



DP-100

DisplayPort Extension system

Customer :

Specification for

Model : DP-100

Revised : March 16, 2016
Original Release Date : February 11, 2016

OPHIT

Revision History

Version Number	Revision Date	Author	Description of Changes
0.1	February 11, 2016	H.S YANG	Initial Version
0.2	March 16, 2016	H.S YANG	Electrical Specification modified

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1. General Description

DP-100, This Displayport repeater complies with the VESA DisplayPort Standard Version 1.2, and supports a four lane Man Link interface signaling up to HBR2 rates at 5.4Gbps per lane.

- Supports DP v1.1a and DP v1.2 Signaling Including HBR2 Data Rates to 5.4Gbps
- DisplayPort Connector Input/Outputs : 20-pin female.
- Supports resolutions of up to 3840x2160@60Hz.
- DPCD signal compliant
- external power supply need for proper operation
- Dual mode is not support.
- Quick and easy to use.

2. General Specification

Parameter	Symbol
Input and Output Signal	DisplayPort Signal
DisplayPort Version	1.2a
Video Bandwidth	4 lanes, 21.6 Gbps(HBR2)
Module Size	53 x 16 x 52.4 mm (W×D×H)
Using electrical connector	20 pin DisplayPort(female)
Weight	80 g (0.17 lb)

3. Absolute Maximum Ratings

Parameter	Rating
Storage temperature	-20°C ~ +70°C
Operating temperature	0°C ~ +50°C
Power Supply(DC)	-0.3 ~ +3.3V
Relative Humidity	10 ~ 80 %
Lead solder temperature	260°C, 10 seconds

NOTICE

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

4. Electrical Specification

4.1 Electrical Specification

Parameter		Symbol	Min	Typ	Max	Units	Condition
P O W E R	Supply Voltage(DC)	V _{CC}	+4.5	+5.0	+5.5	V	
	Supply Current	I _{CC}		0.45	0.50	A	DPM2(Out) 4K 60Hz(MST) Length : 40M
	Power Dissipation	P _O		2.25	2.75	W	
M A I N L I N K	Peak-to-peak input differential voltage; RBR, HBR, HBR2	V _{ID}	0.30		1.40	V _{pp}	
	Data rate	d _R			5.4	Gbps	
	AC coupling capacitance (each input and each output line)	C _{AC}	75		200	nF	
	Differential output termination resistance	R _{tdiff}	80	100	120	Ω	
	Output termination voltage (AC coupled)	V _{Oterm}	0		2	V	
A U X C H A N N E L	Differential input voltage amplitude (DP mode only)	V _{ID}	300		1400	mV _{pp}	
	Data rate (before Manchester encoding)	d _{R(AUX)}	0.8	1	1.2	Mbps	
	Data rate Fast AUX (300ppm frequency tolerance)	d _{R(FAUX)}		720		Mbps	
H P D	Hot Plug Detect High level	V _{OH}	2.7		3.6	V	
	Hot Plug Detect Low level	V _{OL}	0		0.1	V	
	HPD logic shut off time	t _{T(HPD)}			400	ms	

4.2 Connector Pin Assignment

Receiver (IN, Female)

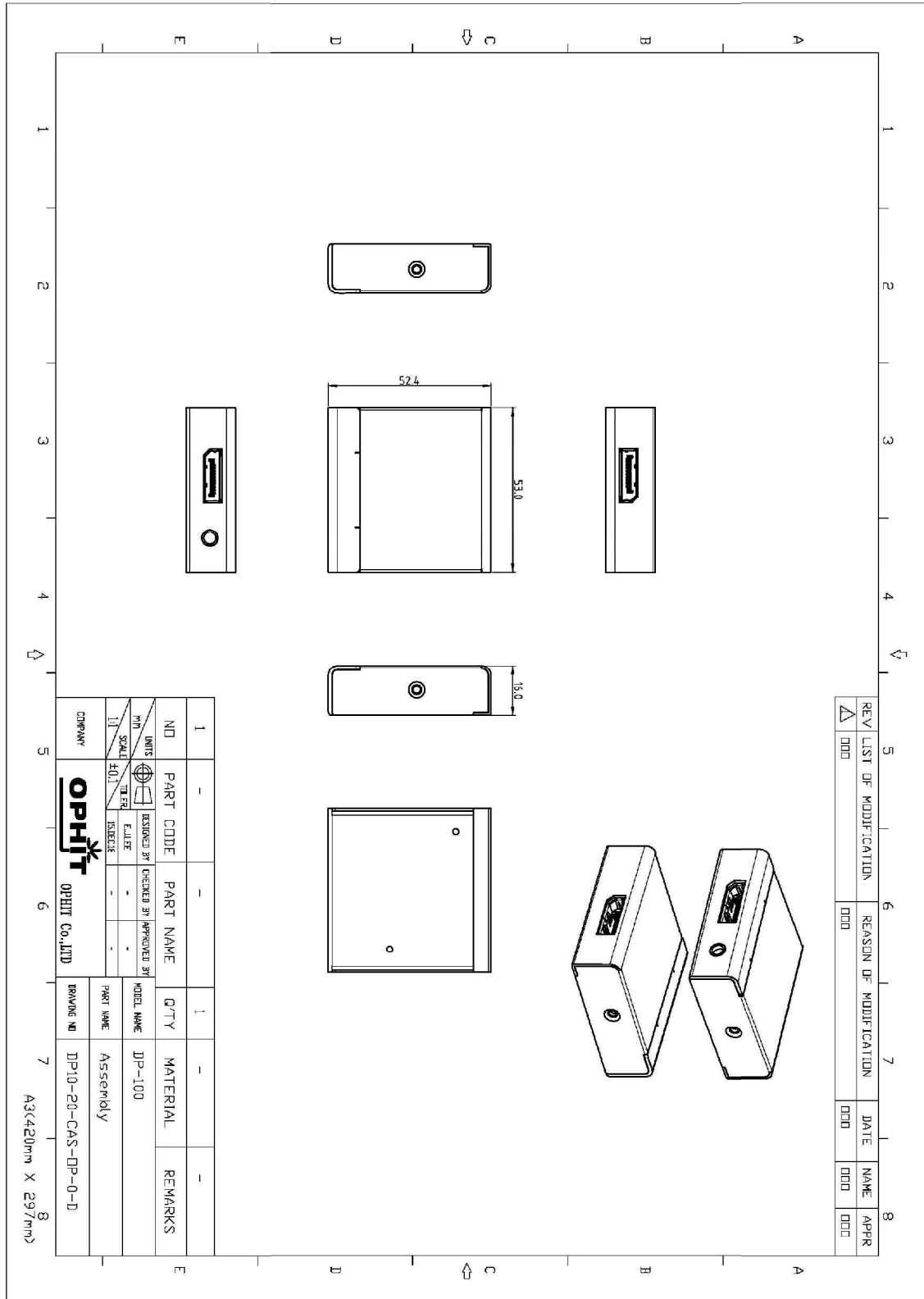
Pin	Signal Assignment	Pin	Signal Assignment
1	Main Link Lane 0 (Positive)	11	Ground
2	Ground	12	Main Link Lane 3 (Negative)
3	Main Link Lane 0 (Negative)	13	Config1 (Ground)
4	Main Link Lane 1 (Positive)	14	Config2 (Ground)
5	Ground	15	AUX Channel (Positive)
6	Main Link Lane 1 (Negative)	16	Ground
7	Main Link Lane 2 (Positive)	17	AUX Channel (Negative)
8	Ground	18	Hot Plug
9	Main Link Lane 2 (Negative)	19	Ground
10	Main Link Lane 3 (Positive)	20	Not used

Transmitter (OUT, Female)

Pin	Signal Assignment	Pin	Signal Assignment
1	Main Link Lane 0 (Positive)	11	Ground
2	Ground	12	Main Link Lane 3 (Negative)
3	Main Link Lane 0 (Negative)	13	Config1 (Ground)
4	Main Link Lane 1 (Positive)	14	Config2 (Ground)
5	Ground	15	AUX Channel (Positive)
6	Main Link Lane 1 (Negative)	16	Ground
7	Main Link Lane 2 (Positive)	17	AUX Channel (Negative)
8	Ground	18	Hot Plug
9	Main Link Lane 2 (Negative)	19	Ground
10	Main Link Lane 3 (Positive)	20	DP_PWR (+3.3V input)

5. Mechanical Specification

5.1 Case Dimension



6. ROHS

6.1 ROHS2 DOC



Declaration of RoHS Compliance

DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 27 .
January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Product Name : DP-100

Hereby we guarantee that we do not intentionally use the substances described below and based on third party chemical analysis the thresholds of the substances as indicated are not exceeded for our products.

Banned Substances by RoHS Directive 2011/65/EU, EN50581:2012

Substance	RoHS Limity by Weight	RoHS Limity by % (PPM)
Lead (PB)	1000mg/kg	0.1% (1000 PPM)
Mercury (Hg)	1000mg/kg	0.1% (1000 PPM)
Hexavalent Chromium (CR VI)	1000mg/kg	0.1% (1000 PPM)
Polybrominated Biphenyls (PBB)	1000mg/kg	0.1% (1000 PPM)
Polybrominated Diphenyl Ethers (PBDE)	1000mg/kg	0.1% (1000 PPM)
Cadmium (CD)	100mg/kg	0.01% (100 PPM)

Signature : Jong-kook, Moon *Jong-kook, Moon*

Title : CEO

OPHIT CO.,LTD.
3F, Suntechnovil, 5-27 Mangpo-Dong,
Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea

6.2 REACH DOC

**EUROPEAN UNION'S REACH REGULATION
DECLARATION CERTIFICATE**

The European REACH Regulation 1907/2006 on Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH), Annex XVII entered into Force in June 2009, and affects all companies producing, Importing, using, or placing Products on the European market. The aim of the REACH regulation is to ensure a high Level of protection of human health and the environment from chemical substances.

OPHIT Co., Ltd substances management system follow and complies with the current revision of the REACH Regulation on the substances as identified by ECHA (European Chemical Agency).

OPHIT Co., Ltd products are considered articles as defined in REACH Article 3(3). These products/articles under normal and reasonable conditions of use do not have intended release of substances. Therefore the requirement in REACH Article 7(1)(b) for registration of substances contained in these products/articles does not apply.

OPHIT Co., Ltd products/articles, do not contain **Substances of very High Concern** or if there **SVHC** in the product/article, the content is less than the 0.1% (wt/wt) as defined by REACH Article 57, Annex XIV, Directive 67/548/EEC. Therefore the requirement in REACH Article 7(2) to notify ECHA if a product/article contains more than 0.1% wt/wt of an SVHC and tonnage exceeding 1 tone per importer per year is not applicable.

OPHIT's European operations do not manufacture or import chemicals, therefore OPHIT Co., Ltd has no obligation to register substances.

-Model : DP-100



Jong-Kook, Moon
President

OPHIT Co., Ltd ACCEPTS NO DUTY TO NOTIFY USERS OF THIS OF DECLARATION OF UPDATES OR CHANGES TO THIS DECLARATION.

CONTACT INFORMATION

Name : Eui-Seok, Kang / OPHIT Co., Ltd
Title : Q.A Deputy Manager
Tel : +82-31-205-4191
E-mail : onlyqa@ophit.com