

14.3.7 9-Bit UART Mode

The UART provides a 9-bit mode that is enabled with the `9BITEN` bit in the **UART9BITADDR** register. This feature is useful in a multi-drop configuration of the UART where a single master connected to multiple slaves can communicate with a particular slave through its address or set of addresses along with a qualifier for an address byte. All the slaves check for the address qualifier in the place of the parity bit and, if set, then compare the byte received with the preprogrammed address. If the address matches, then it receives or sends further data. If the address does not match, it drops the address byte and any subsequent data bytes. If the UART is in 9-bit mode, then the receiver operates with no parity mode. The address can be predefined to match with the received byte and it can be configured with the **UART9BITADDR** register. The matching can be extended to a set of addresses using the address mask in the **UART9BITAMASK** register. By default, the **UART9BITAMASK** is 0xFF, meaning that only the specified address is matched.

When not finding a match, the rest of the data bytes with the 9th bit cleared are dropped. If a match is found, then an interrupt is generated to the NVIC for further action. The subsequent data bytes with the cleared 9th bit are stored in the FIFO. Software can mask this interrupt in case μ DMA and/or FIFO operations are enabled for this instance and processor intervention is not required. All the send transactions with 9-bit mode are data bytes and the 9th bit is cleared. Software can override the 9th bit to be set (to indicate address) by overriding the parity settings to sticky parity with odd parity enabled for a particular byte. To match the transmission time with correct parity settings, the address byte can be transmitted as a single then a burst transfer. The Transmit FIFO does not hold the address/data bit, hence software should take care of enabling the address bit appropriately.

14.3.8 FIFO Operation

The UART has two 16x8 FIFOs; one for transmit and one for receive. Both FIFOs are accessed via the **UART Data (UARTDR)** register (see page 906). Read operations of the **UARTDR** register return a 12-bit value consisting of 8 data bits and 4 error flags while write operations place 8-bit data in the transmit FIFO.

Out of reset, both FIFOs are disabled and act as 1-byte-deep holding registers. The FIFOs are enabled by setting the `FEN` bit in **UARTLCRH** (page 916).

FIFO status can be monitored via the **UART Flag (UARTFR)** register (see page 911) and the **UART Receive Status (UARTSR)** register. Hardware monitors empty, full and overrun conditions. The **UARTFR** register contains empty and full flags (`TXFE`, `TXFF`, `RXFE`, and `RXFF` bits), and the **UARTSR** register shows overrun status via the `OE` bit. If the FIFOs are disabled, the empty and full flags are set according to the status of the 1-byte-deep holding registers.

The trigger points at which the FIFOs generate interrupts is controlled via the **UART Interrupt FIFO Level Select (UARTIFLS)** register (see page 922). Both FIFOs can be individually configured to trigger interrupts at different levels. Available configurations include $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and $\frac{7}{8}$. For example, if the $\frac{1}{4}$ option is selected for the receive FIFO, the UART generates a receive interrupt after 4 data bytes are received. Out of reset, both FIFOs are configured to trigger an interrupt at the $\frac{1}{2}$ mark.

14.3.9 Interrupts

The UART can generate interrupts when the following conditions are observed:

- Overrun Error
- Break Error
- Parity Error

- Framing Error
- Receive Timeout
- Transmit (when condition defined in the `TXIFLSEL` bit in the **UARTIFLS** register is met, or if the `EOT` bit in **UARTCTL** is set, when the last bit of all transmitted data leaves the serializer)
- Receive (when condition defined in the `RXIFLSEL` bit in the **UARTIFLS** register is met)

All of the interrupt events are ORed together before being sent to the interrupt controller, so the UART can only generate a single interrupt request to the controller at any given time. Software can service multiple interrupt events in a single interrupt service routine by reading the **UART Masked Interrupt Status (UARTMIS)** register (see page 930).

The interrupt events that can trigger a controller-level interrupt are defined in the **UART Interrupt Mask (UARTIM)** register (see page 924) by setting the corresponding `IM` bits. If interrupts are not used, the raw interrupt status is visible via the **UART Raw Interrupt Status (UARTRIS)** register (see page 927).

Note: For receive timeout, the `RTIM` bit in the **UARTIM** register must be set to see the `RTMIS` and `RTRIS` status in the **UARTMIS** and **UARTRIS** registers.

Interrupts are always cleared (for both the **UARTMIS** and **UARTRIS** registers) by writing a 1 to the corresponding bit in the **UART Interrupt Clear (UARTICR)** register (see page 933).

The receive timeout interrupt is asserted when the receive FIFO is not empty, and no further data is received over a 32-bit period when the `HSE` bit is clear or over a 64-bit period when the `HSE` bit is set. The receive timeout interrupt is cleared either when the FIFO becomes empty through reading all the data (or by reading the holding register), or when a 1 is written to the corresponding bit in the **UARTICR** register.

The receive interrupt changes state when one of the following events occurs:

- If the FIFOs are enabled and the receive FIFO reaches the programmed trigger level, the `RXRIS` bit is set. The receive interrupt is cleared by reading data from the receive FIFO until it becomes less than the trigger level, or by clearing the interrupt by writing a 1 to the `RXIC` bit.
- If the FIFOs are disabled (have a depth of one location) and data is received thereby filling the location, the `RXRIS` bit is set. The receive interrupt is cleared by performing a single read of the receive FIFO, or by clearing the interrupt by writing a 1 to the `RXIC` bit.

The transmit interrupt changes state when one of the following events occurs:

- If the FIFOs are enabled and the transmit FIFO progresses through the programmed trigger level, the `TXRIS` bit is set. The transmit interrupt is based on a transition through level, therefore the FIFO must be written past the programmed trigger level otherwise no further transmit interrupts will be generated. The transmit interrupt is cleared by writing data to the transmit FIFO until it becomes greater than the trigger level, or by clearing the interrupt by writing a 1 to the `TXIC` bit.
- If the FIFOs are disabled (have a depth of one location) and there is no data present in the transmitters single location, the `TXRIS` bit is set. It is cleared by performing a single write to the transmit FIFO, or by clearing the interrupt by writing a 1 to the `TXIC` bit.

14.3.10 Loopback Operation

The UART can be placed into an internal loopback mode for diagnostic or debug work by setting the `LBE` bit in the **UARTCTL** register (see page 918). In loopback mode, data transmitted on the

Register 9: UART Interrupt FIFO Level Select (UARTIFLS), offset 0x034

The **UARTIFLS** register is the interrupt FIFO level select register. You can use this register to define the FIFO level at which the **TXRIS** and **RXRIS** bits in the **UARTRIS** register are triggered.

The interrupts are generated based on a transition through a level rather than being based on the level. That is, the interrupts are generated when the fill level progresses through the trigger level. For example, if the receive trigger level is set to the half-way mark, the interrupt is triggered as the module is receiving the 9th character.

Out of reset, the **TXIFLSEL** and **RXIFLSEL** bits are configured so that the FIFOs trigger an interrupt at the half-way mark.

UART Interrupt FIFO Level Select (UARTIFLS)

UART0 base: 0x4000.C000
 UART1 base: 0x4000.D000
 UART2 base: 0x4000.E000
 UART3 base: 0x4000.F000
 UART4 base: 0x4001.0000
 UART5 base: 0x4001.1000
 UART6 base: 0x4001.2000
 UART7 base: 0x4001.3000
 Offset 0x034
 Type RW, reset 0x0000.0012

	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	reserved															
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	reserved										RXIFLSEL		TXIFLSEL			
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RW	RW	RW	RW	RW	RW
Reset	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0

Bit/Field	Name	Type	Reset	Description														
31:6	reserved	RO	0x0000.00	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.														
5:3	RXIFLSEL	RW	0x2	UART Receive Interrupt FIFO Level Select The trigger points for the receive interrupt are as follows: <table><tr><th>Value</th><th>Description</th></tr><tr><td>0x0</td><td>RX FIFO $\geq \frac{1}{8}$ full</td></tr><tr><td>0x1</td><td>RX FIFO $\geq \frac{1}{4}$ full</td></tr><tr><td>0x2</td><td>RX FIFO $\geq \frac{1}{2}$ full (default)</td></tr><tr><td>0x3</td><td>RX FIFO $\geq \frac{3}{4}$ full</td></tr><tr><td>0x4</td><td>RX FIFO $\geq \frac{7}{8}$ full</td></tr><tr><td>0x5-0x7</td><td>Reserved</td></tr></table>	Value	Description	0x0	RX FIFO $\geq \frac{1}{8}$ full	0x1	RX FIFO $\geq \frac{1}{4}$ full	0x2	RX FIFO $\geq \frac{1}{2}$ full (default)	0x3	RX FIFO $\geq \frac{3}{4}$ full	0x4	RX FIFO $\geq \frac{7}{8}$ full	0x5-0x7	Reserved
Value	Description																	
0x0	RX FIFO $\geq \frac{1}{8}$ full																	
0x1	RX FIFO $\geq \frac{1}{4}$ full																	
0x2	RX FIFO $\geq \frac{1}{2}$ full (default)																	
0x3	RX FIFO $\geq \frac{3}{4}$ full																	
0x4	RX FIFO $\geq \frac{7}{8}$ full																	
0x5-0x7	Reserved																	

Bit/Field	Name	Type	Reset	Description														
2:0	TXIFLSEL	RW	0x2	UART Transmit Interrupt FIFO Level Select The trigger points for the transmit interrupt are as follows: <table><tr><th>Value</th><th>Description</th></tr><tr><td>0x0</td><td>TX FIFO $\leq \frac{7}{8}$ empty</td></tr><tr><td>0x1</td><td>TX FIFO $\leq \frac{3}{4}$ empty</td></tr><tr><td>0x2</td><td>TX FIFO $\leq \frac{1}{2}$ empty (default)</td></tr><tr><td>0x3</td><td>TX FIFO $\leq \frac{1}{4}$ empty</td></tr><tr><td>0x4</td><td>TX FIFO $\leq \frac{1}{8}$ empty</td></tr><tr><td>0x5-0x7</td><td>Reserved</td></tr></table> Note: If the EOT bit in UARTCTL is set (see page 918), the transmit interrupt is generated once the FIFO is completely empty and all data including stop bits have left the transmit serializer. In this case, the setting of TXIFLSEL is ignored.	Value	Description	0x0	TX FIFO $\leq \frac{7}{8}$ empty	0x1	TX FIFO $\leq \frac{3}{4}$ empty	0x2	TX FIFO $\leq \frac{1}{2}$ empty (default)	0x3	TX FIFO $\leq \frac{1}{4}$ empty	0x4	TX FIFO $\leq \frac{1}{8}$ empty	0x5-0x7	Reserved
Value	Description																	
0x0	TX FIFO $\leq \frac{7}{8}$ empty																	
0x1	TX FIFO $\leq \frac{3}{4}$ empty																	
0x2	TX FIFO $\leq \frac{1}{2}$ empty (default)																	
0x3	TX FIFO $\leq \frac{1}{4}$ empty																	
0x4	TX FIFO $\leq \frac{1}{8}$ empty																	
0x5-0x7	Reserved																	

Register 10: UART Interrupt Mask (UARTIM), offset 0x038

The **UARTIM** register is the interrupt mask set/clear register.

On a read, this register gives the current value of the mask on the relevant interrupt. Setting a bit allows the corresponding raw interrupt signal to be routed to the interrupt controller. Clearing a bit prevents the raw interrupt signal from being sent to the interrupt controller.

UART Interrupt Mask (UARTIM)

UART0 base: 0x4000.C000
 UART1 base: 0x4000.D000
 UART2 base: 0x4000.E000
 UART3 base: 0x4000.F000
 UART4 base: 0x4001.0000
 UART5 base: 0x4001.1000
 UART6 base: 0x4001.2000
 UART7 base: 0x4001.3000
 Offset 0x038
 Type RW, reset 0x0000.0000

		31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
		reserved															
Type		RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		reserved		9BITIM	reserved	OEIM	BEIM	PEIM	FEIM	RTIM	TXIM	RXIM	reserved		CTSIM	reserved	
Type		RO	RO	RO	RW	RO	RW	RW	RW	RW	RW	RW	RW	RO	RO	RW	RO
Reset		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bit/Field	Name	Type	Reset	Description
31:13	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
12	9BITIM	RW	0	9-Bit Mode Interrupt Mask
				Value Description
			0	The 9BITRIS interrupt is suppressed and not sent to the interrupt controller.
			1	An interrupt is sent to the interrupt controller when the 9BITRIS bit in the UARTRIS register is set.
11	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
10	OEIM	RW	0	UART Overrun Error Interrupt Mask
				Value Description
			0	The OERIS interrupt is suppressed and not sent to the interrupt controller.
			1	An interrupt is sent to the interrupt controller when the OERIS bit in the UARTRIS register is set.

Bit/Field	Name	Type	Reset	Description
9	BEIM	RW	0	UART Break Error Interrupt Mask Value Description 0 The BERIS interrupt is suppressed and not sent to the interrupt controller. 1 An interrupt is sent to the interrupt controller when the BERIS bit in the UARTRIS register is set.
8	PEIM	RW	0	UART Parity Error Interrupt Mask Value Description 0 The PERIS interrupt is suppressed and not sent to the interrupt controller. 1 An interrupt is sent to the interrupt controller when the PERIS bit in the UARTRIS register is set.
7	FEIM	RW	0	UART Framing Error Interrupt Mask Value Description 0 The FERIS interrupt is suppressed and not sent to the interrupt controller. 1 An interrupt is sent to the interrupt controller when the FERIS bit in the UARTRIS register is set.
6	RTIM	RW	0	UART Receive Time-Out Interrupt Mask Value Description 0 The RTRIS interrupt is suppressed and not sent to the interrupt controller. 1 An interrupt is sent to the interrupt controller when the RTRIS bit in the UARTRIS register is set.
5	TXIM	RW	0	UART Transmit Interrupt Mask Value Description 0 The TXRIS interrupt is suppressed and not sent to the interrupt controller. 1 An interrupt is sent to the interrupt controller when the TXRIS bit in the UARTRIS register is set.
4	RXIM	RW	0	UART Receive Interrupt Mask Value Description 0 The RXRIS interrupt is suppressed and not sent to the interrupt controller. 1 An interrupt is sent to the interrupt controller when the RXRIS bit in the UARTRIS register is set.

Bit/Field	Name	Type	Reset	Description
3:2	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
1	CTSIM	RW	0	UART Clear to Send Modem Interrupt Mask
				Value Description
			0	The CTSRIS interrupt is suppressed and not sent to the interrupt controller.
			1	An interrupt is sent to the interrupt controller when the CTSRIS bit in the UARTRIS register is set.
				This bit is implemented only on UART1 and is reserved for UART0 and UART2.
0	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.

Register 11: UART Raw Interrupt Status (UARTRIS), offset 0x03C

The **UARTRIS** register is the raw interrupt status register. On a read, this register gives the current raw status value of the corresponding interrupt. A write has no effect.

UART Raw Interrupt Status (UARTRIS)

UART0 base: 0x4000.C000
 UART1 base: 0x4000.D000
 UART2 base: 0x4000.E000
 UART3 base: 0x4000.F000
 UART4 base: 0x4001.0000
 UART5 base: 0x4001.1000
 UART6 base: 0x4001.2000
 UART7 base: 0x4001.3000
 Offset 0x03C
 Type RO, reset 0x0000.0000

	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	reserved															
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	reserved			9BITRIS	reserved	OERIS	BERIS	PERIS	FERIS	RTRIS	TXRIS	RXRIS	reserved		CTSRIS	reserved
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bit/Field	Name	Type	Reset	Description
31:13	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
12	9BITRIS	RO	0	9-Bit Mode Raw Interrupt Status Value Description 0 No interrupt 1 A receive address match has occurred. This bit is cleared by writing a 1 to the 9BITIC bit in the UARTICR register.
11	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
10	OERIS	RO	0	UART Overrun Error Raw Interrupt Status Value Description 0 No interrupt 1 An overrun error has occurred. This bit is cleared by writing a 1 to the OEIC bit in the UARTICR register.
9	BERIS	RO	0	UART Break Error Raw Interrupt Status Value Description 0 No interrupt 1 A break error has occurred. This bit is cleared by writing a 1 to the BEIC bit in the UARTICR register.

Bit/Field	Name	Type	Reset	Description
8	PERIS	RO	0	<p>UART Parity Error Raw Interrupt Status</p> <p>Value Description</p> <p>0 No interrupt</p> <p>1 A parity error has occurred.</p> <p>This bit is cleared by writing a 1 to the PEIC bit in the UARTICR register.</p>
7	FERIS	RO	0	<p>UART Framing Error Raw Interrupt Status</p> <p>Value Description</p> <p>0 No interrupt</p> <p>1 A framing error has occurred.</p> <p>This bit is cleared by writing a 1 to the FEIC bit in the UARTICR register.</p>
6	RTRIS	RO	0	<p>UART Receive Time-Out Raw Interrupt Status</p> <p>Value Description</p> <p>0 No interrupt</p> <p>1 A receive time out has occurred.</p> <p>This bit is cleared by writing a 1 to the RTIC bit in the UARTICR register. For receive timeout, the RTIM bit in the UARTIM register must be set to see the RTRIS status.</p>
5	TXRIS	RO	0	<p>UART Transmit Raw Interrupt Status</p> <p>Value Description</p> <p>0 No interrupt</p> <p>1 If the EOT bit in the UARTCTL register is clear, the transmit FIFO level has passed through the condition defined in the UARTIFLS register.</p> <p>If the EOT bit is set, the last bit of all transmitted data and flags has left the serializer.</p> <p>This bit is cleared by writing a 1 to the TXIC bit in the UARTICR register or by writing data to the transmit FIFO until it becomes greater than the trigger level, if the FIFO is enabled, or by writing a single byte if the FIFO is disabled.</p>
4	RXRIS	RO	0	<p>UART Receive Raw Interrupt Status</p> <p>Value Description</p> <p>0 No interrupt</p> <p>1 The receive FIFO level has passed through the condition defined in the UARTIFLS register.</p> <p>This bit is cleared by writing a 1 to the RXIC bit in the UARTICR register or by reading data from the receive FIFO until it becomes less than the trigger level, if the FIFO is enabled, or by reading a single byte if the FIFO is disabled.</p>

Bit/Field	Name	Type	Reset	Description
3:2	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
1	CTSRIS	RO	0	<p>UART Clear to Send Modem Raw Interrupt Status</p> <p>Value Description</p> <p>0 No interrupt</p> <p>1 Clear to Send used for software flow control.</p> <p>This bit is cleared by writing a 1 to the <code>CTSIC</code> bit in the UARTICR register.</p> <p>This bit is implemented only on UART1 and is reserved for UART0 and UART2.</p>
0	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.

Register 12: UART Masked Interrupt Status (UARTMIS), offset 0x040

The **UARTMIS** register is the masked interrupt status register. On a read, this register gives the current masked status value of the corresponding interrupt. A write has no effect.

UART Masked Interrupt Status (UARTMIS)

UART0 base: 0x4000.C000
 UART1 base: 0x4000.D000
 UART2 base: 0x4000.E000
 UART3 base: 0x4000.F000
 UART4 base: 0x4001.0000
 UART5 base: 0x4001.1000
 UART6 base: 0x4001.2000
 UART7 base: 0x4001.3000
 Offset 0x040
 Type RO, reset 0x0000.0000

	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	reserved															
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	reserved			9BITMIS	reserved	OEMIS	BEMIS	PEMIS	FEMIS	RTMIS	TXMIS	RXMIS	reserved		CTSMIS	reserved
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bit/Field	Name	Type	Reset	Description						
31:13	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.						
12	9BITMIS	RO	0	9-Bit Mode Masked Interrupt Status <table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>An interrupt has not occurred or is masked.</td></tr><tr><td>1</td><td>An unmasked interrupt was signaled due to a receive address match.</td></tr></table> This bit is cleared by writing a 1 to the 9BITIC bit in the UARTICR register.	Value	Description	0	An interrupt has not occurred or is masked.	1	An unmasked interrupt was signaled due to a receive address match.
Value	Description									
0	An interrupt has not occurred or is masked.									
1	An unmasked interrupt was signaled due to a receive address match.									
11	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.						
10	OEMIS	RO	0	UART Overrun Error Masked Interrupt Status <table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>An interrupt has not occurred or is masked.</td></tr><tr><td>1</td><td>An unmasked interrupt was signaled due to an overrun error.</td></tr></table> This bit is cleared by writing a 1 to the OEIC bit in the UARTICR register.	Value	Description	0	An interrupt has not occurred or is masked.	1	An unmasked interrupt was signaled due to an overrun error.
Value	Description									
0	An interrupt has not occurred or is masked.									
1	An unmasked interrupt was signaled due to an overrun error.									

Bit/Field	Name	Type	Reset	Description
9	BEMIS	RO	0	<p>UART Break Error Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to a break error.</p> <p>This bit is cleared by writing a 1 to the BEIC bit in the UARTICR register.</p>
8	PEMIS	RO	0	<p>UART Parity Error Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to a parity error.</p> <p>This bit is cleared by writing a 1 to the PEIC bit in the UARTICR register.</p>
7	FEMIS	RO	0	<p>UART Framing Error Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to a framing error.</p> <p>This bit is cleared by writing a 1 to the FEIC bit in the UARTICR register.</p>
6	RTMIS	RO	0	<p>UART Receive Time-Out Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to a receive time out.</p> <p>This bit is cleared by writing a 1 to the RTIC bit in the UARTICR register. For receive timeout, the RTIM bit in the UARTIM register must be set to see the RTMIS status.</p>
5	TXMIS	RO	0	<p>UART Transmit Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to passing through the specified transmit FIFO level (if the EOT bit is clear) or due to the transmission of the last data bit (if the EOT bit is set).</p> <p>This bit is cleared by writing a 1 to the TXIC bit in the UARTICR register or by writing data to the transmit FIFO until it becomes greater than the trigger level, if the FIFO is enabled, or by writing a single byte if the FIFO is disabled.</p>

Bit/Field	Name	Type	Reset	Description
4	RXMIS	RO	0	<p>UART Receive Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to passing through the specified receive FIFO level.</p> <p>This bit is cleared by writing a 1 to the RXIC bit in the UARTICR register or by reading data from the receive FIFO until it becomes less than the trigger level, if the FIFO is enabled, or by reading a single byte if the FIFO is disabled.</p>
3:2	reserved	RO	0	<p>Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.</p>
1	CTSMIS	RO	0	<p>UART Clear to Send Modem Masked Interrupt Status</p> <p>Value Description</p> <p>0 An interrupt has not occurred or is masked.</p> <p>1 An unmasked interrupt was signaled due to Clear to Send.</p> <p>This bit is cleared by writing a 1 to the CTSIC bit in the UARTICR register.</p> <p>This bit is implemented only on UART1 and is reserved for UART0 and UART2.</p>
0	reserved	RO	0	<p>Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.</p>

Register 13: UART Interrupt Clear (UARTICR), offset 0x044

The **UARTICR** register is the interrupt clear register. On a write of 1, the corresponding interrupt (both raw interrupt and masked interrupt, if enabled) is cleared. A write of 0 has no effect.

UART Interrupt Clear (UARTICR)

UART0 base: 0x4000.C000
 UART1 base: 0x4000.D000
 UART2 base: 0x4000.E000
 UART3 base: 0x4000.F000
 UART4 base: 0x4001.0000
 UART5 base: 0x4001.1000
 UART6 base: 0x4001.2000
 UART7 base: 0x4001.3000
 Offset 0x044
 Type W1C, reset 0x0000.0000

	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	reserved															
Type	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	reserved			9BITIC	reserved	OEIC	BEIC	PEIC	FEIC	RTIC	TXIC	RXIC	reserved		CTSMIC	reserved
Type	RO	RO	RO	RW	RO	W1C	W1C	W1C	W1C	W1C	W1C	W1C	RO	RO	W1C	RO
Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bit/Field	Name	Type	Reset	Description
31:13	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
12	9BITIC	RW	0	9-Bit Mode Interrupt Clear Writing a 1 to this bit clears the 9BITRIS bit in the UARTRIS register and the 9BITMIS bit in the UARTMIS register.
11	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
10	OEIC	W1C	0	Overrun Error Interrupt Clear Writing a 1 to this bit clears the OERIS bit in the UARTRIS register and the OEMIS bit in the UARTMIS register.
9	BEIC	W1C	0	Break Error Interrupt Clear Writing a 1 to this bit clears the BERIS bit in the UARTRIS register and the BEMIS bit in the UARTMIS register.
8	PEIC	W1C	0	Parity Error Interrupt Clear Writing a 1 to this bit clears the PERIS bit in the UARTRIS register and the PEMIS bit in the UARTMIS register.
7	FEIC	W1C	0	Framing Error Interrupt Clear Writing a 1 to this bit clears the FERIS bit in the UARTRIS register and the FEMIS bit in the UARTMIS register.
6	RTIC	W1C	0	Receive Time-Out Interrupt Clear Writing a 1 to this bit clears the RTRIS bit in the UARTRIS register and the RTMIS bit in the UARTMIS register.

Bit/Field	Name	Type	Reset	Description
5	TXIC	W1C	0	Transmit Interrupt Clear Writing a 1 to this bit clears the TXRIS bit in the UARTRIS register and the TXMIS bit in the UARTMIS register.
4	RXIC	W1C	0	Receive Interrupt Clear Writing a 1 to this bit clears the RXRIS bit in the UARTRIS register and the RXMIS bit in the UARTMIS register.
3:2	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.
1	CTSMIC	W1C	0	UART Clear to Send Modem Interrupt Clear Writing a 1 to this bit clears the CTSRIS bit in the UARTRIS register and the CTSMIS bit in the UARTMIS register. This bit is implemented only on UART1 and is reserved for UART0 and UART2.
0	reserved	RO	0	Software should not rely on the value of a reserved bit. To provide compatibility with future products, the value of a reserved bit should be preserved across a read-modify-write operation.