PCN Number:	20240117001.0	PCN Date:	January 19, 2024
Title:	Datasheet for DS90UB964-Q1		
Customer Contact:	Change Management team	Dept:	Quality Services
Change Type:	Electrical Specification		

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing an information only notification.
The product datasheet(s) is being updated as summarized below.
The following change history provides further details.

Changes from Revision * (July 2016) to Revision A (December 2023) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document ... 1
- Fixed spelling errors and minor format issues throughout the document ... 1
- Updated format of data sheet ... 1
- Updated Typical Application Schematic to clearly show two CSI-2 output ports ... 1
- Updated I2C pull-up resistor recommendations ... 3
- Updated Legend for Pin Functions Table ... 3
- Moved INTB pin description to OTHERS category ... 3
- Renamed Pin 4 to RES ... 3
- Updated VDD pin descriptions ... 3
- Updated REFCLK pin description ... 3
- Updated input current specification to include internal pulldowns for GPIO and PDB pins ... 8
- Updated V_{IH} and V_{IL} specifications for PDB and REFCLK pins ... 8

- Added V_{IN} specification ... 8
- Updated V_{ID} specification ... 8
- Changed input jitter symbol from IJT to T_{IJIT} and renamed Input Jitter Tolerance parameter to Input Jitter to be consistent with specifying max input jitter ... 11
- Removed the t_{CLK_MISS} specification from the CSI-2 Timing Specifications table ... 13
- Updated V_{ID} diagram ... 13
- Added information about the bidirectional control channel ... 21
- Corrected serializer part numbers throughout data sheet ... 21
- Renamed section to RAW Data Type Support & Rates for clarity ... 23
- Added information about YUV support ... 23
- Added information about FPD-Link line rates ... 23
- Removed mentions of Coaxial or STP mode since device automatically accepts either configuration regardless of MODE strap ... 23
- Updated resistor values while keeping the same voltage ratio ... 23
- Rewrote target voltage range in terms of $V_{(VDD18)}$ ... 23
- Clarified default back channel rate ... 23
- Clarified that the REFCLK value can range between 23MHz to 25MHz throughout the document ... 24
- Added section on receiver port control ... 24
- Added a channel requirements section to the data sheet ... 25
- Updated AEQ section and register 0xB9 register setting recommendation for clarity ... 26
- Added additional AEQ sections for clarity ... 26
- Added sections related to the RX port status for clarity ... 28
- Added additional GPIO sections on input and output control ... 29
- Added additional information on back channel GPIO ... 29
- Added section on video stream forwarding ... 31
- Added information about YUV and RAW8 support ... 32
- Added information about conversion from DVP format to CSI-2 data packets ... 32
- Updated VC-ID mapping example graphics ... 33
- Added section on CSI-2 Transmitter Status for clarity ... 36
- Added note about how to program the FS_HIGH_TIME register ... 37
- Clarified that CSI-2 forwarding must be disabled before CSI-2 replicate mode is enabled ... 45
- Added section on enabling and disabling CSI-2 transmitters ... 46
- Added additional I2C sections to clarify functionality ... 46
- Changed I2C terminology to "Controller" and "Target" ... 46
- Added a sentence to clarify that V_{I2C} must match the voltage applied to VDDIO ... 46
- Reworded the Serial Control Bus section to reference V_{I2C} instead of VDDIO ... 46
- Updated resistor values while keeping the same voltage ratio ... 46
- Rewrote target voltage range in terms of V_{VDD18} ... 46
- Clarified that Register 0x01 (RESET_CTL) can only be written by the primary I2C port ... 49
- Added additional information about how to configure a broadcast write to remote devices ... 50
- Removed unnecessary register writes in the Code Example for Broadcast Write ... 50
- Clarified instructions for how to configure Pattern Generation on the CSI-2 Port ... 57
- Updated Pattern Generator example script to update data type to RAW10 ... 58
- Renamed section to FPD-Link BIST Mode ... 59
- Added additional information about BIST ... 59
- Renamed section to BIST Operation ... 59
- Added additional information about BIST operation ... 59
- Removed all RESERVED registers from the data sheet ... 61
- Updated the description of register bit 0x34[1] ... 61
- Made register 0x41 public ... 61
- Updated the description of register bits 0x42[6:4] ... 61
- Updated the description of register bit 0x4E[1] to clarify functionality ... 61
- RESERVED register 0x6D[2] as the bit is no longer applicable ... 61
- Corrected default value of register bit 0x7C[5] ... 61
- RESERVED value of register bit 0x7D[6] ... 61

- Removed RESERVED indirect register pages in the description of register bits 0xB0[5:2]..... 61
- Updated the description of register bits 0xB3[2:1]..... 61
- Made register bits 0xB6[5:3] public..... 61
- Updated the description of register bits 0xB9[3:0]..... 61
- Corrected default value of register bit 0xD2[2]..... 61
- Updated name of register 0xD2..... 61
- Updated the name of Indirect Register Page 0 to PATGEN_AND_CSI-2..... 61
- Added additional information about PoC..... 136
- Added 2G PoC network example..... 136
- Updated typical connection diagram to include a reference to App Note SLVA689..... 139
- Removed optional 10 kΩ pulldown resistor on Pin 4 in the Typical Connection Diagram..... 139
- Highlighted HW and SW control options on PDB pin..... 139
- Added pin numbers to Typical Application Diagram..... 139
- Added additional CSI-2 diagrams for Start of Transmission and End of Transmission..... 141
- Updated power-up sequencing diagram and table..... 142
- Added additional layout section for clarity..... 144
- Updated MIPI CSI-2 D-PHY layout recommendations..... 146
- Updated layout example..... 146
- Added additional related documentation..... 150

The datasheet number will be changing.

Device Family	Change From:	Change To:
DS90UB964-Q1	SNLS500	**SNLS500A**

These changes may be reviewed at the datasheet links provided.
http://www.ti.com/product/DS90UB964-Q1

Reason for Change:

To accurately reflect device characteristics.

Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):

No anticipated impact. This is a specification change announcement only. There are no changes to the actual device

Changes to product identification resulting from this PCN:

None.

Product Affected:

DS90UB964TRGCRQ1	DS90UB964TRGCTQ1		

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

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