

VERIFICATION PLAN: UART							Create by: Nguyen Van Huy		
Section	Main Title	Sub Title	Description	Pass Condition	Testname	Method	Status	Remak	
1	uart_lhs sends, uart_rhs receives								
1.1	tx/rx test		- UART VIP Configuration: + Baud Rate = 9600. + Data Bits = 8 bits. + Parity = None. + Stop Bits = 1 bit. - Steps : 1. Configure both uart_lhs and uart_rhs with the same settings. 2. uart_lhs sends random data through TX_LHS port. 3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit. 4. uart_rhs receives through RX_RHS port.	- Case uart_rhs receives the random data correctly through RX_RHS port. PASS: Received data matches the transmitted data with no bit errors.	uart_lhs_txrx_test	Direct	PASS		
1.2	Stop Bit Test	1 Stop bit	- UART VIP Configuration: + Baud Rate = 9600. + Data Bits = 8 bits. + Parity = None. + Stop Bits = 1, 2. - Steps: 1. Configure both uart_lhs and uart_rhs with the same settings, starting with 1 Stop Bit. 2. uart_lhs sends random data through TX_LHS port with frame format: + Start Bit (1), Data Bits (8), and Stop Bit (1). 3. uart_rhs receives the data through RX_RHS port. 4. Repeat the process with frame format: + Start Bit (1), Data Bits (8), and Stop Bits (2)..	- uart_rhs correctly receives data from uart_lhs through RX_RHS port for both scenarios (1 Stop Bit and 2 Stop Bits)..	uart_lhs_1stopbit_test	Direct	PASS		
		2 Stop bit	1. Configure both uart_lhs and uart_rhs with the same settings, starting with 1 Stop Bit. 2. uart_lhs sends random data through TX_LHS port with frame format: + Start Bit (1), Data Bits (8), and Stop Bit (1). 3. uart_rhs receives the data through RX_RHS port. 4. Repeat the process with frame format: + Start Bit (1), Data Bits (8), and Stop Bits (2)..		uart_lhs_2stopbit_test	Direct	PASS		
1.3	Data Bits Test	Data Bits = 9	UART VIP Configuration: + Baud Rate = 9600. + Parity = None. + Stop Bits = 1 bit. + Data Bits = 9, 8, 7, 6, 5. - Steps : 1. Configure both uart_lhs and uart_rhs with the same settings, starting with Data Bits = 9. 2. uart_lhs sends random data through TX_LHS port with frame format: + Start Bit (1), Data Bits (9), and Stop Bit (1). 3. uart_rhs receives the data through RX_RHS port. 4. Repeat the process for Data Bits = 8, 7, 6, and 5.	- uart_rhs correctly receives the data transmitted from uart_lhs for all Data Bits settings PASS: Data transmission is successful for all Data Bits configurations without errors.	uart_lhs_9databit_test	Direct	PASS		
		Data Bits = 8			uart_lhs_8databit_test	Direct	PASS		
		Data Bits = 7			uart_lhs_7databit_test	Direct	PASS		
		Data Bits = 6			uart_lhs_6databit_test	Direct	PASS		
		Data Bits = 5			uart_lhs_5databit_test	Direct	PASS		
1.4	Baud Rate Test	Baud Rate = 4800	- UART VIP Configuration: + Baud Rate = 4800, 9600, 19200, 57600, 115200. + Data Bits = 8 bits. + Parity = None. + Stop Bits = 1 bit. - Steps (Case 1): 1. Configure both uart_lhs and uart_rhs with the same settings. 2. uart_lhs sends random data through TX_LHS port. 3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit. 4. uart_rhs receives the data through RX_RHS port.	- Case 1: uart_rhs receives random data correctly through RX_RHS port for all baud rates. PASS: No data loss or errors for all baud rates.	uart_lhs_4800baudrate_test	Direct	PASS		
		Baud Rate = 9600			uart_lhs_9600baudrate_test	Direct	PASS		
		Baud Rate = 19200			uart_lhs_19200baudrate_test	Direct	PASS		
		Baud Rate = 57600			uart_lhs_57600baudrate_test	Direct	PASS		
		Baud Rate = 115200			uart_lhs_115200baudrate_test	Direct	PASS		
		Baud Rate = custom(1200)			uart_lhs_custombaudrate_test	Direct	PASS		
1.5	Parity Check Test	Even Parity	- UART VIP Configuration: + Baud Rate = 9600. + Data Bits = 8 bits. + Parity = Even and Odd (alternately). + Stop Bits = 1 bit. - Steps (Case 1 - Even Parity): 1. Configure both uart_lhs and uart_rhs with the same settings and Even Parity. 2. uart_lhs sends data through TX_LHS port for two scenarios: + Scenario 1: Data = 01010101, which requires Parity Bit = 0. + Scenario 2: Data = 00001110, which requires Parity Bit = 1. 3. Data frame includes Start Bit (1), 8 Data Bits, Parity Bit (0 or 1), and 1 Stop Bit. 4. uart_rhs receives through RX_RHS port and checks for parity mismatches.	- Case 1 (Even Parity): + Scenario 1: When the data is 01010101, the number of 1 bits is even (4 bits), so the Parity Bit is 0. + Scenario 2: When the data is 00001110, the number of 1 bits is odd (3 bits), so the Parity Bit is 1 to make the total even (4 bits). PASS: The received data and parity bit match the Even Parity configuration.	uart_lhs_evenparity_test	Direct	PASS		
		Odd Parity	- Steps (Case 2 - Odd Parity): 1. Configure both uart_lhs and uart_rhs with the same settings and Odd Parity. 2. uart_rhs sends data through TX_RHS port for two scenarios: + Scenario 1: Data = 0110_0011, which requires Parity Bit = 0. + Scenario 2: Data = 1110_1010, which requires Parity Bit = 1. 3. Data frame includes Start Bit (1), 8 Data Bits, Parity Bit (0 or 1), and 1 Stop Bit. 4. uart_lhs receives through RX_LHS port and checks for parity mismatches.	- Case 2 (Odd Parity): + Scenario 1: When the data is 00001111, the number of 1 bits is odd (4 bits after adding parity), so the Parity Bit is 0. + Scenario 2: When the data is 11110000, the number of 1 bits is even (5 bits after adding parity), so the Parity Bit is 1. PASS: The received data and parity bit match the Odd Parity configuration.	uart_lhs_oddparity_test	Direct	PASS		
		No Parity	- Steps (Case 3 - No Parity): 1. Configure both uart_lhs and uart_rhs with the same settings. 2. uart_lhs sends random data through TX_LHS port. 3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit. 4. uart_rhs receives through RX_RHS port.	- Case uart_rhs receives the random data correctly through RX_RHS port. PASS: Received data matches the transmitted data with no bit errors, no parity bit.	uart_lhs_noparity_test	Direct	PASS		
1.6	Combination Test	Baurd rate = 4800 Data bit = 5 Parity = ODD Stop bit = 1	- UART VIP Configuration: + Baud Rate = random. + Data Bits = random. + Parity = random. + Stop Bits = random. - Steps : 1. Configure both uart_lhs and uart_rhs with the same settings. 2. uart_lhs sends random data through TX_LHS port. 3. Data frame includes 1 Start Bit , (8,7,6,5) Data Bits, and (1,2) Stop Bit. 4. uart_rhs receives through RX_RHS port.	- Case uart_rhs receives the random data correctly through RX_RHS port. PASS: Received data matches the transmitted data with no bit errors.	uart_lhs_combination1_test	Direct	PASS		
		Baurd rate = 9600 Data bit = 6 Parity = EVEN Stop bit = 2		- Case uart_rhs receives the random data correctly through RX_RHS port. PASS: Received data matches the transmitted data with no bit errors.	uart_lhs_combination2_test	Direct	PASS		
		Baurd rate = 57600 Data bit = 8 Parity = NO Stop bit = 2		- Case uart_rhs receives the random data correctly through RX_RHS port. PASS: Received data matches the transmitted data with no bit errors.	uart_lhs_combination3_test	Direct	PASS		
		Baurd rate = 115200 Data bit = 9 Parity = NO Stop bit = 2		- Case uart_rhs receives the random data correctly through RX_RHS port. PASS: Received data matches the transmitted data with no bit errors.	uart_lhs_combination4_test	Direct	PASS		

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Section	Main Title	Sub Title	Description	Pass Condition	Testname	Method	Status	Remak	
2	uart_rhs sends, uart_lhs receives								
2.1	tx/rx test		- UART VIP Configuration: + Baud Rate = 9600. + Data Bits = 8 bits. + Parity = None. + Stop Bits = 1 bit. - Steps : 1. Configure both uart_rhs and uart_lhs with the same settings. 2. uart_rhs sends random data through TX_rhs port. 3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit. 4. uart_lhs receives through RX_lhs port.	- Case uart_lhs receives the random data correctly through RX_lhs port. PASS: Received data matches the transmitted data with no bit errors.	uart_rhs_brx_test	Direct	PASS		
2.2	Stop Bit Test	1 Stop bit	- UART VIP Configuration: + Baud Rate = 9600. + Data Bits = 8 bits. + Parity = None. + Stop Bits = 1, 2. - Steps: 1. Configure both uart_rhs and uart_lhs with the same settings, starting with 1 Stop Bit. 2. uart_rhs sends random data through TX_rhs port with frame format: + Start Bit (1), Data Bits (8), and Stop Bit (1). 3. uart_lhs receives the data through RX_lhs port. 4. Repeat the process with frame format: + Start Bit (1), Data Bits (8), and Stop Bits (2)..	- uart_lhs correctly receives data from uart_rhs through RX_lhs port for both scenarios (1 Stop Bit and 2 Stop Bits)..	uart_rhs_1stopbit_test	Direct	PASS		
		2 Stop bit	1. Configure both uart_rhs and uart_lhs with the same settings, starting with 1 Stop Bit. 2. uart_rhs sends random data through TX_rhs port with frame format: + Start Bit (1), Data Bits (8), and Stop Bit (1). 3. uart_lhs receives the data through RX_lhs port. 4. Repeat the process with frame format: + Start Bit (1), Data Bits (8), and Stop Bits (2)..	uart_rhs_2stopbit_test	Direct	PASS			
2.3	Data Bits Test	Data Bits = 9	UART VIP Configuration: + Baud Rate = 9600. + Parity = None. + Stop Bits = 1 bit. + Data Bits = 9, 8, 7, 6, 5. - Steps : 1. Configure both uart_rhs and uart_lhs with the same settings, starting with Data Bits = 9. 2. uart_rhs sends random data through TX_rhs port with frame format: + Start Bit (1), Data Bits (9), and Stop Bit (1). 3. uart_lhs receives the data through RX_lhs port. 4. Repeat the process for Data Bits = 8, 7, 6, and 5.	- uart_lhs correctly receives the data transmitted from uart_rhs for all Data Bits settings PASS: Data transmission is successful for all Data Bits configurations without errors.	uart_rhs_9databit_test	Direct	PASS		
		Data Bits = 8		uart_rhs_8databit_test	Direct	PASS			
		Data Bits = 7		uart_rhs_7databit_test	Direct	PASS			
		Data Bits = 6		uart_rhs_6databit_test	Direct	PASS			
		Data Bits = 5		uart_rhs_5databit_test	Direct	PASS			
				uart_rhs_4800baudrate_test	Direct	PASS			
2.4	Baud Rate Test	Baud Rate = 4800	- UART VIP Configuration: + Baud Rate = 4800, 9600, 19200, 57600, 115200. + Data Bits = 8 bits. + Parity = None. + Stop Bits = 1 bit. - Steps (Case 1): 1. Configure both uart_rhs and uart_lhs with the same settings. 2. uart_rhs sends random data through TX_rhs port. 3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit. 4. uart_lhs receives the data through RX_lhs port.	- Case 1: uart_lhs receives random data correctly through RX_lhs port for all baud rates. PASS: No data loss or errors for all baud rates.	uart_rhs_4800baudrate_test	Direct	PASS		
		Baud Rate = 9600		uart_rhs_9600baudrate_test	Direct	PASS			
		Baud Rate = 19200		uart_rhs_19200baudrate_test	Direct	PASS			
		Baud Rate = 57600		uart_rhs_57600baudrate_test	Direct	PASS			
		Baud Rate = 115200		uart_rhs_115200baudrate_test	Direct	PASS			
		Baud Rate = custom(1200)		uart_rhs_custombaudrate_test	Direct	PASS			
2.5	Parity Check Test	Even Parity	- UART VIP Configuration: + Baud Rate = 9600. + Data Bits = 8 bits. + Parity = Even and Odd (alternately). + Stop Bits = 1 bit. - Steps (Case 1 - Even Parity): 1. Configure both uart_rhs and uart_lhs with the same settings and Even Parity. 2. uart_rhs sends data through TX_rhs port for two scenarios: + Scenario 1: Data = 01010101, which requires Parity Bit = 0. + Scenario 2: Data = 00001110, which requires Parity Bit = 1. 3. Data frame includes Start Bit (1), 8 Data Bits, Parity Bit (0 or 1), and 1 Stop Bit. 4. uart_lhs receives through RX_lhs port and checks for parity mismatches. - Steps (Case 2 - Odd Parity): 1. Configure both uart_rhs and uart_lhs with the same settings and Odd Parity. 2. uart_lhs sends data through TX_lhs port for two scenarios: + Scenario 1: Data = 00001111, which requires Parity Bit = 0. + Scenario 2: Data = 11110000, which requires Parity Bit = 1. 3. Data frame includes Start Bit (1), 8 Data Bits, Parity Bit (0 or 1), and 1 Stop Bit. 4. uart_rhs receives through RX_rhs port and checks for parity mismatches.	- Case 1 (Even Parity): + Scenario 1: When the data is 01010101, the number of 1 bits is even (4 bits), so the Parity Bit is 0. + Scenario 2: When the data is 00001110, the number of 1 bits is odd (3 bits), so the Parity Bit is 1 to make the total even (4 bits). PASS: The received data and parity bit match the Even Parity configuration.	uart_rhs_evenparity_test	Direct	PASS		
		Odd Parity		- Case 2 (Odd Parity): + Scenario 1: When the data is 00001111, the number of 1 bits is odd (4 bits after adding parity), so the Parity Bit is 0. + Scenario 2: When the data is 11110000, the number of 1 bits is even (5 bits after adding parity), so the Parity Bit is 1. PASS: The received data and parity bit match the Odd Parity configuration.	uart_rhs_oddparity_test	Direct	PASS		
		No Parity	4. uart_rhs receives through RX_lhs port and checks for parity mismatches. - Steps (Case 3 - NO Parity): 1. Configure both uart_rhs and uart_lhs with the same settings. 2. uart_rhs sends random data through TX_rhs port. 3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit. 4. uart_lhs receives through RX_lhs port.	- Case 3 uart_lhs receives the random data correctly through RX_lhs port. PASS: Received data matches the transmitted data with no bit errors, no parity bit.	uart_rhs_noparity_test	Direct	PASS		
2.6	Combination Test	Baud rate = 4800 Data bit = 5 Parity = ODD Stop bit = 1	- UART VIP Configuration: + Baud Rate = random. + Data Bits = random. + Parity = random. + Stop Bits = random.	- Case uart_lhs receives the random data correctly through RX_lhs port. PASS: Received data matches the transmitted data with no bit errors.	uart_rhs_combination1_test	Direct	PASS		
		Baud rate = 9600 Data bit = 6 Parity = EVEN Stop bit = 2	- Steps : 1. Configure both uart_rhs and uart_lhs with the same settings. 2. uart_rhs sends random data through TX_rhs port. 3. Data frame includes 1 Start Bit , (8,7,6,5) Data Bits, and (1,2) Stop Bit. 4. uart_lhs receives through RX_lhs port.	- Case uart_lhs receives the random data correctly through RX_lhs port. PASS: Received data matches the transmitted data with no bit errors.	uart_rhs_combination2_test	Direct	PASS		
		Baud rate = 57600 Data bit = 8 Parity = NO Stop bit = 2		- Case uart_lhs receives the random data correctly through RX_lhs port. PASS: Received data matches the transmitted data with no bit errors.	uart_rhs_combination3_test	Direct	PASS		
		Baud rate = 1152600 Data bit = 9 Parity = NO Stop bit = 2		- Case uart_lhs receives the random data correctly through RX_lhs port. PASS: Received data matches the transmitted data with no bit errors.	uart_rhs_combination4_test	Direct	PASS		

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Section	Main Title	Sub Title	Description	Pass Condition	Testname	Method	Status	Remak	
3	Combination uart_lhs, uart_rhs sends and receives								
3.1	tx/rx test		<ul style="list-style-type: none"><li>- UART VIP Configuration:</li><li>+ Baud Rate = 9600.</li><li>+ Data Bits = 8 bits.</li><li>+ Parity = None.</li><li>+ Stop Bits = 1 bit.</li><li>- Steps :</li><li>1. Configure both uarlths_and_uarltrhs with the same settings.</li><li>2. uart_rhs and uart_lhs sends random data through TX_rhs and TX_lhs port.</li><li>3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit.</li><li>4. uart_lhs and uart_rhs and uart_lhs receives through RX_lhs and RX_rhs port.</li></ul>	<ul style="list-style-type: none"><li>- Case uart_lhs and uart_rhs and uart_lhs receives the random data correctly through RX_lhs and RX_rhs port.</li><li>PASS: Received data matches the transmitted data with no bit errors.</li></ul>	uart_rhs and uart_lhs_txrx_test	Direct	PASS		
3.2	Stop Bit Test	1 Stop bit	<ul style="list-style-type: none"><li>- UART VIP Configuration:</li><li>+ Baud Rate = 9600.</li><li>+ Data Bits = 8 bits.</li><li>+ Parity = None.</li><li>+ Stop Bits = 1, 2.</li><li>- Steps:</li><li>1. Configure both uarlths_and_uarltrhs with the same settings, starting with 1 Stop Bit.</li><li>2. uart_rhs and uart_lhs sends random data through TX_rhs and TX_lhs port with frame format:</li><li>+ Start Bit (1), Data Bits (8), and Stop Bit (1).</li><li>3. uart_lhs and uart_rhs and uart_lhs receives the data through RX_lhs and RX_rhs port.</li><li>4. Repeat the process with frame format:</li><li>+ Start Bit (1), Data Bits (8), and Stop Bits (2)..</li></ul>	<ul style="list-style-type: none"><li>- uart_lhs and uart_rhs and uart_lhs correctly receives data from uart_rhs and uart_lhs through RX_lhs and RX_rhs port for both scenarios (1 Stop Bit and 2 Stop Bits)..</li></ul>	uart_rhs and uart_lhs_1stopbit_test	Direct	PASS		
		2 Stop bit	<ul style="list-style-type: none"><li>1. Configure both uarlths_and_uarltrhs with the same settings, starting with 1 Stop Bit.</li><li>2. uart_rhs and uart_lhs sends random data through TX_rhs and TX_lhs port with frame format:</li><li>+ Start Bit (1), Data Bits (8), and Stop Bit (1).</li><li>3. uart_lhs and uart_rhs and uart_lhs receives the data through RX_lhs and RX_rhs port.</li><li>4. Repeat the process with frame format:</li><li>+ Start Bit (1), Data Bits (8), and Stop Bits (2)..</li></ul>		uart_rhs and uart_lhs_2stopbit_test	Direct	PASS		
3.3	Data Bits Test	Data Bits = 9	<ul style="list-style-type: none"><li>UART VIP Configuration:</li><li>+ Baud Rate = 9600.</li><li>+ Parity = None.</li><li>+ Stop Bits = 1 bit.</li><li>+ Data Bits = 9, 8, 7, 6, 5.</li><li>- Steps :</li><li>1. Configure both uarlths_and_uarltrhs with the same settings, starting with Data Bits = 9.</li><li>2. uart_rhs and uart_lhs sends random data through TX_rhs and TX_lhs port with frame format:</li><li>+ Start Bit (1), Data Bits (9), and Stop Bit (1).</li><li>3. uart_lhs and uart_rhs and uart_lhs receives the data through RX_lhs and RX_rhs port.</li><li>4. Repeat the process for Data Bits = 8, 7, 6, and 5.</li></ul>	<ul style="list-style-type: none"><li>- uart_lhs and uart_rhs and uart_lhs correctly receives the data transmitted from uart_rhs and uart_lhs for all Data Bits settings</li><li>PASS: Data transmission is successful for all Data Bits configurations without errors.</li></ul>	uart_rhs and uart_lhs_9databit_test	Direct			
		Data Bits = 8			uart_rhs and uart_lhs_8databit_test	Direct			
		Data Bits = 7			uart_rhs and uart_lhs_7databit_test	Direct			
		Data Bits = 6			uart_rhs and uart_lhs_6databit_test	Direct	PASS		
		Data Bits = 5			uart_rhs and uart_lhs_5databit_test	Direct	PASS		
3.4	Baud Rate Test	Baud Rate = 4800	<ul style="list-style-type: none"><li>- UART VIP Configuration:</li><li>+ Baud Rate = 4800, 9600, 19200, 57600, 115200.</li><li>+ Data Bits = 8 bits.</li><li>+ Parity = None.</li><li>+ Stop Bits = 1 bit.</li><li>- Steps (Case 1):</li><li>1. Configure both uarlths_and_uarltrhs with the same settings.</li><li>2. uart_rhs and uart_lhs sends random data through TX_rhs and TX_lhs port.</li><li>3. Data frame includes Start Bit (1), 8 Data Bits, and 1 Stop Bit.</li><li>4. uart_lhs and uart_rhs and uart_lhs receives the data through RX_lhs and RX_rhs port.</li></ul>	<ul style="list-style-type: none"><li>- Case 1: uart_lhs and uart_rhs and uart_lhs receives random data correctly through RX_lhs and RX_rhs port for all baud rates.</li><li>PASS: No data loss or errors for all baud rates.</li></ul>	uart_rhs and uart_lhs_4800baudrate_test	Direct	PASS		
		Baud Rate = 9600			uart_rhs and uart_lhs_9600baudrate_test	Direct	PASS		
		Baud Rate = 19200			uart_rhs and uart_lhs_19200baudrate_test	Direct	PASS		
		Baud Rate = 57600			uart_rhs and uart_lhs_57600baudrate_test	Direct	PASS		
		Baud Rate = 115200			uart_rhs and uart_lhs_115200baudrate_test	Direct	PASS		
		Baud Rate = custom(1200)			uart_lhs_custombaudrate_test	Direct	PASS		
3.5	Parity Check Test	Even Parity	<ul style="list-style-type: none"><li>- UART VIP Configuration:</li><li>+ Baud Rate = 9600.</li><li>+ Data Bits = 8 bits.</li><li>+ Parity = Even and Odd (alternately).</li><li>+ Stop Bits = 1 bit.</li><li>- Steps (Case 1 - Even Parity):</li><li>1. Configure both uarlths_and_uarltrhs with the same settings and Even Parity.</li><li>2. uart_rhs and uart_lhs sends data through TX_rhs and TX_lhs port for two scenarios:</li><li>+ Scenario 1: Data = 01010101, which requires Parity Bit = 0.</li><li>+ Scenario 2: Data = 00001110, which requires Parity Bit = 1.</li><li>3. Data frame includes Start Bit (1), 8 Data Bits, Parity Bit (0 or 1), and 1 Stop Bit.</li><li>4. uart_lhs and uart_rhs and uart_lhs receives through RX_lhs and RX_rhs port and checks for parity mismatches.</li><li>- Steps (Case 2 - Odd Parity):</li><li>1. Configure both uarlths_and_uarltrhs with the same settings and Odd Parity.</li><li>2. uart_lhs and uart_rhs and uart_lhs sends data through TX_lhs port for two scenarios:</li><li>+ Scenario 1: Data = 00001111, which requires Parity Bit = 0.</li><li>+ Scenario 2: Data = 11110000, which requires Parity Bit = 1.</li><li>3. Data frame includes Start Bit (1), 8 Data Bits, Parity Bit (0 or 1), and 1 Stop Bit.</li><li>4. uart_lhs and uart_rhs and uart_lhs receives through RX_lhs and RX_rhs port and checks for parity mismatches.</li></ul>	<ul style="list-style-type: none"><li>- Case 1 (Even Parity):</li><li>+ Scenario 1: When the data is 01010101, the number of 1 bits is even (4 bits), so the Parity Bit is 0.</li><li>+ Scenario 2: When the data is 00001110, the number of 1 bits is odd (3 bits), so the Parity Bit is 1 to make the total even (4 bits).</li><li>PASS: The received data and parity bit match the Even Parity configuration.</li></ul>	uart_rhs and uart_lhs_evenparity_test	Direct	PASS		
		Odd Parity		<ul style="list-style-type: none"><li>- Case 2 (Odd Parity):</li><li>+ Scenario 1: When the data is 00001111, the number of 1 bits is odd (4 bits after adding parity), so the Parity Bit is 0.</li><li>+ Scenario 2: When the data is 11110000, the number of 1 bits is even (5 bits after adding parity), so the Parity Bit is 1.</li><li>PASS: The received data and parity bit match the Odd Parity configuration.</li></ul>	uart_rhs and uart_lhs_oddparity_test	Direct	PASS		
		No Parity		<ul style="list-style-type: none"><li>- Case 3 uart_lhs and uart_rhs and uart_lhs receives the random data correctly through RX_lhs and RX_rhs port.</li><li>PASS: Received data matches the transmitted data with no bit errors, no parity bit.</li></ul>	uart_rhs and uart_lhs_noparity_test	Direct	PASS		
3.6	Combination Test	Baud rate = 4800 Data bit = 5 Parity = ODD Stop bit = 1	<ul style="list-style-type: none"><li>- UART VIP Configuration:</li><li>+ Baud Rate = random.</li><li>+ Data Bits = random.</li><li>+ Parity = random.</li><li>+ Stop Bits = random.</li><li>- Steps :</li><li>1. Configure both uarlths_and_uarltrhs with the same settings.</li><li>2. uart_rhs and uart_lhs sends random data through TX_LHS port.</li><li>3. Data frame includes 1 Start Bit , (8,7,6,5) Data Bits, and (1,2) Stop Bit.</li><li>4. uart_lhs and uart_rhs and uart_lhs receives through RX_lhs and RX_rhs port.</li></ul>	<ul style="list-style-type: none"><li>- Case uart_lhs and uart_rhs and uart_lhs receives the random data correctly through RX_lhs and RX_rhs port.</li><li>PASS: Received data matches the transmitted data with no bit errors.</li></ul>	uart_rhs and uart_lhs_combination1_test	Direct	PASS		
		Baud rate = 9600 Data bit = 6 Parity = EVEN Stop bit = 2		<ul style="list-style-type: none"><li>- Case uart_lhs and uart_rhs and uart_lhs receives the random data correctly through RX_lhs and RX_rhs port.</li><li>PASS: Received data matches the transmitted data with no bit errors.</li></ul>	uart_rhs and uart_lhs_combination2_test	Direct	PASS		
		Baud rate = 57600 Data bit = 8 Parity = NO Stop bit = 2		<ul style="list-style-type: none"><li>- Case uart_lhs and uart_rhs and uart_lhs receives the random data correctly through RX_lhs and RX_rhs port.</li><li>PASS: Received data matches the transmitted data with no bit errors.</li></ul>	uart_rhs and uart_lhs_combination3_test	Direct	PASS		
		Baud rate = 115200 Data bit = 9 Parity = NO Stop bit = 2		<ul style="list-style-type: none"><li>- Case uart_lhs and uart_rhs and uart_lhs receives the random data correctly through RX_lhs and RX_rhs port.</li><li>PASS: Received data matches the transmitted data with no bit errors.</li></ul>	uart_rhs and uart_lhs_combination4_test	Direct	PASS		
4	Config differences between uart_lhs and uart_rhs tests								
4.1	Config differences baud rate test		<ul style="list-style-type: none"><li>- UART VIP Configuration:</li><li>+ Baud Rate = random.</li><li>+ Data Bits = random.</li><li>+ Parity = random.</li><li>+ Stop Bits = random.</li></ul>	<ul style="list-style-type: none"><li>- Case uart_rhs receives the random data incorrectly through RX_RHS port.</li><li>PASS: Received data not matches the transmitted data.</li></ul>	uart_difference_baudrate_test	Direct	PASS		
4.2	Config differences stop bit test			<ul style="list-style-type: none"><li>- Case uart_rhs receives the random data incorrectly through RX_RHS port.</li><li>PASS: Received data not matches the transmitted data.</li></ul>	uart_difference_stopbit_test	Direct	PASS		
4.3	Config differences data bit test		<ul style="list-style-type: none"><li>- Steps :</li><li>1. Configure both uarlths_and_uarltrhs with the differences settings (baud rate the same settings.</li><li>2. uart_lhs sends random data through TX_LHS port.</li></ul>	<ul style="list-style-type: none"><li>- Case uart_rhs receives the random data incorrectly through RX_RHS port.</li><li>PASS: Received data not matches the transmitted data.</li></ul>	uart_difference_databit_test	Direct	PASS		
4.4	Config differences parity bit test		<ul style="list-style-type: none"><li>1. Configure both uart_lhs and uart_rhs with the differences settings (baud rate the same settings.</li><li>2. uart_lhs sends random data through TX_LHS port.</li><li>3. Data frame includes 1 Start Bit , (8,7,6,5) Data Bits, and (1,2) Stop Bit.</li><li>4. uart_rhs receives through RX_RHS port.</li></ul>	<ul style="list-style-type: none"><li>- Case uart_rhs receives the random data incorrectly through RX_RHS port.</li><li>PASS: Received data not matches the transmitted data.</li></ul>	uart_difference_paritybit_test	Direct	PASS		
4.5	Config differences baud rate, stop bit, data bit, parity bit test			<ul style="list-style-type: none"><li>- Case uart_rhs receives the random data incorrectly through RX_RHS port.</li><li>PASS: Received data not matches the transmitted data.</li></ul>	uart_lhs_difference_combination_test	Direct	PASS		