Product Name: **ZX200CPC-21** HDMI type C (mini) plug 1.4a 2.0 2.1 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 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) Plug connector interface for purpose of test and measurement. **ZX200CPC-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. ZX200CPC-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 : $\leq$ -3dB   8GHz : $\leq$ -4dB
- 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

ZX200CPC-21 is offered supporting HDMI Type C Plug connector.

ZX200CPC-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.
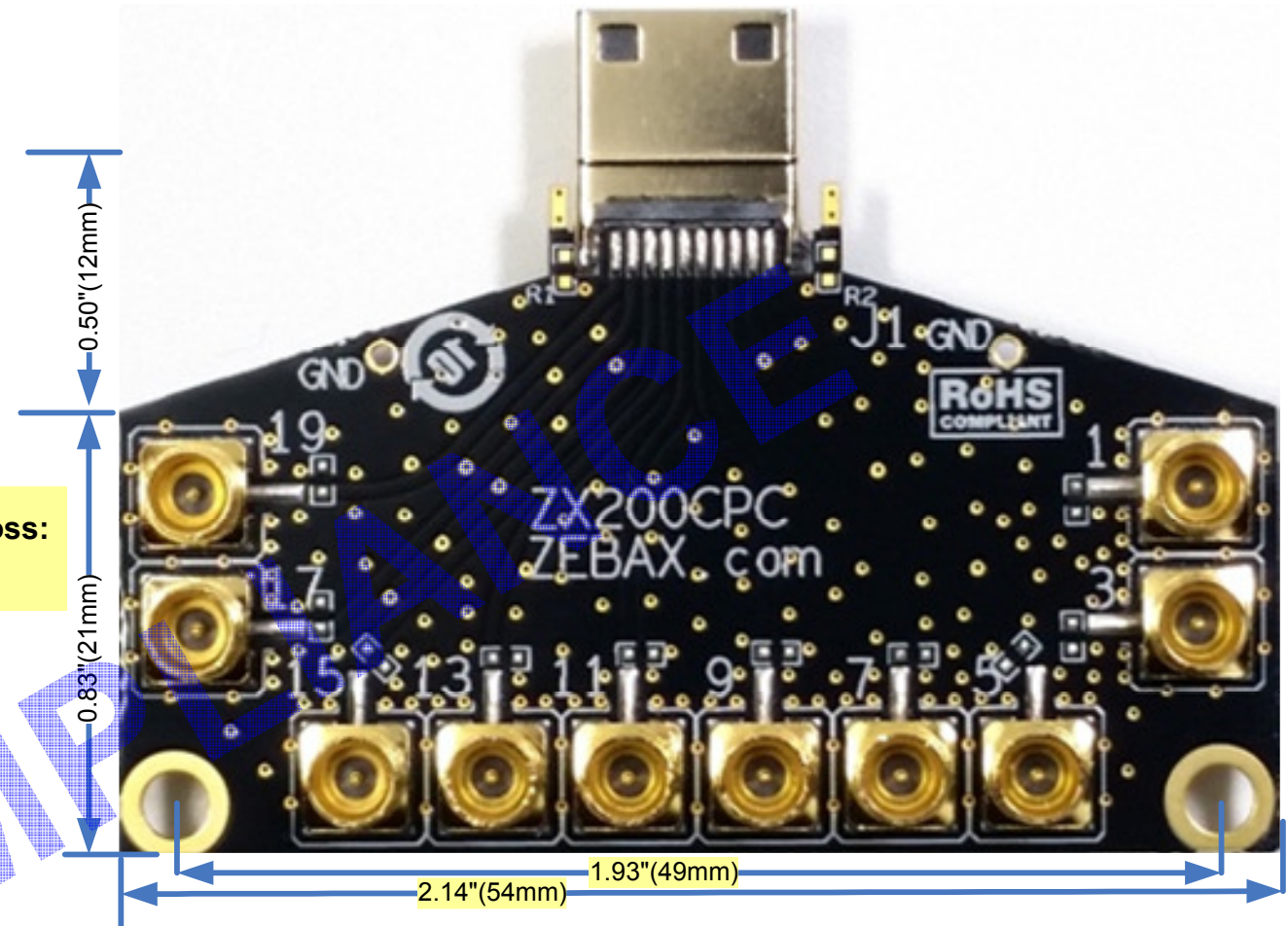
Zebax offer ZX202HD (EDID emulator) and ZX200L508-HD (HDMI Termination board) for application requiring EDID emulator or termination load module.

Application: Full HDMI **1.4a 2.0 2.1** electrical test and measurement. signal analysis, load / external device component testing.

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) receptacle connector.**
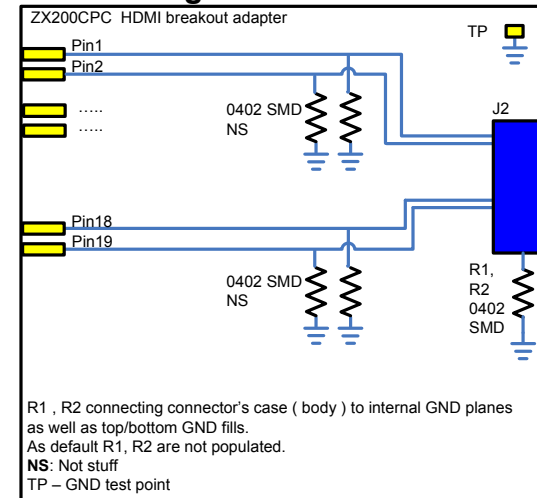SMA connectors mates with standard SMA connector

Access : ZX200CPC 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.
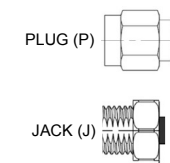

S-Parameter, Insertion loss:
See Page 2

0.50"(12mm)
0.83"(21mm)
1.93"(49mm)
2.14"(54mm)

Package includes:

Item	Part number	Quantity	Description
1	ZX200CPC-21	1	HDMI type C (mini) plug TPA-P electrical breakout adapter
2	ZX00010308-HD	1	Complete set of HDMI 8" (20cm) long coax cable assemblies, SMA Jack.
or	ZX00020308-HD	1	or SMA Plug – Please see ordering information.
3	ZX200L508-HD	0	USB based HDMI Termination board
4	ZX000x0316-HD	0	Complete 10 HDMI 16" (40cm)" long coax cable assemblies.
5	ZX202HD	0	HDMI EDID emulation module
6	ZX00WT-09NM	0	SMA Wrench Torque 5/16" (8mm)

Circuit Diagram

ZX200CPC HDMI breakout adapter
Pin1
Pin2
.....
.....
0402 SMD NS
TP
J2
HDMI Plug
Pin18
Pin19
0402 SMD NS
R1, R2 0402 SMD

R1 , R2 connecting connector's case (body) to internal GND planes as well as top/bottom GND fills.
As default R1, R2 are not populated.
NS: Not stuff
TP – GND test point

Ordering INFO:
Part Number
ZX200CPC-X   options

PLUG (P)
JACK (J)

J : SMA Jack (Standard)
P: SMA Plug connector

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

ZEBAX TECHNOLOGIES
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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT

ASSEMBLY DRAWING

ITEM: ZX200CPC-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	REVISSION: 1.0
		SHEET: 1 OF 2

Product Name: **ZX200CPC-21** HDMI type C (mini) plug 1.4a 2.0 2.1 TPA-P TDR electrical breakout adapter , Cont's

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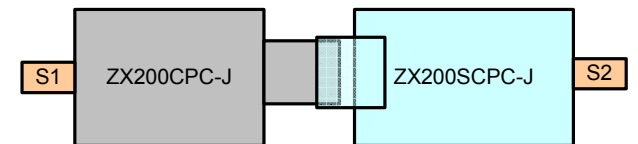provides HDMI electrical test procedure.

Test network : ZX200CPC-x Plug and Receptacle via the supplied SMA cable assembly
S12 : Pins 1 .. 19

Test Record: Below are links to the existing test record for the ZX200CPC-20 TPA-P TDR HDMI electrical breakout adapter.
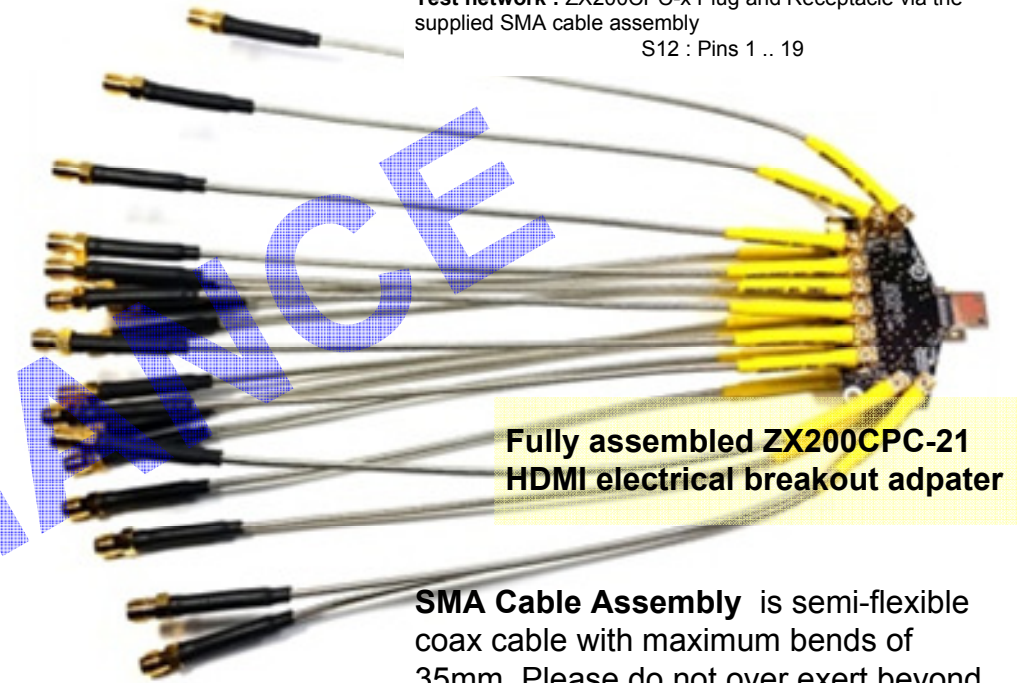
ZXTR-ZX200CPC-SCPC

Insertion loss: ZX200CPC-21 with low insertion loss measuring ≤ -3dB at 6GHz ≤ -4dB 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

Fully assembled ZX200CPC-21 HDMI electrical breakout adpater

SMA Cable Assembly is semi-flexible coax cable with maximum bends of 35mm. Please do not over exert beyond the cable's tolerance.
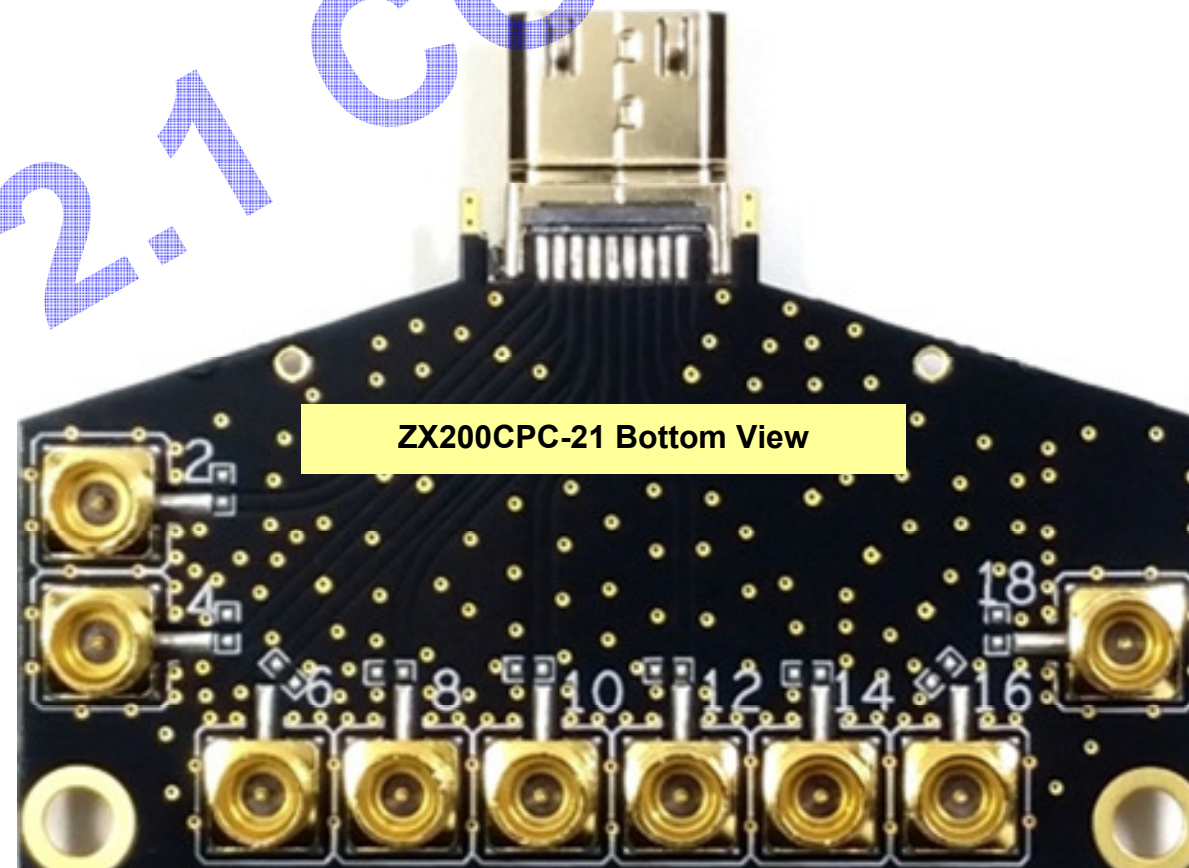
Pinouts: HDMI Plug signal assignments listed below

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

ZX200CPC-21 Bottom View

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ASSEMBLY DRAWING

ITEM: **ZX200CPC-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

REVISSION: 1.0

SHEET: 2 OF 2