

## Contents

Fixed Virtual Platform .....	2
1.1 About the FVP .....	2
1.2 Memory Map Overview .....	2
1.3 FVP Peripherals .....	4
1.3.1 Expansion Peripheral Memory Map .....	6
1.3.2 Expansion Peripheral Interrupt Map .....	10
1.4 Peripheral Protection Controller Expansion Map .....	11
1.5 Memory Components .....	12
1.6 Limitations .....	12
1.7 Other documents .....	12

# Fixed Virtual Platform

To develop ahead of hardware availability and to explore the design from a software perspective, the Fixed Virtual Platform (FVP) models many of the Arm IP in the Corstone SSE-310 design.

## 1.1 About the FVP

The Corstone SSE-310 FVP models a r0p0 version of Corstone SSE-310 Subsystem.

The FVP models the following IP components:

- Single Arm Cortex-M Olympus processor with MVE extension
- Single Arm Ethos-U55 processor
- Memory Protection Controller (MPC)
- Peripheral Protection Controller (PPC)
- Implementation Defined Attribution Unit (IDAU)



*The FVP does not model every component that Corstone SSE-310 describes. For example, it does not model the CoreSight technology components.*

The full description of components that are internal to the SSE-310 Subsystem can be found in the SSE-310 Example Subsystem TRM. The Corstone SSE-310 FVP drives system architecture and software standardization. The model provides software and binaries of proprietary firmware that reduce the amount of work that is required for SoC development.

## 1.2 Memory Map Overview

This memory map includes information regarding IDAU security information for memory regions. This table outlines the main FVP memories and their positions within the memory map.

**Table 1-1** Memory Map overview

ROW ID	Address		Size	Description	Alias with Row ID	IDAU Region Values		
	From	To				Security	IDAUID	NSC
1	0x0000_0000	0x0000_7FFF	32KB	ITCM <sup>3</sup>	5	NS	0	0
2	0x0000_8000	0x00FF_FFFF	15.9MB	Reserved				
3	0x0100_0000	0x011F_FFFF	2MB	SRAM (2MB) <sup>1</sup>	7			
4	0x0120_0000	0x0FFF_FFFF	238MB	Reserved		S	1	CODE NSC
5	0x1000_0000	0x1000_7FFF	32KB	ITCM <sup>3</sup>	1			
6	0x1000_8000	0x10FF_FFFF	15.9MB	Reserved				

7	0x1100_0000	0x111F_FFFF	2MB	SRAM (2MB) <sup>1</sup>	3			
8	0x1120_0000	0x1FFF_FFFF	238MB	Reserved				
9	0x2000_0000	0x2000_7FFF	32KB	DTCM (4 x banks of 8KB) <sup>3</sup>	15	NS	2	0
10	0x2000_8000	0x20FF_FFFF	15.9MB	Reserved				
11	0x2100_0000	0x213F_FFFF	4MB	Internal SRAM Area (SSE-310 implements 2x2MB) <sup>3</sup>	17			
12	0x2140_0000	0x27FF_FFFF	108MB	Reserved				
13	0x2800_0000	0x287F_FFFF	8MB	QSPI (only 8MB) <sup>1</sup>	19			
14	0x2880_0000	0x2FFF_FFFF	120MB	Reserved				
15	0x3000_0000	0x3000_7FFF	32KB	DTCM (4 x banks of 8KB) <sup>3</sup>	9	S	3	RAM NSC
16	0x3000_8000	0x30FF_FFFF	15.9MB	Reserved				
17	0x3100_0000	0x313F_FFFF	4MB	Internal SRAM Area (SSE-310 implements 2x2MB) <sup>3</sup>	11			
18	0x3140_0000	0x37FF_FFFF	108MB	Reserved				
19	0x3800_0000	0x387F_FFFF	8MB	QSPI (only 8MB) <sup>1</sup>	13			
20	0x3880_0000	0x3FFF_FFFF	120MB	Reserved				
21	0x4000_0000	0x47FF_FFFF	128MB	Non-Secure Low Latency Peripheral Region.	23	NS	4	0
22	0x4800_0000	0x4FFF_FFFF	128MB	Non-Secure High Latency Peripheral Region.	24	NS	4	0
23	0x5000_0000	0x57FF_FFFF	128MB	Secure Low Latency Peripheral Region.	21	S	5	0
24	0x5800_0000	0x5FFF_FFFF	128MB	Secure High Latency Peripheral Region.	22	S	5	0
25	0x6000_0000	0x6FFF_FFFF	256MB	DDR4 <sup>1</sup>		NS	6	0
26	0x7000_0000	0x7FFF_FFFF	256MB	DDR4 <sup>1</sup>		S	7	0
27	0x8000_0000	0x8FFF_FFFF	256MB	DDR4 <sup>1</sup>		NS	8	0
28	0x9000_0000	0x9FFF_FFFF	256MB	DDR4 <sup>1</sup>		S	9	0
29	0xA000_0000	0xAFFF_FFFF	256MB	DDR4 <sup>1</sup>		NS	A	0
30	0xB000_0000	0xBFFF_FFFF	256MB	DDR4 <sup>1</sup>		S	B	0
31	0xC000_0000	0xCFFF_FFFF	256MB	DDR4 <sup>1</sup>		NS	C	0
32	0xD000_0000	0xDFFF_FFFF	256MB	DDR4 <sup>1</sup>		S	D	0
33	0xE000_0000	0xE00F_FFFF	1MB	External Private Peripheral Bus			Exempt	
34	0xE010_0000	0xE01F_FFFF	1MB	Reserved		NS	E	0
35	0xE020_0000	0xEFFF_FFFF	254MB	Maps to HMSTEXPPILL Expansion Interface <sup>2</sup>		NS	E	0
36	0xF000_0000	0xF00F_FFFF	1MB	Reserved			Exempt	
37	0xF010_0000	0xF01F_FFFF	1MB	Reserved		S	F	0
38	0xF020_0000	0xFFFF_FFFF	254MB	Maps to HMSTEXPPILL Expansion Interface <sup>2</sup>		S	F	0

Note<sup>1</sup>: Security Access is controlled by MPC.

Note<sup>2</sup>: Accesses to these addresses results in an AHB5 error response.

Note<sup>3</sup>: For security settings, control and features please refer to the Arm® Corstone™ SSE-310 Documentation.

## 1.3 FVP Peripherals

The Corstone SSE-310 includes peripherals that the software payload requires to run.

These peripherals are organized in following layer:

- Subsystem – The subsystem peripherals represent peripherals that are present on the SoC.
- Board - The board peripherals represent peripherals that may be present on the board onto which the SoC is mounted. The Corstone SSE-310 board model is based on the ARM MPS3 Board.

All peripherals that are extensions to the Corstone SSE-310 Subsystem are mapped into two key areas of the memory map:

- 0x4000\_0000 to 0x47FF\_FFFF and 0x4800\_0000 to 0x4FFF\_FFFF Non-Secure region which maps to AHB Master Expansion 1 interface.
- 0x5000\_0000 to 0x57FF\_FFFF and 0x5800\_0000 to 0x5FFF\_FFFF Secure region which maps to AHB Master Expansion 1 interface.

### 1.3.1 Subsystem Peripheral Memory Map

Table 1-2 Subsystem peripherals – Nonsecure

ROW ID	Address		Size	Description	Modelled in FVP
	From	To			
<b>Non-Secure Region</b>					
1	0x4000_0000	0x4000_0FFF	4KB	MHU 0	Not Modelled
2	0x4000_1000	0x4000_1FFF	4KB	MHU 1	Not Modelled
3	0x4000_2000	0x4000_3FFF	8KB	DMA	DMA-350
4	0x4000_4000	0x4000_4FFF	4KB	NPU APB	Modelled
	0x4000_5000	0x4001_EFFF		Reserved	
5	0x4001_F000	0x4001_FFFF	4KB	CPUID	Modelled
	0x4002_0000	0x4007_0000		Reserved	
6	0x4008_0000	0x4008_0FFF	4KB	Non-secure Access Configuration Registers	Modelled
	0x4008_1000	0x4008_FFFF		Reserved	
7	0x4009_0000	0x4009_3FFF	16KB	CryptoCell312	Not Modelled
	0x4009_4000	0x400F_FFFF		Reserved	
	0x4010_0000	0x47FF_FFFF		Board peripherals	
8	0x4800_0000	0x4800_0FFF	4KB	Timer 0	Modelled
9	0x4800_1000	0x4800_1FFF	4KB	Timer 1	Modelled
10	0x4800_2000	0x4800_2FFF	4KB	Timer 2	Modelled

11	0x4800_3000	0x4800_3FFF	4KB	Timer 3	Modelled
	0x4800_4000	0x4801_FFFF		Reserved	
12	0x4802_0000	0x4802_0FFF	4KB	SYSINFO	Modelled
	0x4802_1FFF	0x4802_EFFF		Reserved	
13	0x4802_F000	0x4802_FFFF	4KB	SLOWCLK Timer	Modelled
	0x4803_0000	0x4803_FFFF		Reserved	
14	0x4804_0000	0x4804_0FFF	4KB	Non-Secure Watchdog Control Frame	Modelled
15	0x4804_1000	0x4804_1FFF	4KB	Non-Secure Watchdog Refresh Frame	Modelled
	0x4804_2000	0x480F_FFFF		Reserved	

Table 1-3 Subsystem peripherals – Secure

ROW ID	Address		Size	Description	Modelled in FVP
	From	To			
Secure Region					
1	0x5000_0000	0x5000_0FFF	4KB	MHU 0	Not Modelled
2	0x5000_1000	0x5000_1FFF	4KB	MHU 1	Not Modelled
3	0x5000_2000	0x5000_3FFF	8KB	DMA	DMA-350
4	0x5000_4000	0x5000_4FFF	4KB	NPU APB	Modelled
	0x5000_5000	0x5001_EFFF		Reserved	
5	0x5001_F000	0x5001_FFFF	4KB	CPUID	Modelled
	0x5002_0000	0x5007_0000		Reserved	
6	0x5008_0000	0x5008_0FFF	4KB	Secure Access Configuration Registers	Modelled
	0x5008_1000	0x5008_2FFF		Reserved	
7	0x5008_3000	0x5008_3FFF	4KB	Internal SRAM MPC 0	Modelled
8	0x5008_4000	0x5008_4FFF	4KB	Internal SRAM MPC 1	Modelled
	0x5008_5000	0x5008_FFFF		Reserved	
9	0x5009_0000	0x5009_3FFF	16KB	CryptoCell312	Not Modelled
	0x5009_4000	0x500F_FFFF		Reserved	
	0x5010_0000	0x57FF_FFFF		Board peripherals	
10	0x5800_0000	0x5800_0FFF	4KB	Timer 0	Modelled
11	0x5800_1000	0x5800_1FFF	4KB	Timer 1	Modelled
12	0x5800_2000	0x5800_2FFF	4KB	Timer 2	Modelled
13	0x5800_3000	0x5800_3FFF	4KB	Timer 3	Modelled
	0x5800_4000	0x5801_FFFF		Reserved	

14	0x5802_0000	0x5802_0FFF	4KB	SYSINFO	Modelled
15	0x5802_1000	0x5802_1FFF	4KB	SYSCONTROL	Modelled
16	0x5802_2000	0x5802_2FFF	4KB	SYS_PPU	Modelled
17	0x5802_3000	0x5802_3FFF	4KB	CPU0_PPU	Modelled
	0x5802_4000	0x5802_6FFF		Reserved	
18	0x5802_7000	0x5802_7FFF	4KB	CRYPTO_PPU	Not Modelled
19	0x5802_8000	0x5802_8FFF	4KB	MGMT_PPU	Modelled
20	0x5802_9000	0x5802_9FFF	4KB	DBG_PPU	Modelled
21	0x5802_A000	0x5802_AFFF	4KB	NPU_PPU	Modelled
	0x5802_B000	0x5802_DFFF		Reserved	
22	0x5802_E000	0x5802_EFFF	4KB	SLOWCLK Watchdog	Modelled
23	0x5802_F000	0x5802_FFFF	4KB	SLOWCLK Timer	Modelled
	0x5803_0000	0x5803_FFFF		Reserved	
24	0x5804_0000	0x4804_0FFF	4KB	Secure Watchdog Control Frame	Modelled
25	0x5804_1000	0x4804_1FFF	4KB	Secure Watchdog Refresh Frame	Modelled
	0x5804_2000	0x580F_FFFF		Reserved	

### 1.3.2 Expansion Peripheral Memory Map

Table 1-4 Board peripherals - Nonsecure

ROW ID	Address		Size	Description	Modelled in FVP
	From	To			
Non-Secure Region					
1	0x4110_0000	0x4110_0FFF	4KB	GPIO 0	CMSDK GPIO
2	0x4110_1000	0x4110_1FFF	4KB	GPIO 1	CMSDK GPIO
3	0x4110_2000	0x4110_2FFF	4KB	GPIO 2	CMSDK GPIO
4	0x4110_3000	0x4110_3FFF	4KB	GPIO 3	CMSDK GPIO
5	0x4110_4000	0x4110_4FFF	4KB	USER AHB 0	Not Modelled
6	0x4110_5000	0x4110_5FFF	4KB	USER AHB 1	Not Modelled
7	0x4110_6000	0x4110_6FFF	4KB	USER AHB 2	Not Modelled
8	0x4110_7000	0x4110_7FFF	4KB	USER AHB 3	Not Modelled
	0x4110_8000	0x413F_FFFF		Reserved	
9	0x4140_0000	0x414F_FFFF	1MB	Ethernet	SMSC91C111 Ethernet controller
10	0x4150_0000	0x415F_FFFF	1MB	USB	Dummy Stub
	0x4160_0000	0x416F_FFFF		Reserved	
11	0x4170_0000	0x4170_0FFF	4KB	User APB0	Not Modelled
12	0x4170_1000	0x4170_1FFF	4KB	User APB1	Not Modelled
13	0x4170_2000	0x4170_2FFF	4KB	User APB2	Not Modelled
14	0x4170_3000	0x4170_3FFF	4KB	User APB3	Not Modelled

	0x4170_4000	0x417F_FFFF		Reserved	
15	0x4180_0000	0x4180_0FFF	4KB	QSPI Config	Not Modelled
16	0x4180_1000	0x4180_1FFF	4KB	QSPI Write	Not Modelled
	0x4180_2000	0x47FF_FFFF		Reserved	
	0x4800_0000	0x480F_FFFF		Subsystem peripherals	
17	0x4810_3000	0x4810_31FF	0.5KB	U55 timing adapter 0 APB	Modelled
18	0x4810_3200	0x4810_33FF	0.5KB	U55 timing adapter 1 APB	Modelled
	0x4810_3400	0x491F_FFFF		Reserved	
19	0x4920_0000	0x4920_0FFF	4KB	FPGA - SBCon I2C (Touch)	Partial modelled
20	0x4920_1000	0x4920_1FFF	4KB	FPGA - SBCon I2C (Audio Conf)	Dummy Stub
21	0x4920_2000	0x4920_2FFF	4KB	FPGA - PL022 (SPI ADC)	Dummy Stub
22	0x4920_3000	0x4920_3FFF	4KB	FPGA - PL022 (SPI Shield0)	Dummy Stub
23	0x4920_4000	0x4920_4FFF	4KB	FPGA - PL022 (SPI Shield1)	Dummy Stub
24	0x4920_5000	0x4920_5FFF	4KB	SBCon (I2C - Shield0)	Dummy Stub
25	0x4920_6000	0x4920_6FFF	4KB	SBCon (I2C - Shield1)	Dummy Stub
26	0x4920_7000	0x4920_7FFF	4KB	USER APB	Dummy Stub
27	0x4920_8000	0x4920_8FFF	4KB	FPGA - SBCon I2C (DDR4 EEPROM)	Dummy Stub
	0x4920_9000	0x492F_FFFF		Reserved	
28	0x4930_0000	0x4930_0FFF	4KB	FPGA - SCC registers	Modelled
29	0x4930_1000	0x4930_1FFF	4KB	FPGA - I2S (Audio)	Partial modelled
30	0x4930_2000	0x4930_2FFF	4KB	FPGA - IO (System Ctrl + I/O)	Modelled
31	0x4930_3000	0x4930_3FFF	4KB	UART0 - UART_F [0]	CMSDK UART
32	0x4930_4000	0x4930_4FFF	4KB	UART1 - UART_F [1]	CMSDK UART
33	0x4930_5000	0x4930_5FFF	4KB	UART2 - UART_F [2]	CMSDK UART
34	0x4930_6000	0x4930_6FFF	4KB	UART3 - UART Shield 0	Dummy Stub
35	0x4930_7000	0x4930_7FFF	4KB	UART4 - UART Shield 1	Dummy Stub
36	0x4930_8000	0x4930_8FFF	4KB	UART5 - UART_F [3]	CMSDK UART
	0x4930_9000	0x4930_9FFF	4KB	Reserved	
37	0x4930_A000	0x4930_AFFF	4KB	CLCD Config Reg	Partial modelled
37	0x4930_B000	0x4930_BFFF	4KB	RTC	PL031_RTC

Table 1-5- Board peripherals - Secure

ROW ID	Address		Size	Description	Modelled in FVP
	From	To			
<b>Secure Region</b>					
1	0x5110_0000	0x5110_0FFF	4KB	GPIO 0	CMSDK GPIO
2	0x5110_1000	0x5110_1FFF	4KB	GPIO 1	CMSDK GPIO
3	0x5110_2000	0x5110_2FFF	4KB	GPIO 2	CMSDK GPIO
4	0x5110_3000	0x5110_3FFF	4KB	GPIO 3	CMSDK GPIO
5	0x5110_4000	0x5110_4FFF	4KB	USER AHB 0	Not Modelled
6	0x5110_5000	0x5110_5FFF	4KB	USER AHB 1	Not Modelled
7	0x5110_6000	0x5110_6FFF	4KB	USER AHB 2	Not Modelled
8	0x5110_7000	0x5110_7FFF	4KB	USER AHB 3	Not Modelled
	0x5110_8000	0x513F_FFFF		Reserved	
9	0x5140_0000	0x514F_FFFF	1M	Ethernet	SMSC91C111 Ethernet controller
10	0x5150_0000	0x515F_FFFF	1M	USB	Dummy Stub
	0x5160_0000	0x516F_FFFF		Reserved	
11	0x5170_0000	0x5170_0FFF	4KB	User APB0	Not Modelled
12	0x5170_1000	0x5170_1FFF	4KB	User APB1	Not Modelled
13	0x5170_2000	0x5170_2FFF	4KB	User APB2	Not Modelled
14	0x5170_3000	0x5170_3FFF	4KB	User APB3	Not Modelled
	0x5170_4000	0x517F_FFFF		Reserved	
15	0x5180_0000	0x5180_0FFF	4KB	QSPI Config	Not Modelled
16	0x5180_1000	0x5180_1FFF	4KB	QSPI Write	Not Modelled
	0x5180_2000	0x56FF_FFFF		Reserved	
17	0x5700_000	0x5700_0FFF	4KB	SRAM Memory Protection Controller (MPC)	Modelled
18	0x5700_1000	0x5700_1FFF	4KB	QSPI Memory Protection Controller (MPC)	Modelled
19	0x5700_2000	0x5700_2FFF	4KB	DDR4 Memory Protection Controller (MPC)	Modelled
	0x5700_3000	0x57FF_FFFF		Reserved	
	0x5800_0000	0x580F_FFFF		Subsystem peripherals	
20	0x5810_3000	0x5810_31FF	0.5KB	U55 timing adapter 0 APB	Modelled
21	0x5810_3200	0x5810_33FF	0.5KB	U55 timing adapter 1 APB	Modelled
	0x5810_3400	0x591F_FFFF		Reserved	
22	0x5920_4000	0x5920_4FFF	4KB	FPGA - PL022 (SPI Shield1)	Dummy Stub
23	0x5920_5000	0x5920_5FFF	4KB	SBCon (I2C - Shield0)	Dummy Stub
24	0x5920_6000	0x5920_6FFF	4KB	SBCon (I2C - Shield1)	Dummy Stub
25	0x5920_7000	0x5920_7FFF	4KB	USER APB	Dummy Stub
26	0x5920_8000	0x5920_8FFF	4KB	DDR4 EEPROM	Dummy Stub
	0x5920_9000	0x592F_FFFF		Reserved	
27	0x5930_0000	0x5930_0FFF	4KB	FPGA - SCC registers	Modelled



28	0x5930_1000	0x5930_1FFF	4KB	FPGA - I2S (Audio)	Partial modelled
29	0x5930_2000	0x5930_2FFF	4KB	FPGA - IO (System Ctrl + I/O)	Modelled
30	0x5930_3000	0x5930_3FFF	4KB	UART0 - UART_F [0]	CMSDK UART
31	0x5930_4000	0x5930_4FFF	4KB	UART1 - UART_F [1]	CMSDK UART
32	0x5930_5000	0x5930_5FFF	4KB	UART2 - UART_F [2]	CMSDK UART
33	0x5930_6000	0x5930_6FFF	4KB	UART3 - UART Shield 0	Dummy Stub
34	0x5930_7000	0x5930_7FFF	4KB	UART4 - UART Shield 1	Dummy Stub
35	0x5930_8000	0x5930_8FFF	4KB	UART5 - UART_F [3]	CMSDK UART
	0x5930_9000	0x5930_9FFF	4KB	Reserved	
36	0x5930_A000	0x5930_AFFF	4KB	CLCD Config Reg	Partial modelled
37	0x5930_B000	0x5930_BFFF	4KB	RTC	PL031_RTC

### 1.3.3 Expansion Peripheral Interrupt Map

Table 1-6- Interrupt map at the board layer

Interrupt Input	Interrupt Source	Description
IRQ [32]	System timestamp counter interrupt	Not implemented
IRQ [33]	UART 0 Receive Interrupt	
IRQ [34]	UART 0 Transmit Interrupt	
IRQ [35]	UART 1 Receive Interrupt	
IRQ [36]	UART 1 Transmit Interrupt	
IRQ [37]	UART 2 Receive Interrupt	
IRQ [38]	UART 2 Transmit Interrupt	
IRQ [39]	UART 3 Receive Interrupt	
IRQ [40]	UART 3 Transmit Interrupt	
IRQ [41]	UART 4 Receive Interrupt	
IRQ [42]	UART 4 Transmit Interrupt	
IRQ [43]	UART 0 Combined Interrupt	
IRQ [44]	UART 1 Combined Interrupt	
IRQ [45]	UART 2 Combined Interrupt	
IRQ [46]	UART 3 Combined Interrupt	
IRQ [47]	UART 4 Combined Interrupt	
IRQ [48]	UART Overflow (0, 1, 2, 3, 4 & 5)	
IRQ [49]	Ethernet	
IRQ [50]	Audio I2S	
IRQ [51]	Touch Screen	
IRQ [52]	USB	
IRQ [53]	SPI ADC	
IRQ [54]	SPI (Shield 0)	
IRQ [55]	SPI (Shield 1)	
IRQ [56]	Reserved	
IRQ [57]	DMA Channel 0 Interrupt	
IRQ [58]	DMA Channel 1 Interrupt	
IRQ [68:59]	Reserved	
IRQ [69]	GPIO 0 Combined Interrupt	
IRQ [70]	GPIO 1 Combined Interrupt	
IRQ [71]	GPIO 2 Combined Interrupt	
IRQ [72]	GPIO 3 Combined Interrupt	
IRQ [88:73]	GPIO 0 individual interrupts	
IRQ [104:89]	GPIO 1 individual interrupts	
IRQ [120:105]	GPIO 2 individual interrupts	
IRQ [124:121]	GPIO 3 individual interrupts	
IRQ [125]	UART 5 Receive Interrupt	

IRQ [126]	UART 5 Transmit Interrupt	
IRQ [127]	UART 5 Combined Interrupt	
IRQ [130:128]	Reserved	

## 1.4 Peripheral Protection Controller Expansion Map

The Corstone SSE-310 FVP implements Secure Access configuration registers which controls security and privileged accesses to peripherals connected to PPC.

Table 1-7- Secure Access configuration registers- PPC bits

Bit	MAIN_PPCEXP0 (AHB0)	MAIN_PPCEXP1 (AHB1)	PERIPH_PPCEXP0 (APB0)	PERIPH_PPCEXP1 (APB1)	PERIPH_PPCEXP2 (APB2)
0	GPIO-0			SBCon I2C (Touch Screen)	FPGA - SCC registers
1	GPIO-1			SBCon I2C (Audio Conf)	FPGA - I2S (Audio)
2	GPIO-2			FPGA PL022 (SPI2 for ADC)	FPGA - GPIO (System Ctrl + I/O)
3	GPIO-3			FPGA PL022 (SPI Shield0)	UART0
4	User AHB 0			FPGA PL022 (SPI Shield1)	UART1
5	User AHB 1		U55 APB (Timing Adapters)	FPGA SBCon (I2C - Shield0)	UART2
6	User AHB 2			FPGA SBCon (I2C - Shield1)	UART3 STUB
7	User AHB 3			Reserved	UART4 STUB
8	USB and Ethernet			FPGA - SBCon I2C (DDR4 EPROM)	UART5
9					Reserved
10					CLCD Config Reg
11					RTC
12					
13			SRAM MPC		
14			QSPI MPC		
15			DDR MPC		
PPC IRQ No.	5	6	2	3	4

## 1.5 Memory Components

The Corstone SSE-310 FVP also includes following memory components and their Security Access is controlled by MPC.

Table 1-8- Memory Components

Name	Non-secure	Secure alias	Size
SRAM	0x0100_0000 - 0x011F_FFFF	0x1100_0000 - 0x111F_FFFF	2MB
QSPI SRAM	0x2800_0000 - 0x287F_FFFF	0x3800_0000 - 0x387F_FFFF	8MB
DDR0	0x6000_0000 - 0x6FFF_FFFF	0x7000_0000 - 0x7FFF_FFFF	256MB
DDR1	0x8000_0000 - 0x8FFF_FFFF	0x9000_0000 - 0x9FFF_FFFF	256MB
DDR2	0xA000_0000 - 0xAFFF_FFFF	0xB000_0000 - 0xBFFF_FFFF	256MB
DDR3	0xC000_0000 - 0xCFFF_FFFF	0xD000_0000 - 0xDFFF_FFFF	256MB



*Some of the MPS3 Fast Models have minimal implementations, for more information refer documents in FVP package.*



*The FVP is used with the Corstone SEE-310 software package. See the Corstone SSE-310 Software Bundle Readme for instructions on how to set up and run the FVP.*

## 1.6 Limitations

1. QSPI is not modelled, we have QSPI SRAM instead.
2. Dummy Stub – These stubs have minimal implementation. Models with dummy APB will have memory access.
3. Partial Modelled – Certain features are implemented. Refer documents mentioned in section 1.7 for further information.

## 1.7 Other documents

See the following documents for other relevant information:

- [Arm® Corstone™ SSE-300 Example Subsystem Technical Reference Manual](#)
- [Arm® MPS3 FPGA Prototyping Board Technical Reference Manual](#)
- Corstone-300 – Arm Developer