

**WERNETECH INFORMATICA LTDA****Wernetech Informática**

Rua São Roberto nº 26 – Contato: (83) 99120-0828

CNPJ: 33.479.392/0001-72 – CEP: 54.762-778

Camaragibe – Estado de Pernambuco

E-mail: anderson@wernetech.com / www.wernetech.com**PREGÃO ELETRÔNICO N. 062/2024-TJAM****AO: TRIBUNAL DE JUSTIÇA DO ESTADO DO AMAZONAS****Ref.: PREGÃO ELETRÔNICO N. 062/2024-TJAM****PROCESSO N. 2024/000036920-00****OBJETO: AQUISIÇÃO DE DISCOS DE ARMAZENAMENTO DO TIPO SOLID STATE DRIVE (SSD), DESTINADOS À IMPLEMENTAÇÃO EM MÁQUINAS QUE NECESSITAM DE MELHORIA EM SUA PERFORMANCE**

Senhor Pregoeiro,

Proposta que faz a empresa WERNETECH INFORMATICA LTDA, inscrita no CNPJ nº 33.479.392/0001-72, e inscrição estadual nº 0825973-91, para o **TRIBUNAL DE JUSTIÇA DO ESTADO DO AMAZONAS**, objeto da licitação acima referenciada, e abaixo discriminada:

LOTE	QUANT.	UNID.	DESCRIÇÃO DO PRODUTO	MARCA	V_UNITÁRIO R\$	V_TOTAL DO ITEM R\$
1	400	Unid	SSD 480GB SATA III 2.5" pol	Indilinx	R\$ 176,00	R\$ 70.400,00
VALOR TOTAL						R\$ 70.400,00

Igualmente, declaramos que:

i. O valor total da proposta fica estipulado em R\$ 70.400,00 (setenta mil e quatrocentos reais)

ii. Nos preços propostos estão incluídas todas as despesas, conforme estabelecido no Edital da licitação em referência;



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iii. As condições de pagamento são aquelas estabelecidas no ato convocatório do certame em epígrafe;

iv. Esta proposta é válida por 60 (**sessenta**) dias, contados da data de sua apresentação;

v. Efetuaremos a entrega dos produtos em prazo não superior ao previsto no Termo de Referência, contados a partir do recebimento da Autorização de Fornecimento ou instrumento equivalente;

vi. Garantia de 12 meses conforme em edital;

Por necessário informamos que:

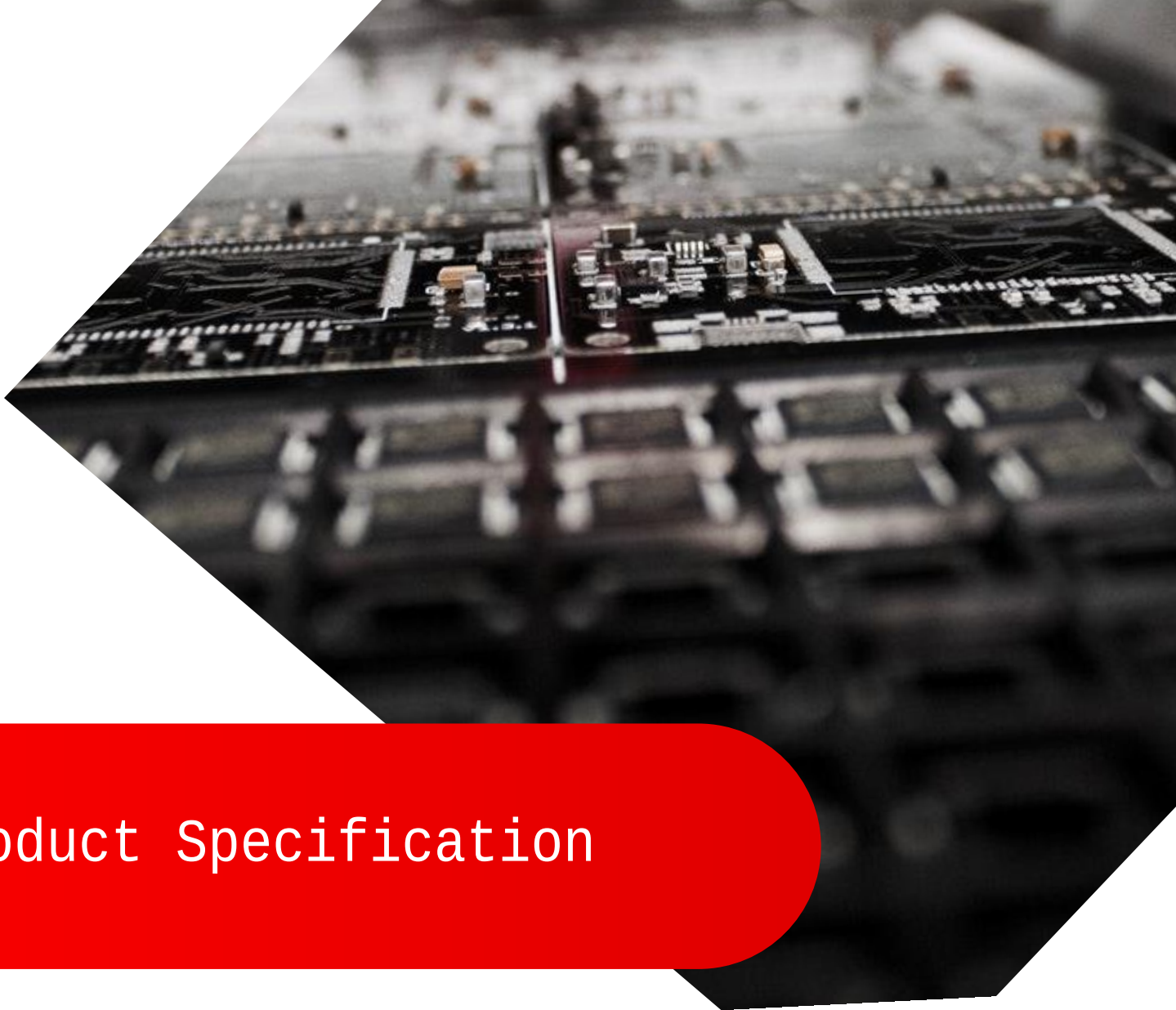
i. Será responsável pela relação comercial de nossa empresa com o Município a pessoa do Senhor **Anderson Souza Ribeiro** portador da cédula de identidade nº **9.149.984** e do CPF-MF nº **109.790.924-77** com endereço **na Avenida Vasco da Gama, nº 950 - Jaguaribe, João Pessoa - PB**, telefone **(83)99120-0828** e e-mail **anderson@wernetech.com**

v. Nosso domicílio bancário é no Banco do Brasil sob o nº **001**, agência **3504-1 C/C 49904-8**.

Camaragibe, 10 de Dezembro de 2024

Representante Legal	
ANDERSON SOUZA RIBEIRO:10979092477	Assinado de forma digital por ANDERSON SOUZA RIBEIRO:10979092477 Dados: 2024.12.10 16:42:24 -03'00'
Anderson Souza Ribeiro	
RG:9.149.984	CPF:109.790.924-77

INDILINX



SHENZHEN INDILINX TECHNOLOGY CO.,LTD IS A HIGH-TECH ENTERPRISE FOR INTEGRATING R&D, DESIGNING, MANUFACTURING AND SELLING OF SSD PRODUCTS

2.5-inch Series Product Specification

Capacity		120GB	240GB	480GB
Components		3D NAND Flash		
Read and Write IOPS (Iometer Queue Depth 32)	Random 4KB reads:	Up to 40K IOPS	Up to 40K IOPS	Up to 58K IOPS
	Random 4KB writes:	Up to 64K IOPS	Up to 67K IOPS	Up to 70K IOPS
Bandwidth Performance	Sustained sequential read:	Up to 540 MB/s	Up to 550 MB/s	Up to 560 MB/s
	Sustained sequential write:	Up to 500 MB/s	Up to 530 MB/s	Up to 550 MB/s
Latency	Read:	0.077 ms (TYP)	0.077 ms (TYP)	0.077 ms (TYP)
	Write:	0.258 ms (TYP)	0.258 ms (TYP)	0.171 ms (TYP)

SATA 1.5 Gb/s ,3 Gb/s and 6 Gb/s interface — ATA/ATAPI-7 — SSD-enhanced S.M.A.R.T. ATA feature — Native Command Queuing (NCQ) command set — Data set management command Trim attribute	Trim attribute Form Factor: Full-sized 2.5-inch SSD — Dimensions: 100.0 mm x 69.8 mm — Thickness: ≤7 mm Temperature — Operating: 0°C to 70°C	Power Management — 5V 2.5-inch SSD power supply — 2.5-inch SSD interface power management Power — Idle: 0.50 W (TYP) — max: 3.15 W (TYP)
Reliability — Uncorrectable Bit Error Rate (UBER): 1 sector in 10 ¹⁶ bits read — Mean Time Between Failures (MTBF): 2,000,000 hours	Certifications and Declarations — CE — FCC — RoHS	

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1.0 Overview

Indilinx 2.5-inch Series delivers compact storage and optimized performance for traditional and innovative small-form-factor and embedded platforms in four capacity sizes: 120GB, 240GB and 480GB.

The case 2.5-inch SSD design has a significantly smaller footprint than a 2.5-inch hard disk drive (HDD), and enables fast read/write access times and a significant I/O and throughput performance improvement as compared to HDD. This design makes it ideal for new and innovative small form factor computing platforms that have size and weight requirements that traditional 2.5-inch HDD cannot meet, such as, notebook, thin-and-light systems, mini laptops, sub-notebooks, all in-one computers, and embedded platforms.

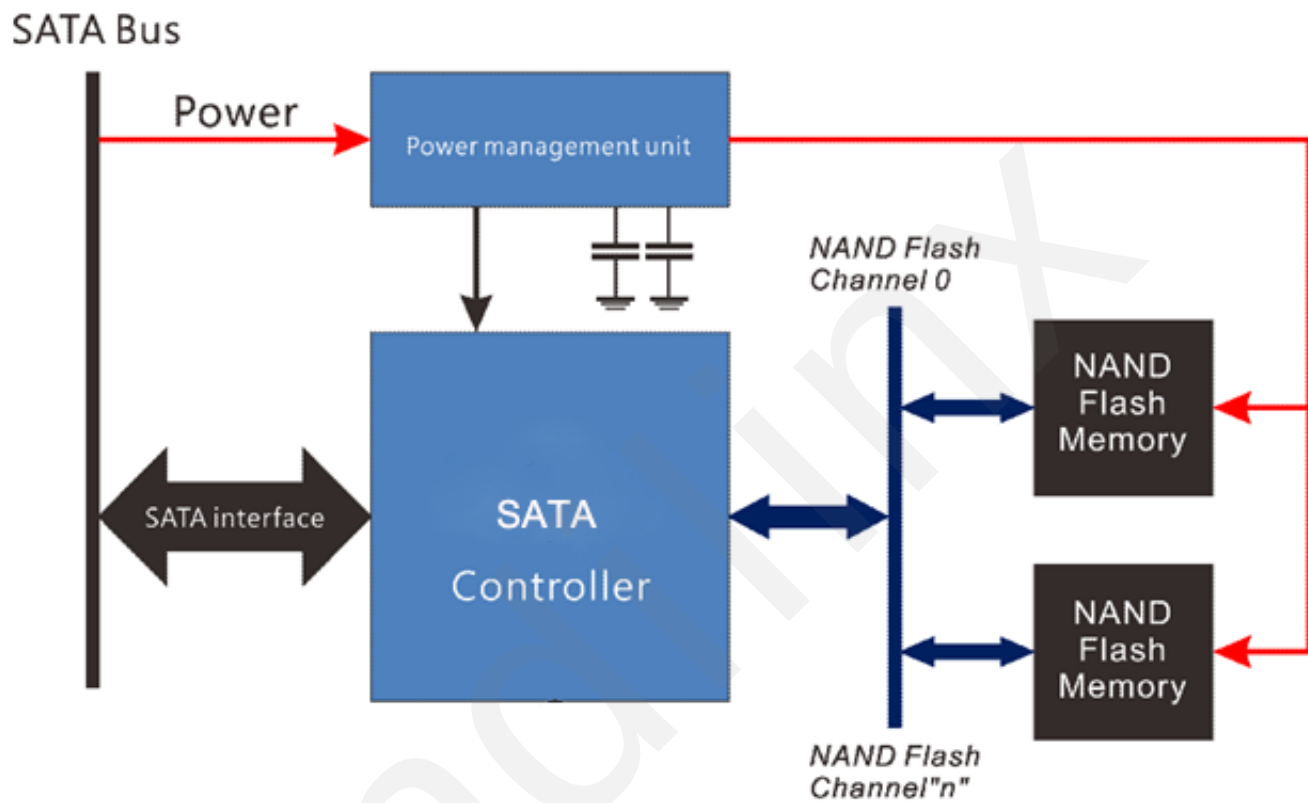
As compared to standard HDD, indilinx 2.5-inch Series offers these key features:

- **High performance**
- **Low power**
- **Increased system responsiveness**
- **High reliability**
- **Small form-factor**
- **Minimum weight**
- **Enhanced ruggedness**

2.0 Architecture

Indilinx 2.5-inch Series utilizes a cost-effective, high-performance SATA-to-NAND controller to manage a full SATA 6 Gb/s bandwidth with the host while managing multiple NAND flash memory devices on 4 channels.

Figure 1. Block Diagram



3.0 Product Specifications

This section provides details on Indilinx 2.5-inch Series product specifications.

3.1 Capacity

Table 1. User Addressable Sectors

Unformatted Capacity	120GB	240GB	480GB
Total User Addressable Sectors	234,441,648	488,397,168	937,703,088

Notes:

- 1 GB = 1,000,000,000 bytes; 1 sector = 512 bytes.
- LBA count shown represents total user storage capacity and will remain the same throughout the life of the drive. The total usable capacity of the SSD may be less than the total physical capacity because a small portion of the capacity is issued for NAND flash management and maintenance purposes.

3.2 Performance

Table 2. Read/Write IOPS, Bandwidth, Latency

Performance	120GB	240GB	480GB
Random Read/Write IOPS (Input/Output Operations per Second) (Iometer* Queue Depth 32)¹			
4K Read(Up to)	40K	40K	58K
4K Write(Up to)	64K	67K	70K
Maximum Sustained Read and Write Bandwidth (CDM)²			
Sequential Read(Up to)	540 MB/s	550 MB/s	560 MB/s
Sequential Write(Up to)	500 MB/s	530 MB/s	550 MB/s
Latency (AS SSD)³			
Read(R) Write(W)	R: 0.077 ms W: 0.258 ms	R: 0.077 ms W: 0.258 ms	R: 0.077 ms W: 0.171 ms

Notes:

- Performance measured using Iometer with queue depth set to 32; Measurements are performed on 2 GB of LBA range. Write cache enabled.
- Performance measured using CrystalDiskMark with queue depth equal to 32.
- Device measured using AS SSD Benchmark; Read/Write latency measured on sequential 4 K transfers with queue depth set to 32. Write cache enabled.

3.3 Electrical

Table 3. Operating Voltage and Power Consumption

Electrical Characteristics	120GB	240GB	480GB
Operating Voltage for 5V (+/- 5%)			
Min	4.75V		
Max	5.25V		
Power Consumption (Typical)			
Active	2.04 W	2.16 W	2.79 W
Idle	0.50 W	0.50 W	0.50 W

3.4 Environmental Conditions

Table 4. Temperature, Shock, Vibration

Parameter	Value
Ambient Temperature	
Operating	0 to 70 °C
Non-operating	-40 to 85 °C
Storage Temperature	-55 +95°C
Humidity, Shock, Vibration	
Humidity	5% - 99 %
Shock ²	100 G/6 sec
Vibration ³	6.0667G RMS (20-2000 Hz)

Notes:

1. Temperature gradient measured without condensation.
2. Under condition that SSD is mounted securely with the input vibration.
3. Under condition that SSD is mounted securely with the input vibration.

3.5 Reliability

Table 5. Reliability Specifications

Parameter	Value
Uncorrectable Bit Error Rate (UBER) Unrecoverable read bit error rate will not exceed one sector in the specified number of bits read. In the extremely unlikely event of a no recoverable read error, the SSD will report it as a read failure to the host; the sector in error is considered corrupt and is not returned to the host.	1 sector in 10^{16} bits read, max
Mean Time Between Failure (MTBF) Mean time between failures (MTBFs) for the SSD can be predicted based on the component reliability data using the methods referenced in the Telcordia SR-332 reliability prediction procedures for electronic equipment.	2,000,000 hours
Power On/Off Cycles Power On/Off Cycles is defined as power being removed from BIWINTECH Kunlun2.5-inch Series, and then restored. Most host systems remove power from the SSD when entering suspend and hibernate as well as on a system shutdown.	3,000 cycles

Table 6. Total Byte Written and Warranty

Item	120GB	240GB	480GB
Total byte written(Unit: TB)	80	320	160
Drive writes Per Day(Unit: GB)	72	144	288
warranty	3 years		

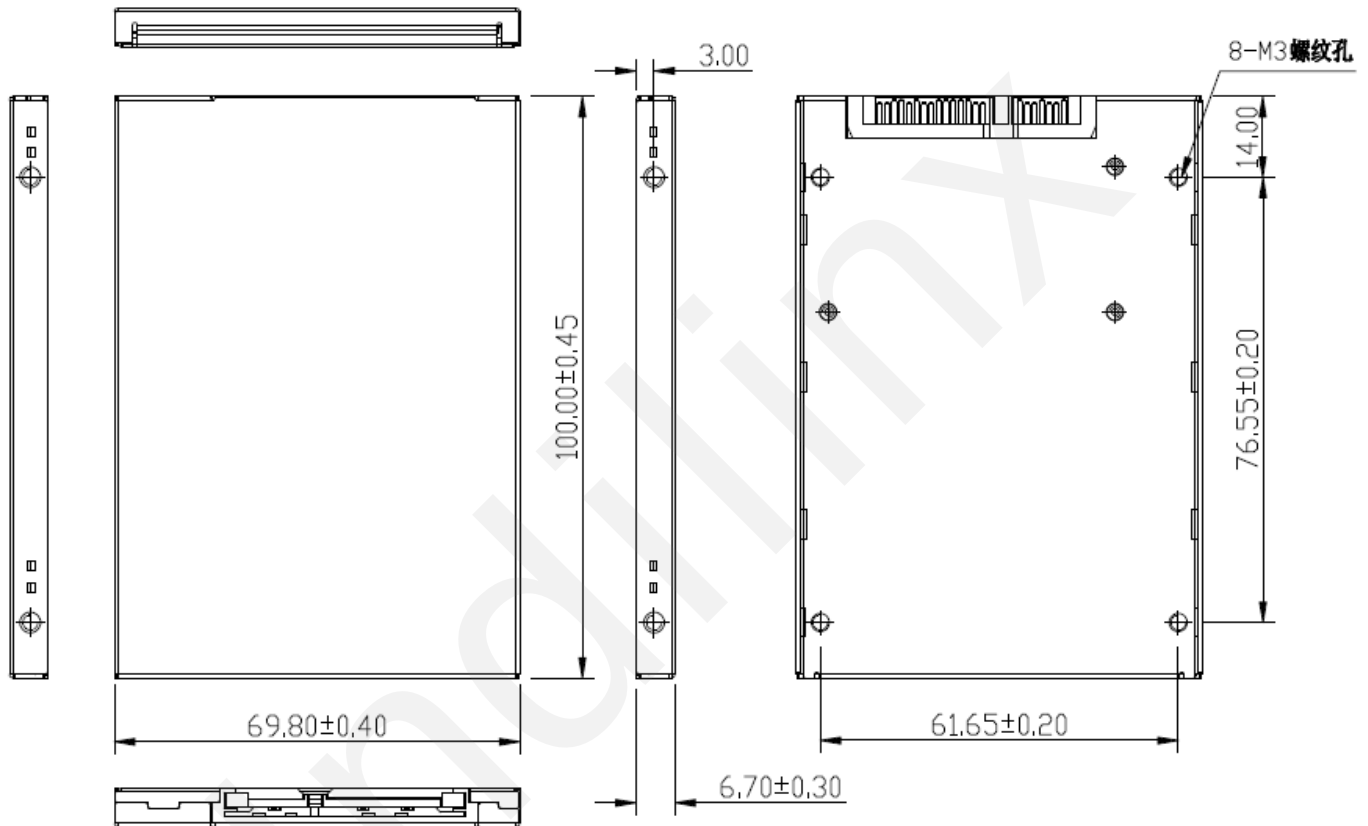
Notes: Total bytes written= [(Flash P/E cycle) x (number of bits in drive)] / WAI.

4.0 Mechanical Information

Figure 2 shows the physical dimension of Indilinx 2.5-inch Series.

All dimensions are in millimeters.

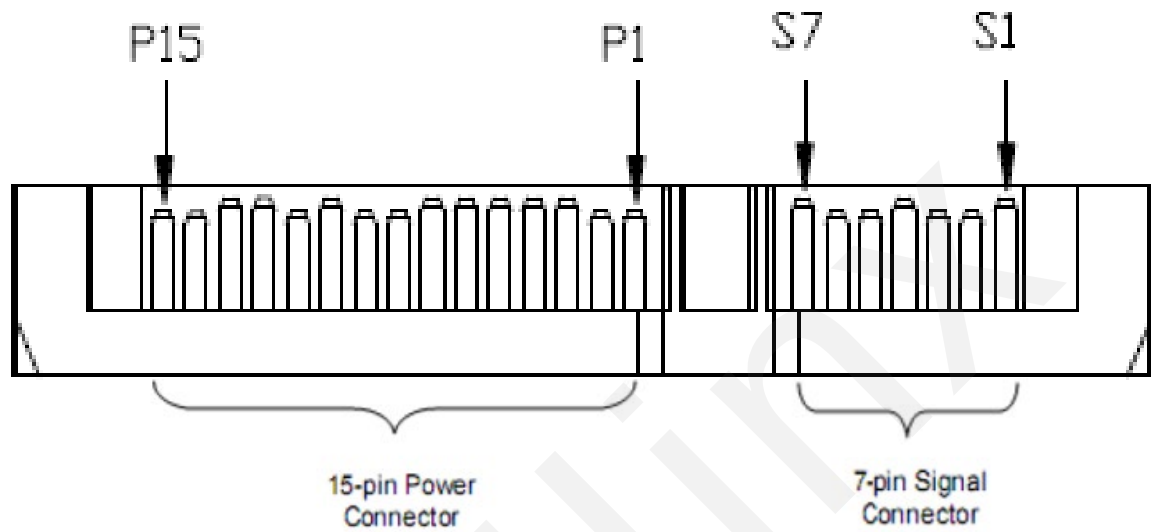
Figure 2. Indilinx 2.5-inch Dimensions



5.0 Pin and Signal Descriptions

5.1 Pin Locations

Figure 3. Signal and Power Segment Pins



5.2 Signal Description

Table 7. Connector Pin Signal Definitions

Pin#	Assignment	Description
Signal		
S1	GND	2 nd mate
S2	A+	Differential signal pair A from physical layer electronics
S3	A-	
S4	GND	2 nd mate
S5	B-	Differential signal pair B from physical layer electronics
S6	B+	
S7	GND	2 nd mate
Power		
P1	V33	3.3V power (Unused)
P2	V33	3.3V power (Unused)
P3	V33	3.3V power (Unused)
P4	GND	1 st mate
P5	GND	2 nd mate
P6	GND	2 nd mate
P7	V5	5V power, pre-charge, 2 nd mate
P8	V5	5V power
P9	V5	5V power
P10	GND	2 nd mate
P11	DAS/DSS	NC
P12	GND	2 nd mate
P13	V12	12V power, pre-charge, 2 nd mate (Unused)
P14	V12	12V power (Unused)
P15	V12	12V power (Unused)

6.0 Certifications and Declarations

Table 8. Describes the Device Certifications Supported by Indilinx 2.5-inch Series

Certification	Description
CE Compliant	Indicates conformity with the essential health and safety requirements set out in European Directives Low Voltage Directive and EMC Directive.
FCC Compliant	It is responsible for routine interstate and international communications to ensure the safety of radio and wire communications products relating to life and property.
RoHS Compliant	Restriction of Hazardous Substance Directive.

7.0 Revision History

Date	Revision	Description
2017.10.23	V 1.0	First version draft published
2017.12.01	V 1.1	Revised label definition
2019.08.18	V 1.2	Upgrade template

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Although considered final, these specifications are subject to change, as further product development and data characterization some-times occur. The results obtained in other operating environments may vary.