PA-149575

Product Advisory

Issue Date: July 20, 2021

Change Type:
89811/89814/89816 Datasheet update

Parts Affected:
BCM89811B1AWMLG
BCM89811B1AWMLGT
BCM89814B1BFBG
BCM89816B1AWMLG
BCM89816B1AWMLGT

Description and Extent of Change:
The datasheet has been updated to revision 89811-DS114. See details below.

Section	Description	Impact	From	To
1.16	Updated Power Sequence Initialization Procedure register setting.	Extreme low risk. When the system is running a power glitch test with a particular pattern, the power glitch may corrupt the PHY address latch function in rare cases.	Program the RDB 0x818 and RDB 0x819 registers to both PHY address = 0x00 and 0x01. – Write RDB 0x818 = 0x0000 to PHY address 0x00. – Write RDB 0x819 = 0x8000 to PHY address 0x00. – Write RDB 0x818 = 0x0000 to PHY address 0x01. – Write RDB 0x819 = 0x8000 to PHY address 0x01.	Program the RDB 0x818 and RDB 0x819 registers to 0x0, 0x1, 0x8, 0x9, 0x10, 0x11, 0x18, and 0x19 PHY address to guarantee the initialization sequence. – Write RDB 0x818 = 0x0000 to PHY address 0x00. – Write RDB 0x819 = 0x8000 to PHY address 0x00. – Write RDB 0x818 = 0x0000 to PHY address 0x01. – Write RDB 0x819 = 0x8000 to PHY address 0x01. – Write RDB 0x818 = 0x0000 to PHY address 0x08. – Write RDB 0x819 = 0x8000 to PHY address 0x08. – Write RDB 0x818 = 0x0000 to PHY address 0x09. – Write RDB 0x819 = 0x8000 to PHY address 0x09. – Write RDB 0x818 = 0x0000 to PHY address 0x10. – Write RDB 0x819 = 0x8000 to PHY address 0x10. – Write RDB 0x818 = 0x0000 to PHY address 0x11. – Write RDB 0x819 = 0x8000 to PHY address 0x11. – Write RDB 0x818 = 0x0000 to PHY address 0x18. – Write RDB 0x819 = 0x8000 to PHY

Section	Description	Impact	From	To
				address 0x18. – Write RDB 0x818 = 0x0000 to PHY address 0x19. – Write RDB 0x819 = 0x8000 to PHY address 0x19.
1.19.4	Fix IEEE 1588 IPv6/UDP Packet Formats typo	Check the software if the IEEE 1588 function is used.	Ethernet Type == 0800	Ethernet Type == 86DD
5.10.21	Updated RDB register 0xA5C description	Check the software if the IEEE 1588 function is used.	Register Notations = R/W and SC	Update Register Notations to R/W. Remove bit[12] and then add bits[9:8] description.
5.10.22	Updated RDB register 0xA5D description	Check the software if the IEEE 1588 function is used.	Register Notations = R/W	Update Register Notations to R/W and SC. Remove bit[12] and then add bits[9:8] description.
5.10.49 ~ 5.10.54	Added RDB registers 0xA79~0xA7E description	Check the software if the IEEE 1588 function is used.	—	Added RDB registers 0xA79~0xA7E for IEEE 1588 application.
5.10.55	Updated RDB register 0xA7F description	Check the software if the IEEE 1588 function is used.	Bits[11:6] are RESERVED.	Add bit[9] description.
6.6.2	Update the figure of RGMII Output Timing (Delayed Mode)	Update the figure to match the parameter.	The RXC clock is earlier than RXD[3:0], RXDV and RXER.	The RXC clock is later than RXD[3:0], RXDV and RXER.

The datasheet has been updated to revision 89814-DS103. See details below.

Section	Description	Impact	From	To
1.16	Updated Power Sequence Initialization Procedure register setting.	Extreme low risk. When the system is running a power glitch test with a particular pattern, the power glitch may corrupt the PHY address latch function in rare cases.	Program the RDB 0x818 and RDB 0x819 registers to both PHY address = 0x00 and 0x01. – Write RDB 0x818 = 0x0000 to PHY address 0x00. – Write RDB 0x819 = 0x8000 to PHY address 0x00. – Write RDB 0x818 = 0x0000 to PHY address 0x01. – Write RDB 0x819 = 0x8000 to PHY address 0x01.	Program the RDB 0x818 and RDB 0x819 registers to 0x0, 0x1, 0x8, 0x9, 0x10, 0x11, 0x18, and 0x19 PHY address to guarantee the initialization sequence. – Write RDB 0x818 = 0x0000 to PHY address 0x00. – Write RDB 0x819 = 0x8000 to PHY address 0x00. – Write RDB 0x818 = 0x0000 to PHY address 0x01. – Write RDB 0x819 = 0x8000 to PHY address 0x01. – Write RDB 0x818 = 0x0000 to PHY address 0x08. – Write RDB 0x819 = 0x8000 to PHY address 0x08.

Section	Description	Impact	From	To
				– Write RDB 0x818 = 0x0000 to PHY address 0x09. – Write RDB 0x819 = 0x8000 to PHY address 0x09. – Write RDB 0x818 = 0x0000 to PHY address 0x10. – Write RDB 0x819 = 0x8000 to PHY address 0x10. – Write RDB 0x818 = 0x0000 to PHY address 0x11. – Write RDB 0x819 = 0x8000 to PHY address 0x11. – Write RDB 0x818 = 0x0000 to PHY address 0x18. – Write RDB 0x819 = 0x8000 to PHY address 0x18. – Write RDB 0x818 = 0x0000 to PHY address 0x19. – Write RDB 0x819 = 0x8000 to PHY address 0x19.
1.18.4	Fix IEEE 1588 IPv6/UDP Packet Formats typo	Check the software if the IEEE 1588 function is used.	Ethernet Type == 0800	Ethernet Type == 86DD
5.10.21	Updated RDB register 0xA5C description	Check the software if the IEEE 1588 function is used.	Register Notations = R/W and SC	Update Register Notations to R/W. Remove bit[12] and then add bits[9:8] description.
5.10.22	Updated RDB register 0xA5D description	Check the software if the IEEE 1588 function is used.	Register Notations = R/W	Update Register Notations to R/W and SC. Remove bit[12] and then add bits[9:8] description.
5.10.49 ~ 5.10.54	Added RDB registers 0xA79~0xA7E description	Check the software if the IEEE 1588 function is used.	—	Added RDB registers 0xA79~0xA7E for IEEE 1588 application.
5.10.55	Updated RDB register 0xA7F description	Check the software if the IEEE 1588 function is used.	Bits[11:6] are RESERVED.	Add bit[9] description.
6.6.2	Update the figure of RGMII Output Timing (Delayed Mode)	Update the figure to match the parameter.	The RXC clock is earlier than RXD[3:0], RXDV and RXER.	The RXC clock is later than RXD[3:0], RXDV and RXER.

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The datasheet has been updated to revision 89816-DS104. See details below.

Section	Description	Impact	From	To
1.16	Updated Power Sequence Initialization Procedure register setting.	Extreme low risk. When the system is running a power glitch test with a particular pattern, the power glitch may corrupt the PHY address latch function in rare cases.	Program the RDB 0x818 and RDB 0x819 registers to both PHY address = 0x00 and 0x01. – Write RDB 0x818 = 0x0000 to PHY address 0x00. – Write RDB 0x819 = 0x8000 to PHY address 0x00. – Write RDB 0x818 = 0x0000 to PHY address 0x01. – Write RDB 0x819 = 0x8000 to PHY address 0x01.	Program the RDB 0x818 and RDB 0x819 registers to 0x0, 0x1, 0x8, 0x9, 0x10, 0x11, 0x18, and 0x19 PHY address to guarantee the initialization sequence. – Write RDB 0x818 = 0x0000 to PHY address 0x00. – Write RDB 0x819 = 0x8000 to PHY address 0x00. – Write RDB 0x818 = 0x0000 to PHY address 0x01. – Write RDB 0x819 = 0x8000 to PHY address 0x01. – Write RDB 0x818 = 0x0000 to PHY address 0x08. – Write RDB 0x819 = 0x8000 to PHY address 0x08. – Write RDB 0x818 = 0x0000 to PHY address 0x09. – Write RDB 0x819 = 0x8000 to PHY address 0x09. – Write RDB 0x818 = 0x0000 to PHY address 0x10. – Write RDB 0x819 = 0x8000 to PHY address 0x10. – Write RDB 0x818 = 0x0000 to PHY address 0x11. – Write RDB 0x819 = 0x8000 to PHY address 0x11. – Write RDB 0x818 = 0x0000 to PHY address 0x18. – Write RDB 0x819 = 0x8000 to PHY address 0x18. – Write RDB 0x818 = 0x0000 to PHY address 0x19. – Write RDB 0x819 = 0x8000 to PHY address 0x19.

Reasons for Change:

Update the documentation (i.e. datasheet). Please see above table for description of the changes.

Effect of Change on Fit, Form, Function, Quality, or Reliability:

No change to Fit, Form, Function, Quality, or Reliability. This is a datasheet change only; the actual product does not change.

Effective Date of Change:

The datasheet 89811-DS114 was released on July 21, 2021 and should be referenced for all existing and new designs.

The datasheet 89814-DS103 was released on April 16, 2021 and should be referenced for all existing and new designs.

The datasheet 89816-DS104 was released on July 21, 2021 and should be referenced for all existing and new designs.

Qualification Data:

N/A - the actual product does not change.

Please contact your Broadcom Inc. field sales engineer or Contact Center for any questions or support requirements. Please return any response as soon as possible, **but not to exceed 30 days**.