

Product Name: ZX200SCPC-21 HDMI type C (mini) receptacle 1.4a 2.0 2.1 TPA-R TDR electrical breakout adapter

Product Description:

HDMI TPA-R TDR electrical test and measurement breakout adapter supporting Type C (mini) HDMI receptacle connector. All 19 connector signals are accessible via SMA connector where each signal is provided with SMD 0402 footprint, enabling external load, ESD diode, scope probe or other application. Available GND test points interfacing to internal GND planes as well as top/bottom GND fills. The HDMI electrical breakout adapter is designed for application requiring HDMI Type C (mini) receptacle connector interface for purpose of test and measurement. **ZX200SCPC-21** HDMI breakout adapter covers 4K 1080p 720p 520p 480p at 50Hz 60Hz 100Hz and 120Hz operating at 2.97GHz (1.4a compliance) **5.94GHz (2.0 compliance)** bandwidth. ZX200SCPC-21 HDMI electrical breakout adapter is designed for 16GHz bandwidth meeting requirement of extended video format 4K 60Hz 100Hz 120Hz and upcoming HDMI 2.1 specification supporting 8K signal bandwidth.

- Insertion loss: 6GHz : $\leq -3\text{dB}$ 8GHz : $\leq -4\text{dB}$
- Multi-layer PCB design
- Designed for 16GHz bandwidth.
- Access to All 19 HDMI signals.
- Onboard SMD 0402 footprint, enabling apply of Load, ESD diode, scope probe or more.
- Access to internal GND planes as well as TOP/Bottom GND fills via GND Test Points
- Supports upcoming HDMI 2.1 specification supporting 8K signal bandwidth

**S-Parameter, Insertion loss:
See Page 2**

ZX200SCPC-21 is offered supporting HDMI Type C (mini) receptacle connector.

ZX200SCPC-21 is offered with SMA cable assemblies interfacing directly to scope probe or test equipment.

- For proper signal measurements, please connect GND test point to system GND. The GND test points are connected to internal GND planes as well as TOP/Bottom GND fills.
- The HDMI connector's case may be connected to the module's GND planes by installing 0 Ω in R1, R2 locations. As default the connector's case is not connected to the module's GND planes.

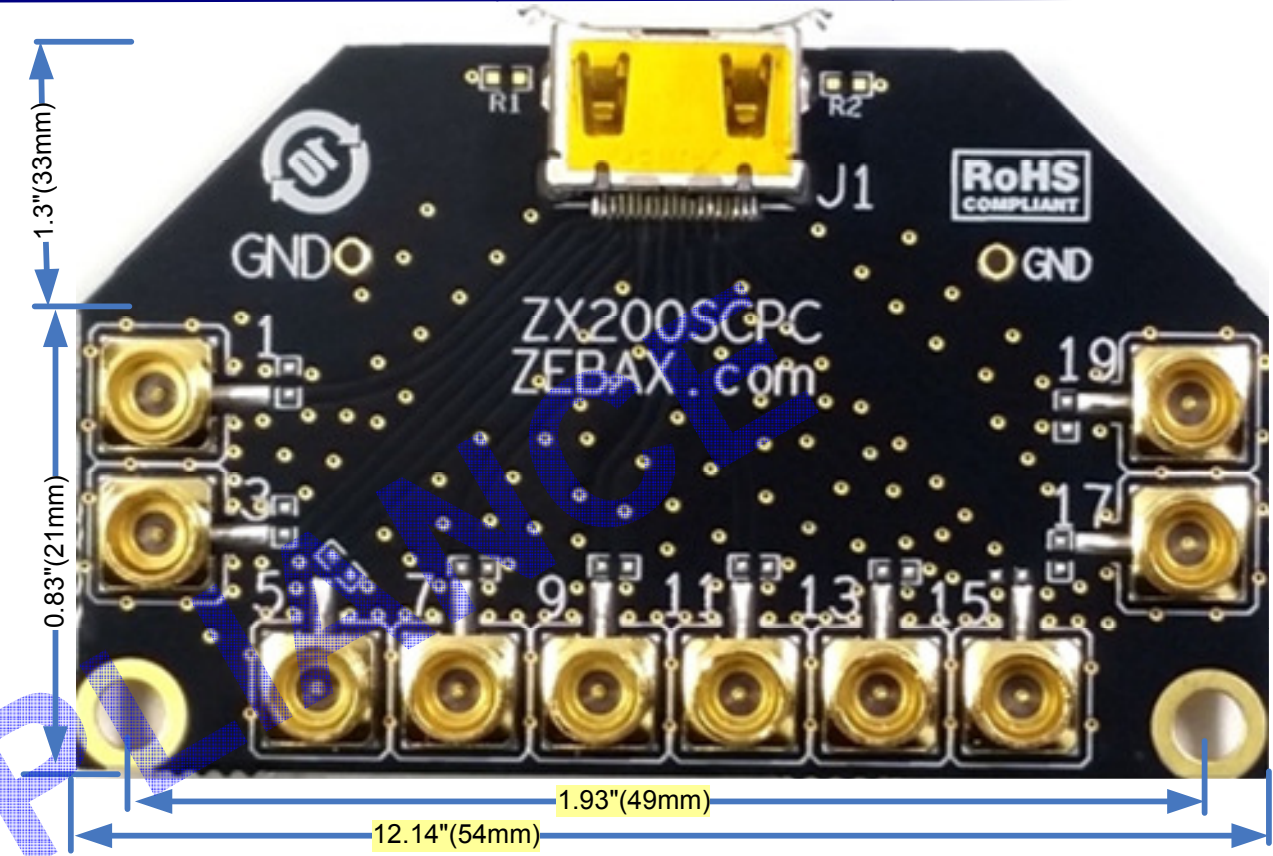
Zebax offer ZX202HD (EDID emulator) and ZX200L508-HD (HDMI Termination board) for application requiring EDID emulator or termination load module.

Application: Full HDMI 1.4a 2.0 2.1 electrical test and measurement.

Supported resolutions: Full HDMI 1.4a 2.0 is supported, including:
8K and 4K at 60Hz 100Hz 120Hz operating at 5.94GHz to 10GHz.
Supports upcoming HDMI 2.1 8K resolution 10GHz bandwidth.

Mates with : HDMI type C (mini) Plug connector.
SMA connectors mates with standard SMA connector

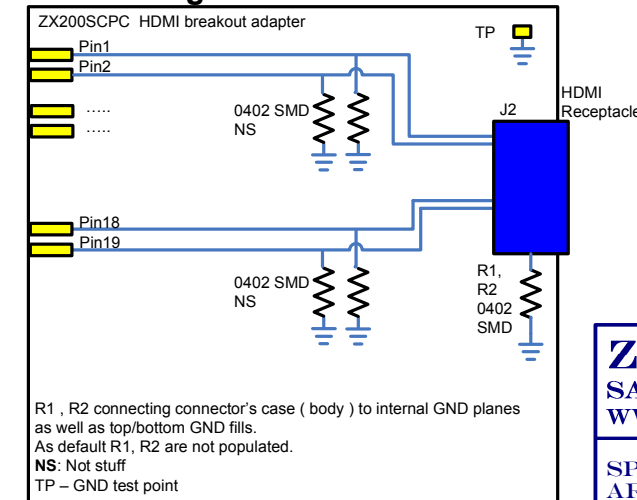
Access : ZX200SCPC offers 0402 SMD footprints for all 19 HDMI connector signals. The reserved footprints are designed for signal test and measurements via scope probe, enabling Load, ESD diode, or other component / test signal.



Package includes:

Item	Part number	Quantity	Description
1	ZX200SCPC-21	1	HDMI type C (mini) receptacle TPA-R electrical breakout adapter
2	ZX00010308-R or ZX00020308-R	1	Complete set of HDMI 8" (20cm) long coax cable assemblies, SMA Jack. or SMA Plug – Please see ordering information.
3	ZX200L508-HD	0	USB based HDMI Termination board
4	ZX202HD	0	HDMI EDID emulation module
5	ZX00WT-09NM	0	SMA Wrench Torque 5/16" (8mm)

Circuit Diagram



Ordering INFO:
Part Number ZX200SCPC-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) 2 2 2 – 0717
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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING ITEM: ZX200SCPC-21
DESCRIPTION: HDMI type C (mini) receptacle 1.4a 2.0 2.1 TPA-P-TDR electrical breakout adapter 16GHz	
CHECKED: M. MARINA	DRAWN: SLAVIK
REVISION: 1.0 SHEET: 1 OF 2	

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Product Name: ZX200SCPC-21 HDMI type C (mini) 1.4a 2.0 2.1 TPA-R TDR electrical breakout adapter , Cont's

Test procedure: ZXAN-HDMI-2.1-Test-Procedure application note provides HDMI electrical test procedure.

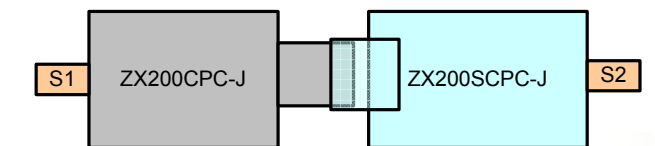
Test Record: Below are links to the existing test record for the ZX200SCPC-20 TPA-R TDR HDMI electrical breakout adapter.

[ZXTR-ZX200CPC-SCPC](#)

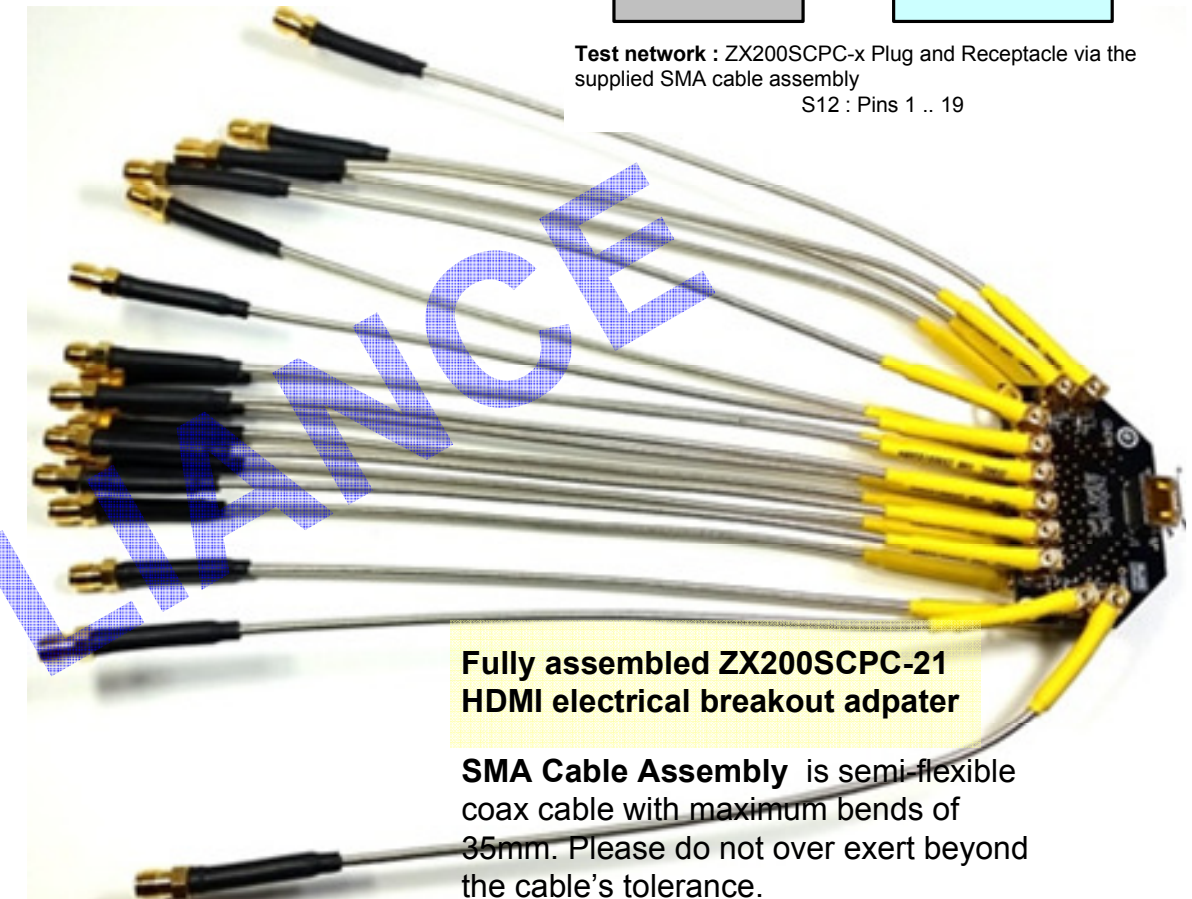
Insertion loss: ZX200SCPC-21 with low insertion loss measuring $\leq -3\text{dB}$ at 6GHz $\leq -4\text{dB}$ at 8GHz

S-Parameter files: The S-Parameter was obtained using mated ZX200CPC-21 and ZX200SCPC-21 HDMI electrical breakout adapters. Please download the S-Parameter files, .s2p files for ALL 19 signals networks from here :

[ZX200CPC-SCPC-21-S-Parameter](#)



Test network : ZX200SCPC-x Plug and Receptacle via the supplied SMA cable assembly
S12 : Pins 1 .. 19



Fully assembled ZX200SCPC-21 HDMI electrical breakout adapter

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

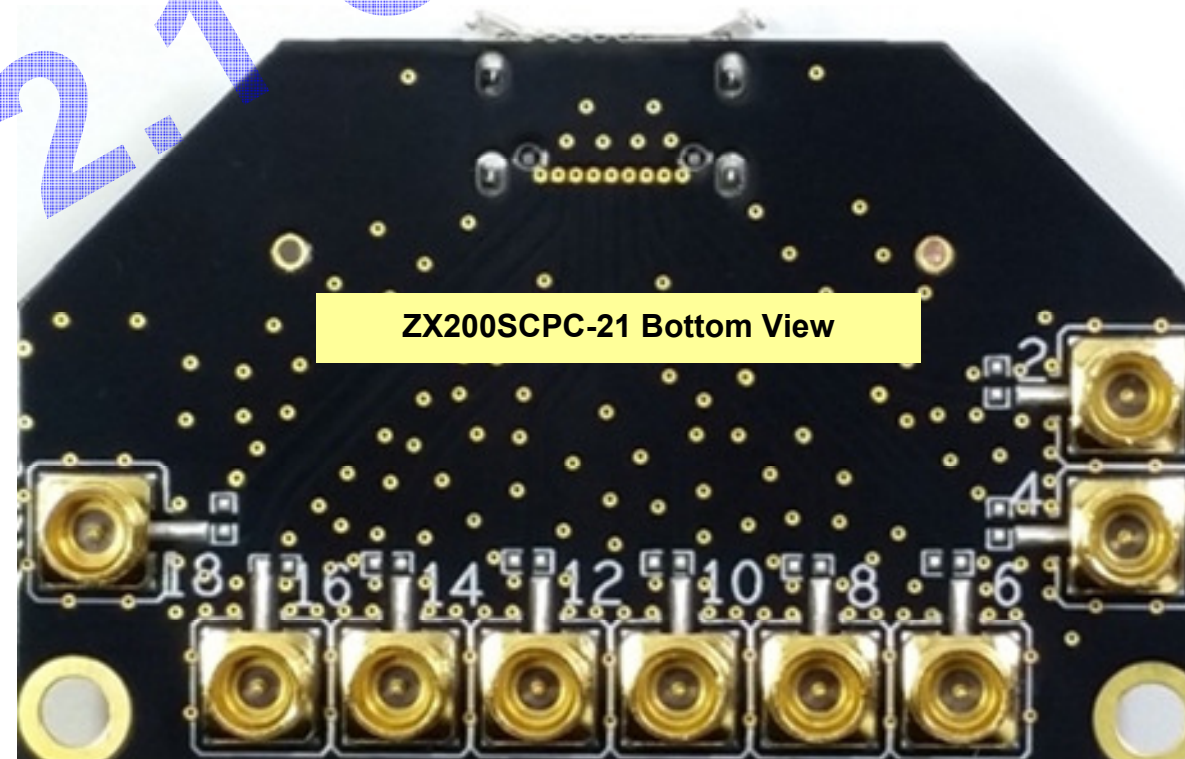
Pinouts: HDMI Plug signal assignments listed below

Pin	HDMI Connector type		
	Type A	Type C (mini)	Type D (micro)
1	TXD2P	GND	HOTPLUG/ HEAC-
2	GND	TXD2P	RSV / HEAC+
3	TXD2N	TXD2N	TXD2P
4	TXD1P	GND	GND
5	GND	TXD1P	TXD2N
6	TXD1N	TXD1N	TXD1P
7	TXD0P	GND	GND
8	GND	TXD0P	TXD1N
9	TXD0N	TXD0N	TXD0P
10	TXCP	GND	GND
11	GND	TXCP	TXD0N
12	TXCN	TXCN	TXCP
13	CEC	GND	GND
14	RSV / HEAC+	CEC	TXCN
15	DDC_SCL	DDC_SCL	CEC
16	DDC_SDA	DDC_SDA	GND
17	GND	RSV / HEAC+	DDC_SCL
18	+5V	+5V	DDC_SDA
19	HOTPLUG/ HEAC-	HOTPLUG / HEAC-	+5V

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ZX200SCPC-21 Bottom View

Note

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