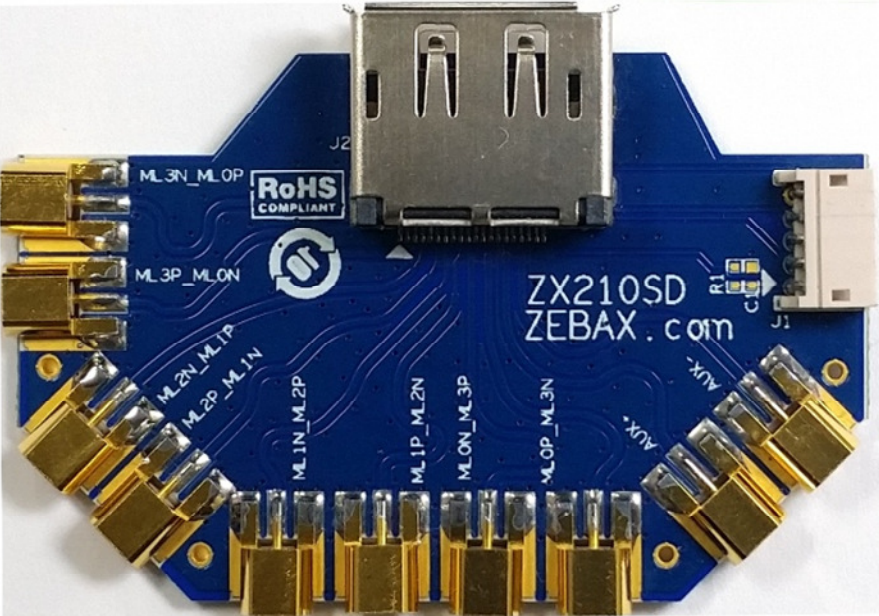
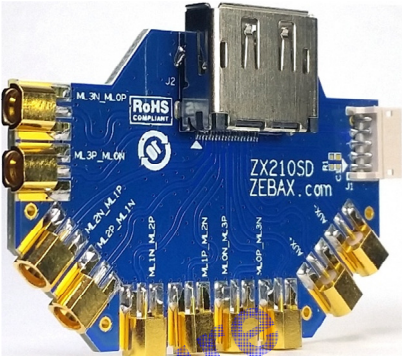
Supported resolutions: HBR3, 8K UHD TV (7680x4320) @ 60 Hz 4:2:0 subsampling.

Mates with : Display Port, DP, Standard plug (header) connector.
SMA connectors mates with standard SMA cable assembly , please see ordering information
Wire assembly has 0.025" (0.63mm) SQ pin socket at one end interfacing with ZX202HD or standard post header length 0.23" (5.83mm)

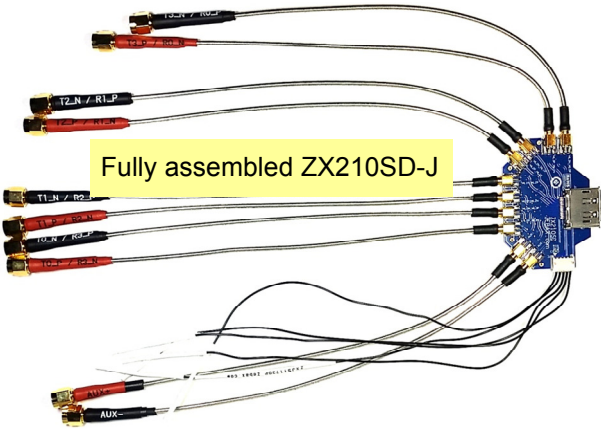
Test procedure: [ZXAN-DP-1.4-Test-Procedure](#) application note provides Display Port, DP, test procedure.

Package includes:				
Item	Part number	Quantity	Description	
1	ZX210SD-x	1	Display Port, DP , HBR3 Test Fixture TPA-R receptacle	
2	ZX00010308-DP	1	Complete set of DP 8" (20cm) long coax cable assemblies, SMA Jack.	
or	ZX00020308-DP	1	SMA Plug – Please see ordering information.	
3	ZXJS1173-05	0	Wire assembly – DP to ZX202DP interface cable assembly	
4	ZXJS1173-DP	1	Wire assembly for DP interface cable assembly, Note 1	
5	ZX200L508-HD	0	USB based Termination board	
6	ZX000x0316-DP	0	Complete 10 DP labeled 16" (40cm)" long coax cable assemblies.	
7	ZX00WT9NM	0	SMA Wrench Torque 5/16" (8mm) 9 NM (8lb-in)	

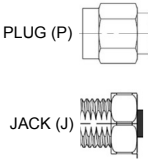
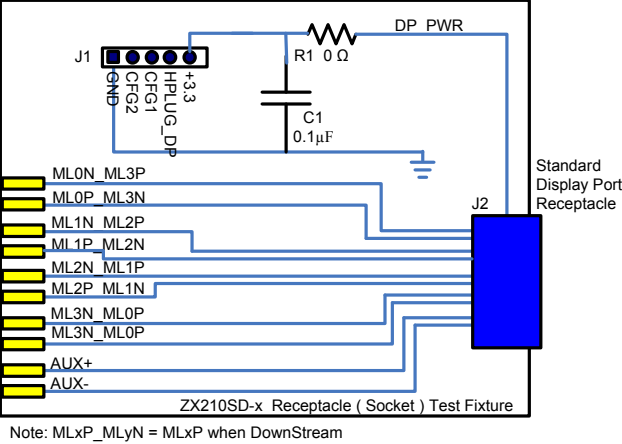
Notes: 1- Supplied extension wire assembly enabling to interface with 3rd party modules.



S-Parameter, Insertion loss:
See Page 2



Circuit Diagram



Ordering INFO:
Part Number
ZX210SD-X options
J : SMA Jack (Standard)
P : SMA Plug connector

Note
ALL ZEBAX products are RoHS compliant and Lead Free unless otherwise indicated.

ZEBAX TECHNOLOGIES
SANTA CRUZ, CA U.S.A (831) 222-0717
WWW.ZEBAX.COM

SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT
ASSEMBLY DRAWING
ITEM: ZX210SD-x

DESCRIPTION: Display Port DP 1.4 HBR3 1.2b CTS Test Fixture TPA-R TDR Standard receptacle

CHECKED: M. MARINA
DRAWN: SLAVIK
REVISION: 1.0
SHEET: 1 OF 2

Notice

ALL ZEBAX TECHNOLOGIES DESIGN SPECIFICATIONS, DRAWINGS, PUBLICATIONS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." ZEBAX MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NO INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, Zebax Technologies assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. Specifications mentioned in this publication are subject to change without notice. This publication replaces all other information previously supplied. Zebax Technologies products are not authorized as in life support devices or systems.

Product Name: ZX210SD-x Display Port, DP 1.4 HBR3 , CTS 1.2b Test Fixture TPA-R TDR receptacle, Cont's

Test Record: Test record for the ZX210SD-J TPA-P TDR Display Port Test Fixture

ZXTR-ZX210SD-J

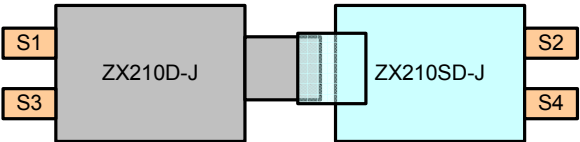
Insertion loss: Very low insertion loss typical -4.5dB at 8.1GHz

Insertion loss table

Frequency	Insertion Loss (dB)		
	Min	Typical	Max.
1.62GHz	-0.90	-0.95	-1.03
2.7GHz	-1.20	-1.30	-1.68
5.4GHz	-3.20	-4.00	-4.20
8.1GHz	3.25	-4.50	-4.95

S-Parameter files: The S-Parameter was obtained using mated ZX210D-J and ZX210SD-J Display Port Test Fixture as shown above. Please download the S-Parameter files, .s4p files for all the 5 differential lanes :

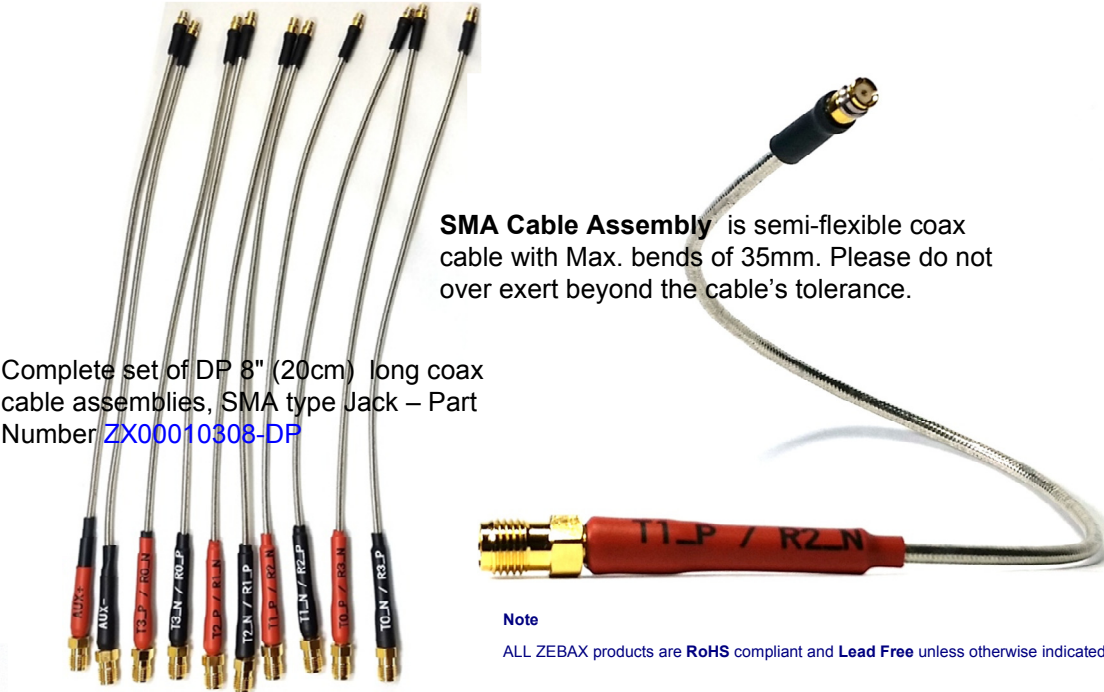
ZX210D-ZX210SD-s-parameter



Test network : ZX210D (Plug) & ZX210SD (Receptacle) via the supplied SMA cable assembly
S12 : ML0+ / ML1+ / ML2+ / and ML3+
S34: ML0- / ML1- / ML2- / and ML3-

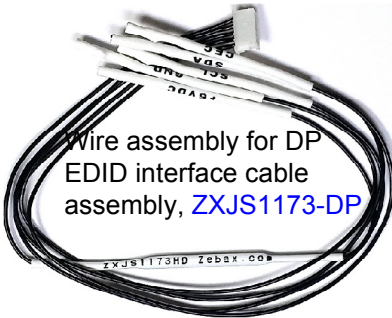
Display Port Connector type (Plug)				Display Port Connector type(mini Plug - mDP)					
Pin	Labeled Coax	Connector Front		Connector Standard (Plug)	Pin	Labeled Coax	Connector		Connector type (mini Plug - mDP)
		Top	Bottom				Top	Bottom	
1	T3_N / R0_P	1		ML3N_ML0P	1		1		GND
2			2	GND	2	J1.2 HPD		2	HPD
3	T3_P / R0_N	3		ML3P_ML0N	3	T0_P / R3_N	3		ML0P_ML3N
4	T2_N / R1_P		4	ML2N_ML1P	4	J1.3 CFG1		4	CONFIG1
5		5		GND	5	T0_N / R3_P	5		ML0N_ML3P
6	T2_P / R1_N		6	ML2P_ML1N	6	J1.4 CFG2		6	CONFIG2
7	T1_N / R2_P	7		ML1N_ML2P	7		7		GND
8			8	GND	8			8	GND
9	T1_P / R2_N	9		ML1P_ML2N	9	T1_P / R2_N	9		ML1P_ML2N
10	T0_N / R3_P		10	ML0N_ML3P	10	T3_P / R0_N		10	ML3P_ML0N
11		11		GND	11	T1_N / R2_P	11		ML1N_ML2P
12	T0_P / R3_N		12	ML0P_ML3N	12	T3_N / R0_P		12	ML3N_ML0P
13	J1.3 CFG1	13		CONFIG1	13		13		GND
14	J1.4 CFG2		14	CONFIG2	14			14	GND
15	AUX+	15		AUX+	15	T2_P / T1_N	15		ML2P_ML1N
16			16	GND	16	AUX+		16	AUX+
17	AUX-	17		AUX-	17	T2_N / T1_P	17		ML2-_ML1+
18	J1.2 HPD		18	HPD	18	AUX-		18	AUX-
19		19		GND	19		19		GND
20	J1.1 VS		20	DP_PWR (3.3V)	20	J1.1 VS		20	DP_PWR
MLxN / MLyP: MLxN when Upstream(UFP)				MLxN / MLyP: MLxN when Upstream(UFP)					
MLyP when Downstream(DFP)				MLyP when Downstream(DFP)					
ZX210D, ZX210mD are UFP, Upstream Facing Port				ZX210D, ZX210mD are UFP, Upstream Facing Port					
ZX210SD, ZX210SmD are DFP, DownStream Facing Port.				ZX210SD, ZX210SmD are DFP, DownStream Facing Port.					
HPD: Hot Plug Detect				HPD: Hot Plug Detect					

J1	
Pin	Function
1	DP_PWR (3.3V)
2	HPD
3	CFG1
4	CFG2
5	GND



SMA Cable Assembly is semi-flexible coax cable with Max. bends of 35mm. Please do not over exert beyond the cable's tolerance.

Complete set of DP 8" (20cm) long coax cable assemblies, SMA type Jack – Part Number ZX00010308-DP



Wire assembly for DP EDID interface cable assembly, ZXJS1173-DP

Notice

ALL ZEBAX TECHNOLOGIES DESIGN SPECIFICATIONS, DRAWINGS, PUBLICATIONS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." ZEBAX MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NO INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, Zebax Technologies assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. Specifications mentioned in this publication are subject to change without notice. This publication replaces all other information previously supplied. Zebax Technologies products are not authorized as in life support devices or systems.

ZEBAX TECHNOLOGIES		
SANTA CRUZ, CA U.S.A (831) 2 2 2 – 0717		
WWW.ZEBAX.COM		
SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING	
	ITEM: ZX210SD-x	
DESCRIPTION: Display Port DP 1.4 HBR3 1.2b CTS Test Fixture TPA-R TDR Standard receptacle		
CHECKED: M. MARINA	DRAWN: SLAVIK	REVISSION: 1.0
		SHEET: 2 OF 2