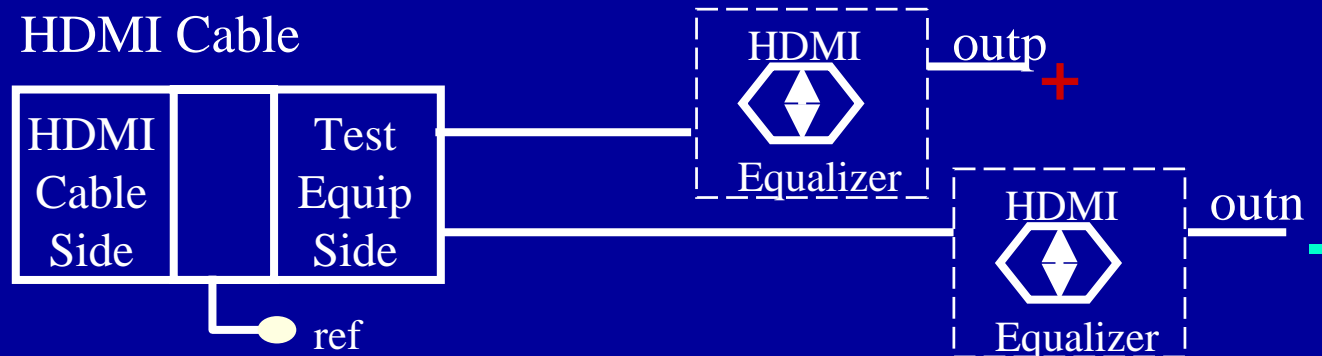
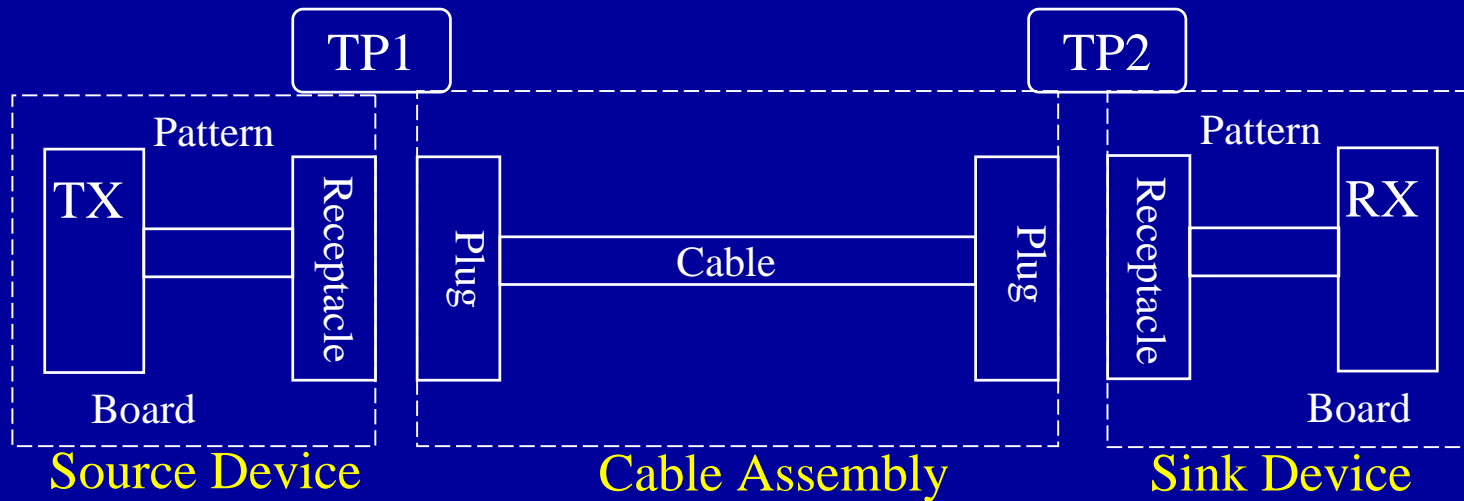


# HDMI Channel Simulation Schematic



# HDMI Channel Simulation Components

## ◆ Input Signal: PRBS

```
Voutp inp 0 PWL(  
+ 0.00000000e+000 -0.200000  
+ 5.88000000e-011 0.200000  
+ 2.76924102e-010 0.200000  
...
```

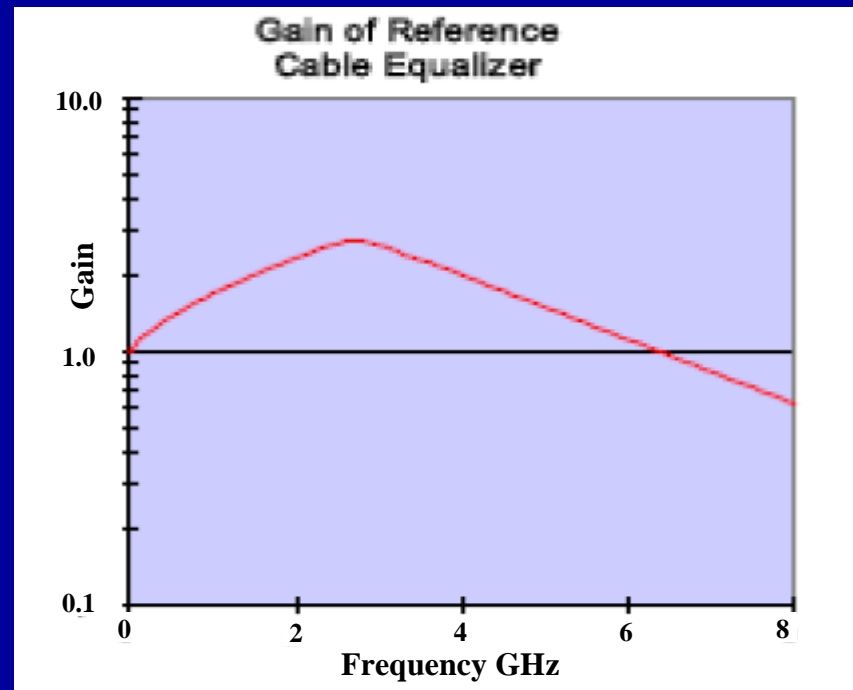
## ◆ HDMI Cable : 4-port transmission line Macro-model

```
.subckt skewcable3m_passive a_1 a_2 a_3 a_4  
VI_1 a_1 NI_1 0  
RI_1 NI_1 ref 5.0e+1  
GC_1_1 ref NI_1 NS_1 0 -1.68e+1  
...
```

# HDMI Channel Simulation Components

## ◆ HDMI 3.4 GHz Equalizer

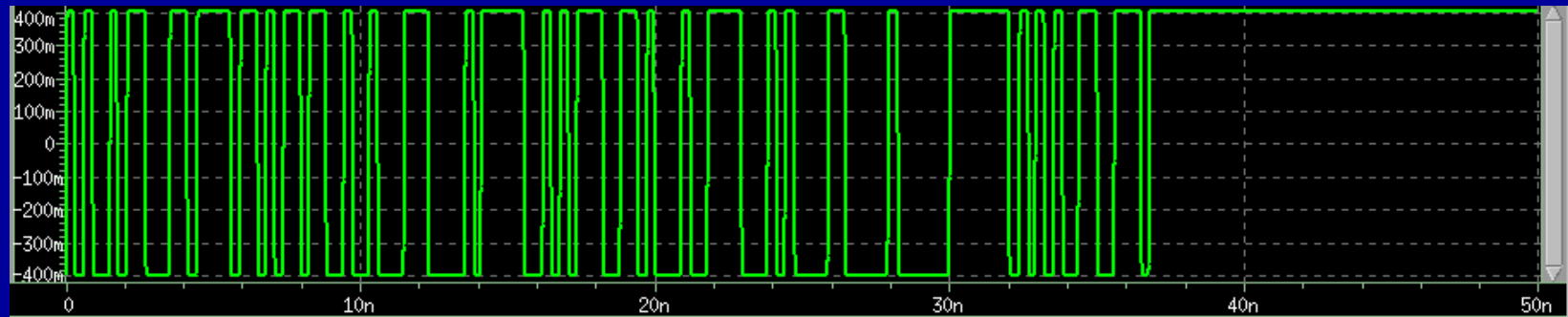
```
.subckt HDMI_EQ a_1 a_2  
VI_1 a_1 NI_1 0  
RI_1 NI_1 ref 5.0e+1  
GC_1_5 ref NI_1 NS_5 0 -5.31e-1  
...
```



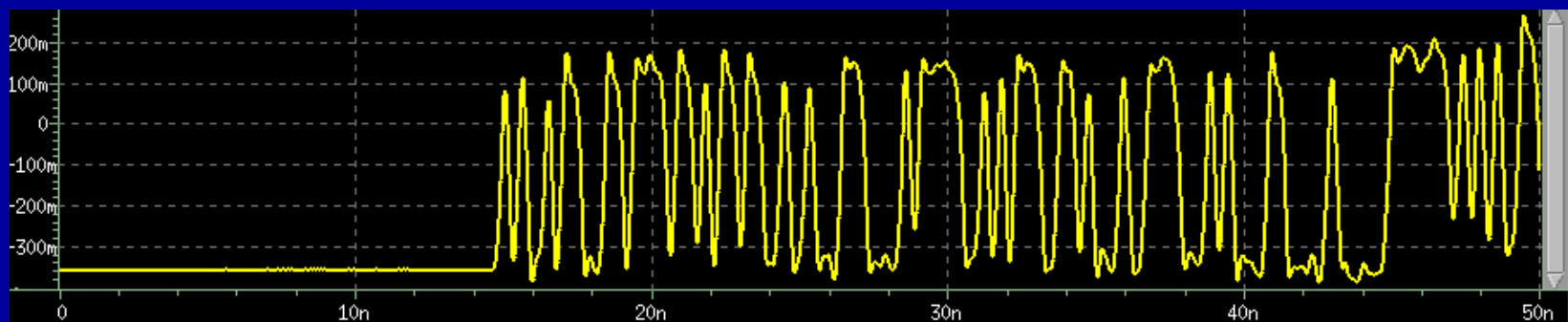
# HDMI Channel Simulation

## MSIM-PCB Simulation Results

### Input Signal



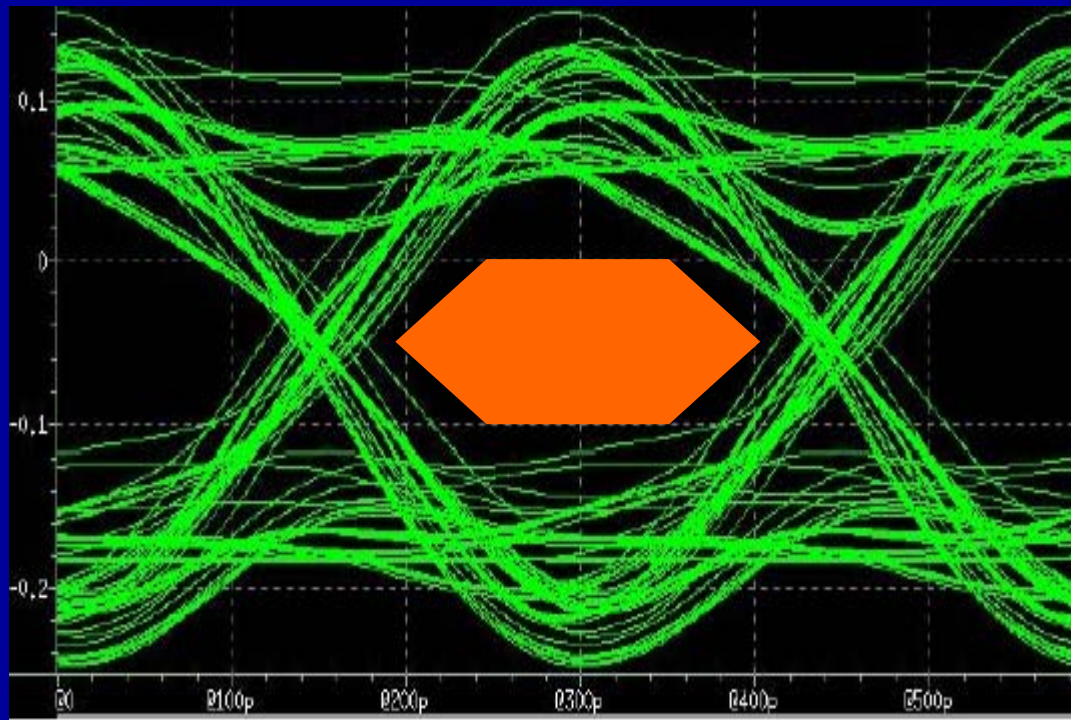
### Output Signal



# HDMI Channel Simulation

## Eye-Diagram

### Eye Diagram



**3.4 Gbps:**  
**Eye Width (UI):**  
588 p sec  
**Trigger Period:**  
1 UI

# MSIM<sup>®</sup> Certifications

- ◆ JEITA (Japan Electric and Information Technology Industries Association) has qualified MSIM-PCB for simulating IBIS models in PCB designs. Those results can be downloaded from JEITA web:

*<https://ec.jeita.or.jp/ibis/>*

- ◆ MSIM certified by TSMC's Spice Tool Qualification Program

*<http://www.legenddesign.com/BW/021009.shtml>*