BOSCH

BHI260
Shuttle Board

GENERAL DESCRIPTION

Bosch Sensortec's BHI260 shuttle board is a PCB with the BHI260, a smart sensor hub with integrated IMU sensor, mounted on it.

In addition to the BHI260, the board includes

▶ on M2 master interface (configured as I2C):

  ▶ a BME280 environmental sensor (p, rH, T)

  ▶ a BMM150 magnetometer

  ▶ an AK09915 magnetometer

on QSPI interface:

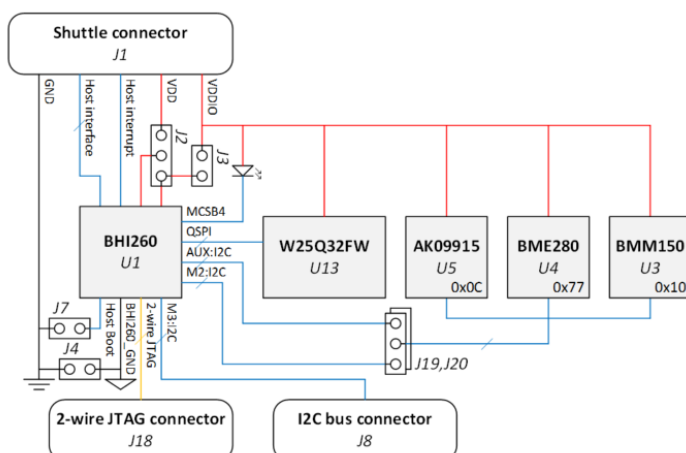 ▶ a W25Q32FWSSI 4M‑Byte flash memory

connected to the BHI260.

Addition sensors can be connected to the M3 I2C bus, using connector J8.

The shuttle board allows easy access to pins of the smart sensor hub via a simple socket. The shuttle board comes pre-mounted on a level-shifter board, which allows the PCB stack to be directly plugged into Bosch Sensortec's advanced development tool (application board).

BHI260 shuttle board mounted on level-shifter board (product photo may differ from real product appearance).

Do not connect the shuttle board directly to the application board, as this can lead to severe damage of the shuttle board and its components.

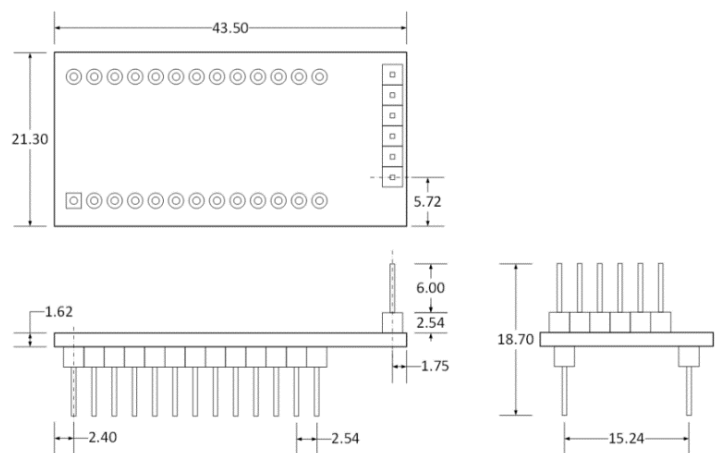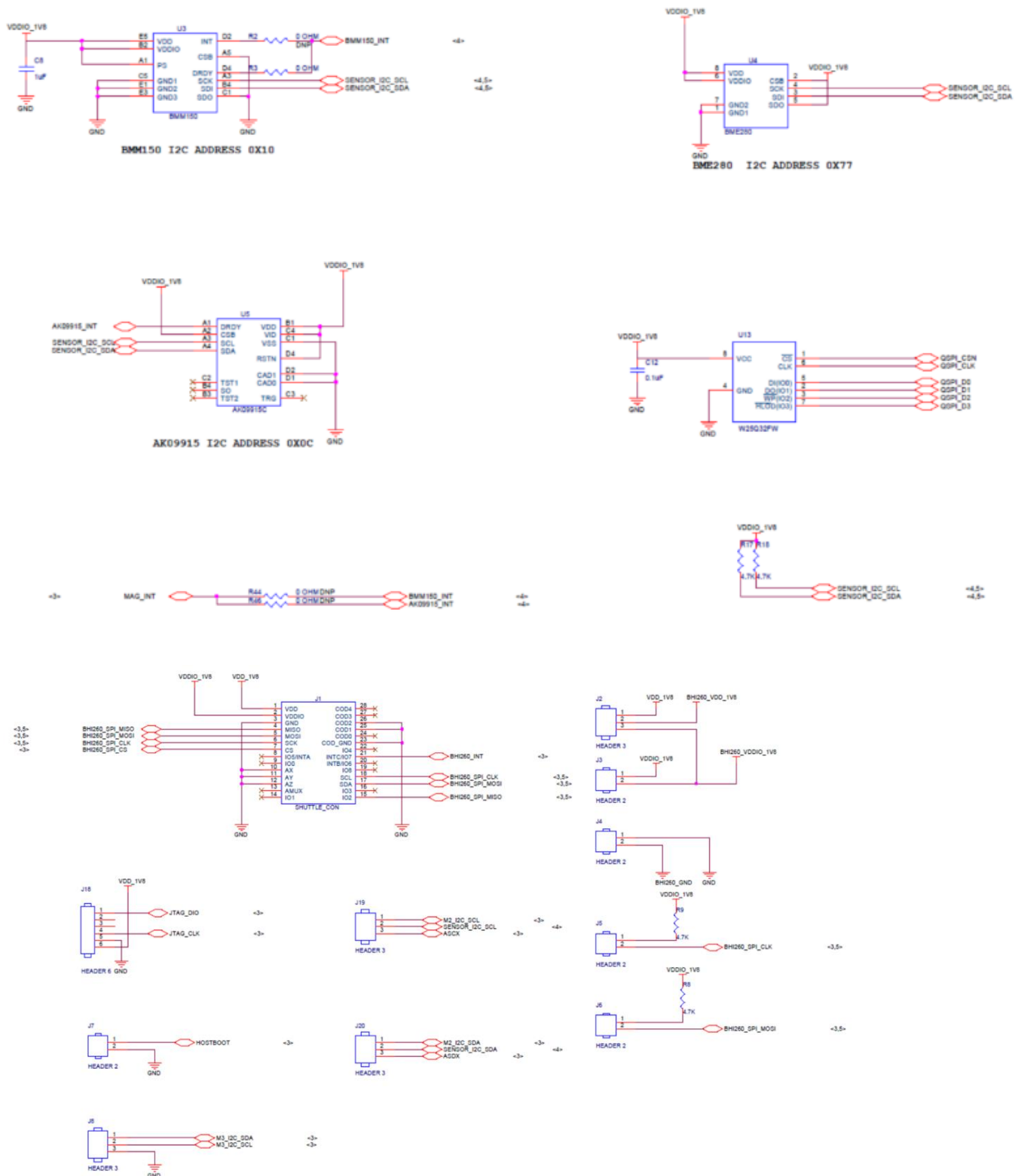Block diagram of BHI260 shuttle board

Connection of shuttle board, level shifter board and application board

Designator	Function	Description			
J1	Shuttle board connector	Pin number	Pin name	Description	
		1	VDD	Power supply (1.8V only!)	
		2	VDDIO	Power supply (1.8V only!)	
		3,23	GND	Ground	
		4,15	MISO	Master-input-slave-output data pin of SPI bus (connected to BHI260 host interface)	
		5,17	MOSI	Master-output-slave-input data pin of SPI bus, or SDA of I2C bus (connected to BHI260 host interface)	
		6,18	SCK	Clock pin of both SPI and I2C bus (connected to BHI260 host interface)	
		7	CS	Chip selection pin of SPI bus (connected to BHI260 host interface)	
		21	INT	Host interrupt pin (connected to BHI260 host interrupt)	
		13,12,11, 10,28,27, 26,25,24	COD[x]	Device code for Application board, COD of BHI260 shuttle board is [100011001].	
		8,9,14, 15,16,19, 20,22,	NC	Not used.	
J2,J3,J4	Access points to BHI260 supply (e.g. for power measurement)	J2: BHI260 VDD pad J3: BHI260 VDDIO pad J4: BHI260_GND (GND+GNDIO) line			
J5,J6	Pull-up resistors for host interface running in I2C mode	J5: BHI260 HSCX pad(SCK) J6: BHI260 HSDX pad(SDA)			
J7	Boot source selection	J7: BHI260 HOSTBOOT pad			
J8	M3 I2C interface for bus extensions	Pin number	Pin name	Description	
		1	M3_SDA	SDA pin of M3, with a 4.7kohm pull-up to 1.8V VDDIO	
		2	M3_SCL	SCL pin of M3, with a 4.7kohm pull-up to 1.8V VDDIO	
		3	GND	Ground pin.	
J18	2-wire JTAG connector	Pin number	Pin name	Description	
		1	TMS	TMS pin of 2-wire JTAG.	
		2,3	NC	Not used.	
		4	CLK	CLK pin of 2-wire JTAG.	
		5	GND	Ground pin.	
		6	VDDIO	Power supply of JTAG, connected to VDDIO of BHI260.	
J19,J20	Bus master selection for I2C sensors on shuttle board	Jumper setting		Bus master of sensors	
		M2 (Left)		M2 of BHI260	
		AUX (Right)		AUX of BHI260	

BHI260 shuttle board layout – placement (top, bottom)

BHI260 shuttle board outline dimensions (in mm)

BHI260 shuttle board schematics

BHI260 shuttle board schematics