Product Name: **ZX202HD** EDID EEPROM with HOTPLUG & CEC test points

Product Description: **E**xtended Display Identification Data, EDID, module supporting EDID standard published by VESA. **F**ull access to Consumer Electronics Control, CEC, as well as HOTPLUG Detection, HPD, signaling for full test coverage of electrical and protocol standard. **ZX202HD** holds **5** different EDID EEPROMs at <u>any time</u>. **E**ach EEPROM is enabled by placing the SHUNT on J9. Only one EEPROM may be selected at any time. **E**ach EDID EEPROM is tailored for different resolution and frame per seconds, fps.

ZX202HD is offered with onboard EDID EEPROMs supporting the following resolutions and fps. User may replace any of the EDID EEPROM as required:

4K 60Hz   4K 30Hz   1080p 120Hz   1080p 60Hz

Additional EDID configuration may be used for required resolution / protocol using Zebax Programmer, ZX202PR, or any general purpose EEPROM programmer.

Full HOTPLUG, HPD, test coverage using onboard resistive load or external sources (**function generator**) , emulating real time HPD droop and ripples. Ensure source HPD circuit design without compromise.

ZX202HD provides full access to CEC signaling , enabling internal or external test coverage for monitoring as well as inducing pre-defined protocol & test methodology mechanism.

Application: High Definition Multimedia Interface, HDMI, Display Port , DP Electrical HotPlug, CEC, VESA compliance

Operating frequency: DC to 1GHz signal bandwidth at the header landing pad

Mates with : **SMA connector** mates with standard SMA cable assembly , please see ordering information
Wire assembly mating with ZX200x or any other 0.025" (0.63mm) SQ pin socket mating with post header at length 0.23" (5.83mm)

Test procedure:

EDID - EDID selection is accomplished by enabling DDC-SDA (SDA) to the selected EEPROM (selected by placing SHUNT on J9 pins). Table below lists the EDID EEPROM labeling for the pre-programmed resolution & frame per second, fps.
To Select , place the SHUNT on J9.**U2-4K60fps** in order to select 4K at 60Hz display resolution.
Custom design EDID may be inserted into any of the U1 .. U6 sockets
No need to remove any of the EEPROM from its socket , the SDA signal routing is controlled by the SHUNT placed on J9.

| Mfr. ID	ZBX			
Product Code ID	0202			
Labels	64	63	16	76
Mode	4K 60Hz	4K 30Hz	1080p 60Hz	720p 60Hz
CLK (MHz)	594	297	148	74.25
Resolution	3840x2160	3840x2160	1920x1080	1280x720
Product Name	HDMI TPA 594	HDMI TPA 297M	HDMI TPA 148M	HDMI TPA 74M

HOTPLUG –
1- Connect J7 to HPD of HDMI test board (ZX200x)
2- Select HPD supply voltage, Default: J8 – Place shunt on 5V – HPD_VS.
3- Select resistive load , default 1.2KΩ – R6
3- Press and Hold **S1** for minimum of 1 seconds
4- Sink device should detect the HPD transition and initiate DDC acquisition.
Please note- user may apply External Power Supply at HPD_VS in order to test source HPD circuit detection.

CEC – 1- J3, J4, J5 Provide CEC routing configuration for monitoring as well as applying external CEC signaling.

Circuit Diagram

ZX202HD
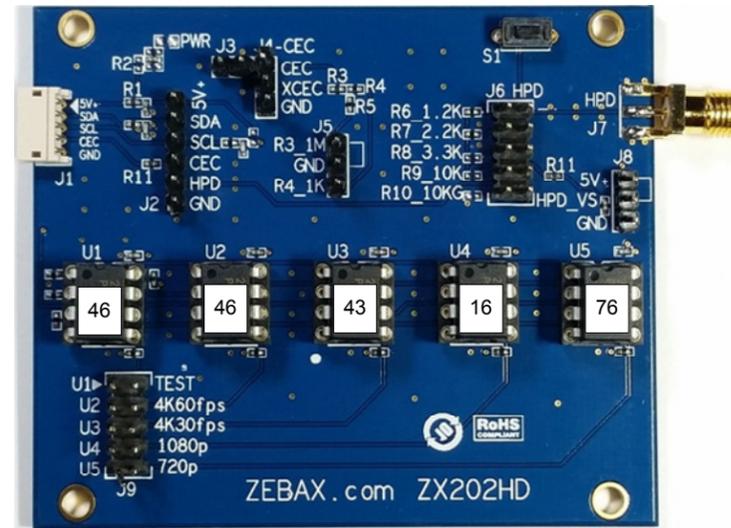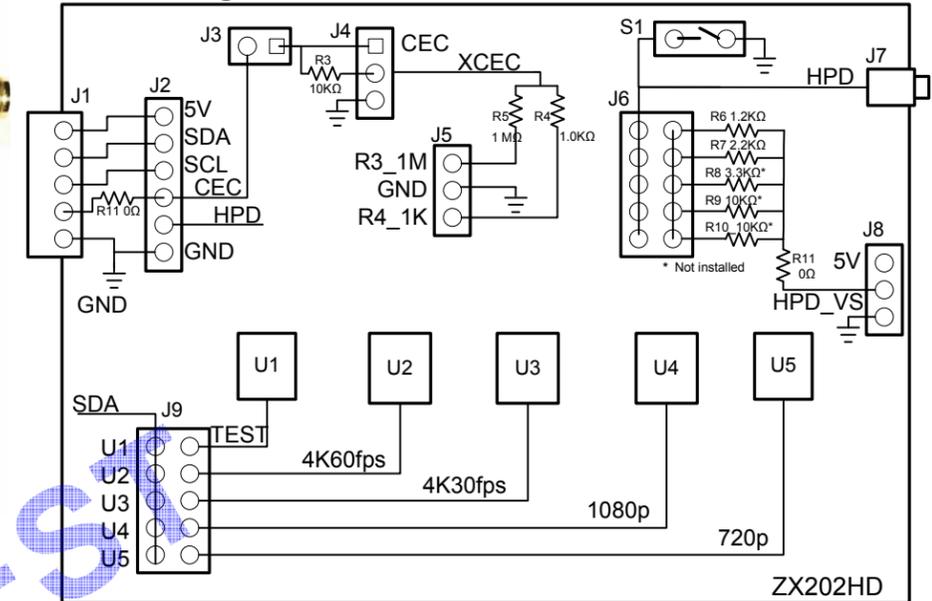
Note:
1- Shunt default settings:
   J8: 5V – HPD_VS
   J6: R6 1.2KΩ
   J3: 1-2
2- All onboard resistors and capacitors are 0402 SMD package
3- All Headers are 0.1" (2.54mm) pitch , through hole headers.
4- For purpose of simplification of the circuit diagram, all supply voltage decoupling capacitors, and line filters (DDC) are omitted.
   All EEPEOMs have 0.1uF decoupling capacitors.
   HPD_VS (J8.2) has 0.1μF to GND
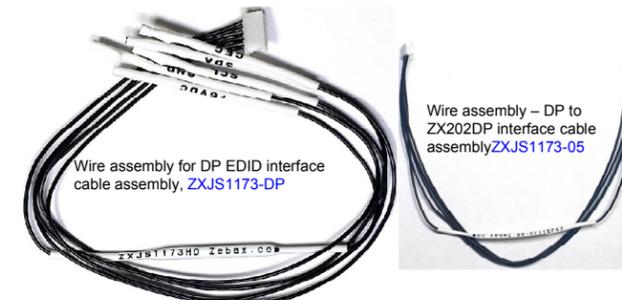   DDC_SDA, DDC_SCL (SDA, SCL) signals have line filter as below.
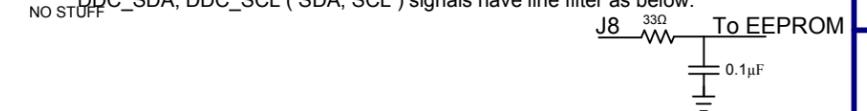
Ordering INFO:
Part Number
ZX202HD

12" long SMA cable assembly,
ZX00020212

Package includes:

Item	Part number	Quantity	Description
1	ZX202HD	1	EDID EEPROM with HOTPLUG & CEC test points
2	ZXJS1173-05	1	Wire assembly – HDMI to ZX202HD interface cable assemble
3	ZXJS1173-HD	1	Wire assembly for HDMI EDID interface cable assembly, Note 1
4	ZX00020212	1	SMA Plug to SMA Plug cable assemblt 12" long, Note 2
5	ZX00WT-09NM	0	SMA Wrench Torque 5/16" (8mm)
6	ZX202PR	0	EEPROM Programmer

Notes: 1- Supplied wire assembly enables to interface with 3rd party modules.
2 - Interfacing with HOTPLUG signal from test board.

Wire assembly – DP to ZX202DP interface cable assembly ZXJS1173-05

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

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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT | **ASSEMBLY DRAWING**

ITEM: **ZX202HD**

DESCRIPTION: **ZX202HD EDID EEPROM HOTPLUG with full CEC signaling access**

CHECKED: M. MARINA | DRAWN: SLAVIK | REVISSION: 1.0 | SHEET: 1 OF 1