

Product Name: ZX200CP-21 HDMI 1.4a 2.0 2.1 type C (mini) TPA-P TDR electrical breakout adapter

Product Description:

HDMI TPA-P TDR electrical test and measurement breakout adapter supporting Type C (mini) HDMI Plug connector. All 19 connector signals are accessible via SMA connector. 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) Plug connector interface for purpose of test and measurement. **ZX200CP-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. ZX200CP-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 : ≤ -3dB 8GHz : ≤ -4dB
- Multi-layer PCB design
- Designed for 16GHz bandwidth.
- Access to All 19 HDMI signals.
- 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

ZX200CP-21 is offered supporting HDMI Type C Plug connector.

ZX200CP-21 is offered with built-in 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.

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

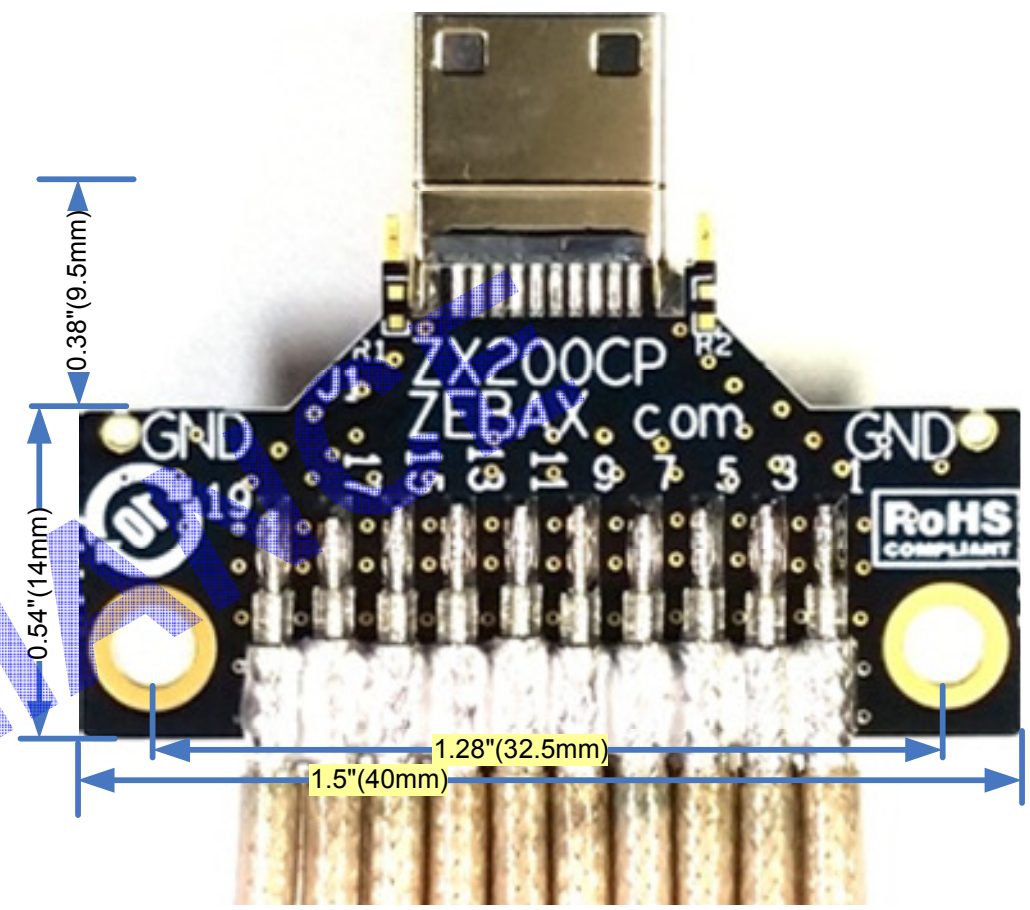
Application: Full HDMI 1.4a 2.0 2.1 electrical test and measurement.

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 Socket (receptacle) connector.
SMA connectors mates with standard SMA connector



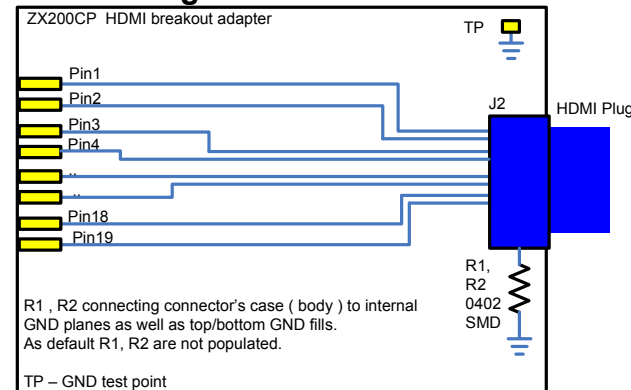
S-Parameter, Insertion loss:
See Page 2



Package includes:

Item	Part number	Quantity	Description
1	ZX200CP-21	1	HDMI type C (mini) receptacle TPA-P electrical breakout adapter
2	ZX200L508-HD	0	USB based HDMI Termination board
3	ZX202HD	0	HDMI EDID emulation module
4	ZX00WT-09NM	0	SMA Wrench Torque 5/16" (8mm)

Circuit Diagram



Ordering INFO:
Part Number
ZX200CP

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

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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING ITEM: ZX200CP-21
DESCRIPTION: HDMI type C (mini) plug 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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Test procedure: [ZXAN-HDMI-2.1-Test-Procedure](#) application note provides HDMI electrical test procedure.

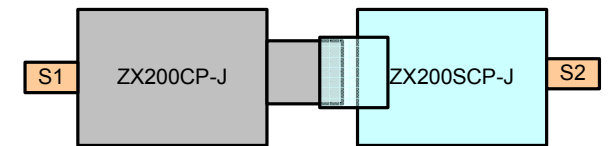
Test Record: Below are links to the existing test record for the ZX200CP-20 TPA-P TDR HDMI electrical breakout adapter.

[ZXTR-ZX200CP-SCP](#)

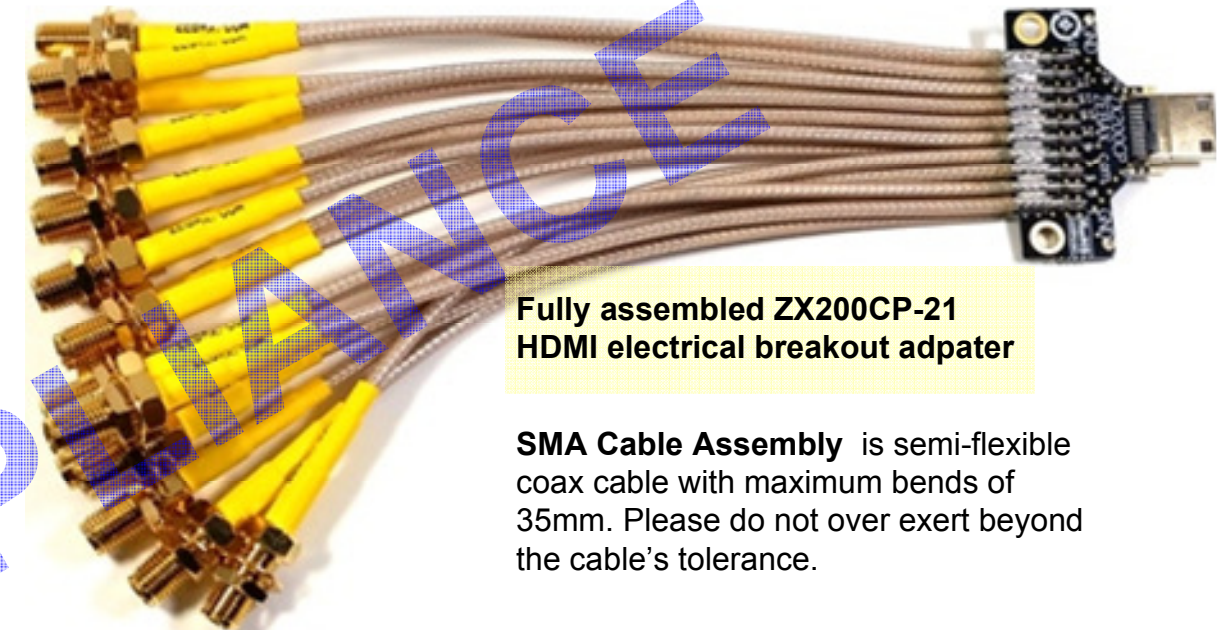
Insertion loss: ZX200CP-21 with low insertion loss measuring $\leq -3\text{dB}$ at 6GHz $\leq -4\text{dB}$ at 8GHz

S-Parameter files: The S-Parameter was obtained using mated ZX200CP-21 and ZX200SCP-21 HDMI electrical breakout adapters. Please download the S-Parameter files, .s2p files for ALL 19 signals networks from here :

[ZX200CP-SCP-21-S-Parameter](#)



Test network : ZX200CP-x Plug and Receptacle via the supplied SMA cable assembly
S12 : Pins 1 .. 19



Fully assembled ZX200CP-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.

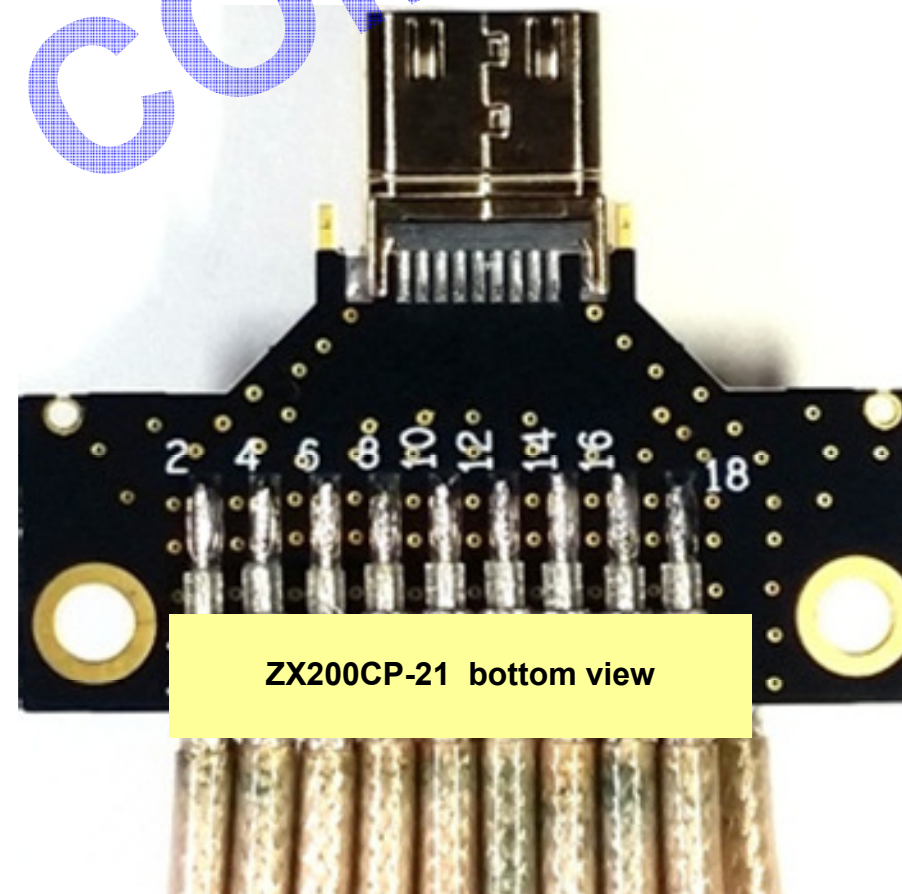
Pinouts: HDMI Plug signal assignments listed below

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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ZX200CP-21 bottom view

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