JPC connectivity

PRODUCT SPECIFICATION

TITLE	DOC No. RFD-20260105300-001	
1600G Active Loopback Module	REVISION：01	AUTHORIZED BY：Albert Lin
	DATE：2026.01.05	CLASSIFICATION：CONFIDENTIAL

1. PRODUCT FEATURES

- Hot-pluggable 1600G OSFP Active Loopback

- 3nm CMOS process DSP

- Compliant with OSFP MSA, close top

- VCC voltage ranges from 2.97V to 3.63V

- Operating case temperature 0°C to +85 °C

- Multi-color LED on the front

- The module power distributed to the 5 burners

- Custormized CMIS Rev 5.2

2. PRODUCT APPLICATIONS

- Switch aging and testing

- 8x200G, 8x100G ,8x50G active loopback
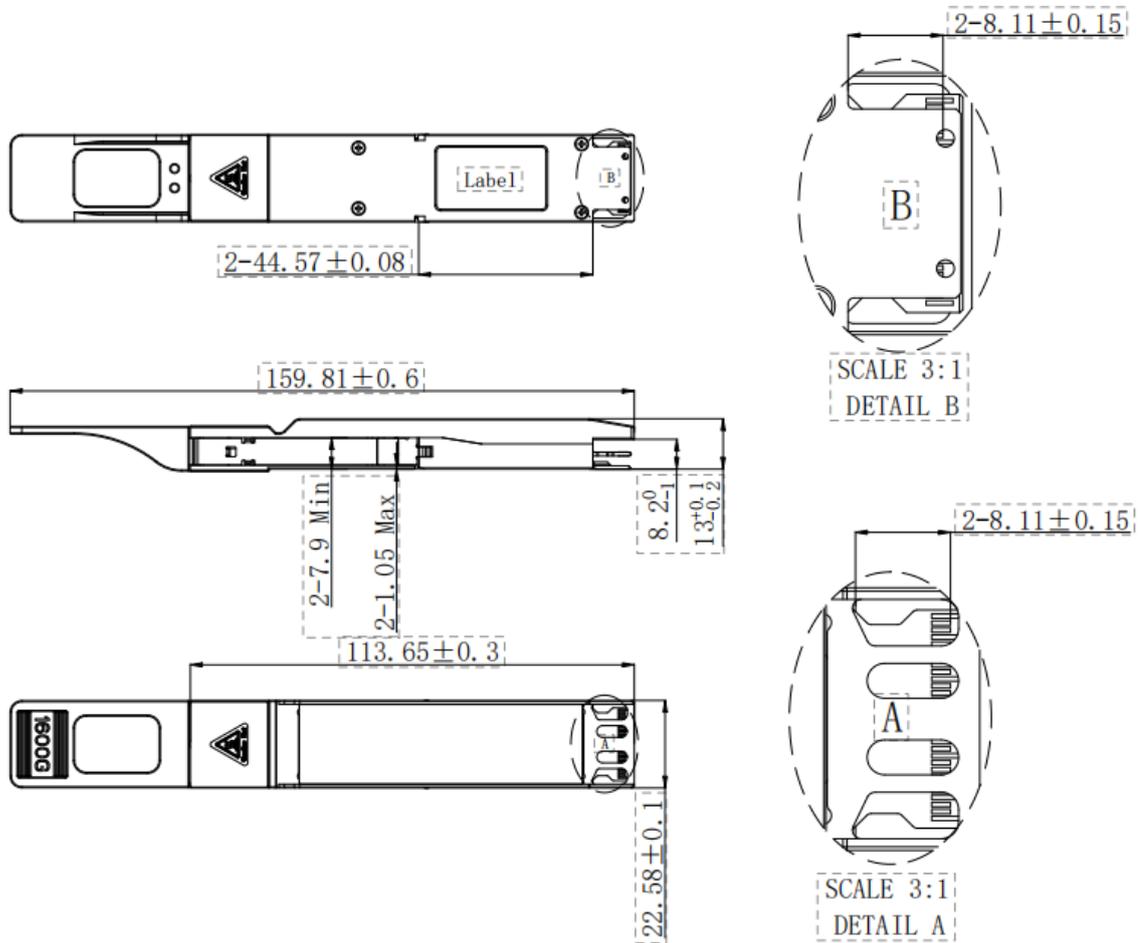
3. PRODUCT DESCRIPTION

3.1 PRODUCT NAME

1.6T Active Loopback Module

JPC P/N	Bit Rate	Distance	Connector	Tem.	DDMI	Fiber Type
P6930LTKSX00-1	1600G	n/a	n/a	0~85	n/a	n/a

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3.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKING

Unit is millimeter. All dimensions are ±0.1mm unless otherwise specified

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4. Absolute Maximum Ratings & Recommended Operating Conditions

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Supply Voltage	Vcc	-0.3	-	3.6	V	
Storage Temperature	T_s	0	-	+85	°C	
Operating Humidity	RH	5	-	+85	%	
Control Input Voltage	VI	-0.3	-	VCC+0.3	V	

Recommended Operating Conditions and Power Supply Requirements

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	T_C	0	-	85	°C	
Power Supply Voltage	Vcc	2.97	3.3	3.63	V	
Power Dissipation	P_{diss}	-	-	50	W	
Supply Current	Icc	1.5	-	16	A	

Digital Diagnostic Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Temperature monitor absolute error	DMI_Temp	-3	-	3	degC	
Supply voltage monitor absolute error	DMI _VCC	-10%	-	10%	V	

![JPC connectivity logo]

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5. Applications Note:

Top Side (viewed from top)

60	GND
59	TX1p
58	TX1n
57	GND
56	TX3p
55	TX3n
54	GND
53	TX5p
52	TX5n
51	GND
50	TX7p
49	TX7n
48	GND
47	SDA
46	VCC
45	VCC
44	INT/RSTn
43	GND
42	RX8n
41	RX8p
40	GND
39	RX6n
38	RX6p
37	GND
36	RX4n
35	RX4p
34	GND
33	RX2n
32	RX2p
31	GND
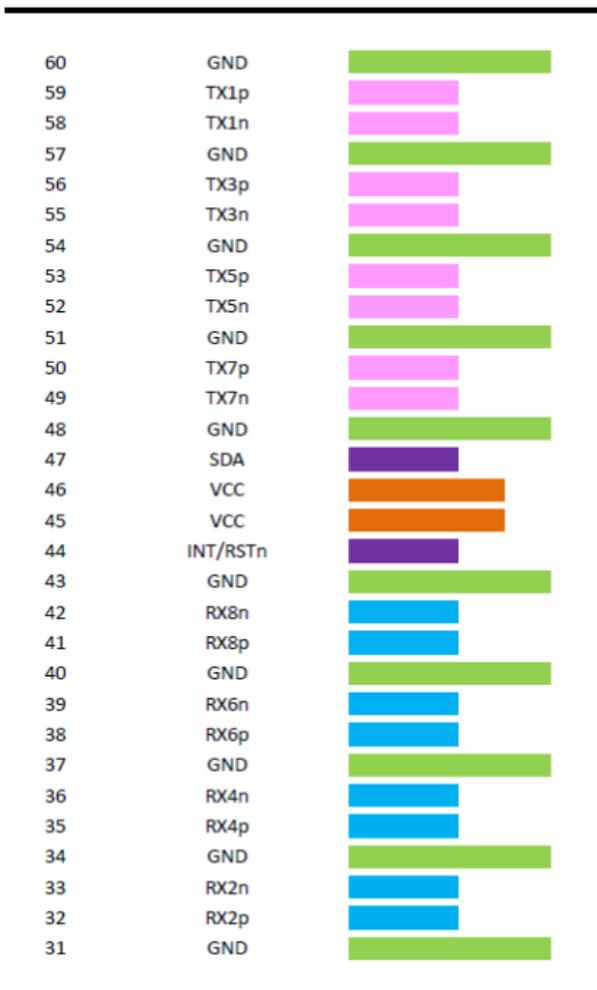
------- Module Card Edge -------

Bottom Side (viewed from bottom)

GND	1
TX2p	2
TX2n	3
GND	4
TX4p	5
TX4n	6
GND	7
TX6p	8
TX6n	9
GND	10
TX8p	11
TX8n	12
GND	13
SCL	14
VCC	15
VCC	16
LPWn/PRSn	17
GND	18
RX7n	19
RX7p	20
GND	21
RX5n	22
RX5p	23
GND	24
RX3n	25
RX3p	26
GND	27
RX1n	28
RX1p	29
GND	30
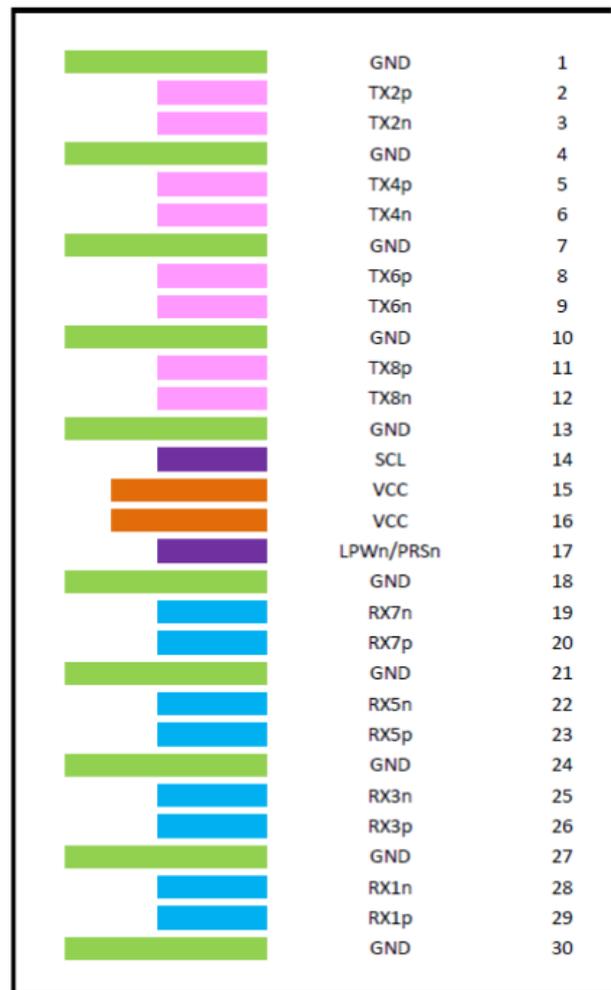
Pin Function Definitions for QSFP28

PIN	Symbol	Name/Description	Note
1	GND	Ground	
2	TX2p	Transmitter Data Non-Inverted	
3	TX2n	Transmitter Data Inverted	
4	GND	Ground	

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5	Tx4p	Transmitter Data Non-Inverted	
6	TX4n	Transmitter Data Inverted	
7	GND	Ground	
8	TX6p	Transmitter Data Non-Inverted	
9	TX6n	Transmitter Data Inverted	
10	GND	Ground	
11	TX8p	Transmitter Data Non-Inverted	
12	TX8n	Transmitter Data Inverted	
13	GND	Ground	
14	SCL	2-wire Serial interface clock	
15	VCC	+3.3V Power	
16	VCC	+3.3V Power	
17	LPWn/PRSn	Low-Power Mode / Module Present	
18	GND	Ground	
19	RX7n	Receiver Data Inverted	
20	RX7p	Receiver Data Non-Inverted	
21	GND	Ground	
22	RX5n	Receiver Data Inverted	
23	RX5p	Receiver Data Non-Inverted	
24	GND	Ground	
25	RX3n	Receiver Data Inverted	
26	RX3p	Receiver Data Non-Inverted	
27	GND	Ground	
28	RX1n	Receiver Data Inverted	
29	RX1p	Receiver Data Non-Inverted	
30	GND	Ground	

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31	GND	Ground	
32	RX2p	Receiver Data Non-Inverted	
33	RX2n	Receiver Data Inverted	
34	GND	Ground	
35	RX4p	Receiver Data Non-Inverted	
36	RX4n	Receiver Data Inverted	
37	GND	Ground	
38	RX6p	Receiver Data Non-Inverted	
39	RX6n	Receiver Data Inverted	
40	GND	Ground	
41	RX8p	Receiver Data Non-Inverted	
42	RX8n	Receiver Data Inverted	
43	GND	Ground	
44	INT/RSTn	Module Interrupt / Module Reset	
45	VCC	+3.3V Power	
46	VCC	+3.3V Power	
47	SDA	2-wire Serial interface data	
48	GND	Ground	
49	TX7n	Transmitter Data Inverted	
50	TX7p	Transmitter Data Non-Inverted	
51	GND	Ground	
52	TX5n	Transmitter Data Inverted	
53	TX5p	Transmitter Data Non-Inverted	
54	GND	Ground	
55	TX3n	Transmitter Data Inverted	
56	TX3p	Transmitter Data Non-Inverted	

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57	GND	Ground	
58	TX1n	Transmitter Data Inverted	
59	TX1p	Transmitter Data Non-Inverted	
60	GND	Ground	

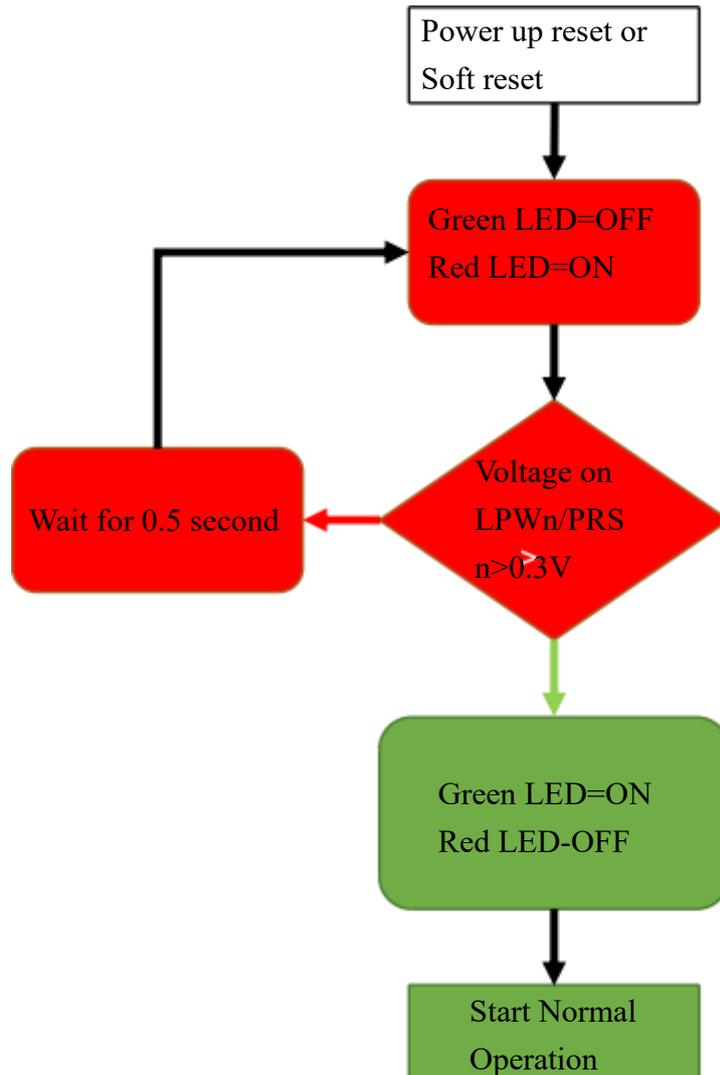## Digital Diagnostic Specifications

Custormized CMIS rev 5.2.

Status LED

A multi-color LED viewed from the front of the module in order to signify high/low power modes, module fully insert, and interrupts:
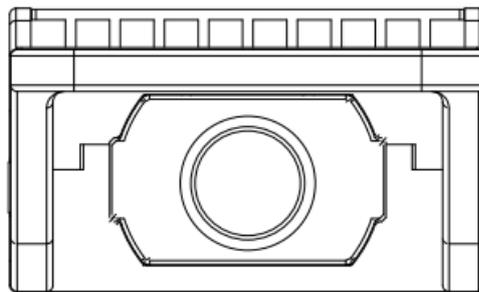
LED interface arrangement

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Power up reset or Soft reset

- Illuminate RED LED,

- Continuous illuminate Red LED if the voltage on LPWn/PRSn is below 0.3V

- Once the LPWn/PRSn is above 0.3V, illuminate Green LED, and

- Start the Normal operation.

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Normal Operation

- Solid green: low-power mode

- Solid red: high-power mode

- Blinking green: low-power mode with any of the interrupt flag is set

- Blinking red: high-power mode with any of the interrupt flag is set

6. Modification History

Rev.	Comments	Date	Originator	Approval
01	Initial	2026.01.05	Albert Lin	Mike Sun