

## Evaluation board MR\_ASIC2\_test\_board\_QFN40 Users manual

Board is purpose for research and debugs IC K1382HX045.

K1382HX045 IC in QFN-40 package is soldered on board, all pins available for connections.

USB-programmer (FT232H chip) integrated on board, software included in development kit.

### Supply:

Supply voltage is 5V. Board can be supply through XP6 connector or through USB-connector. For supply from USB need to short jumper JM12. If board supplies through XP6 jumper JM12 need to disconnect.

For connect K1382HX045 to supply need short jumper JM14.

**Table 1. Switch definition**

№	Switch/section	Position	Function	Indication
1	SA1-1	Open	Angle reading mode	LED VD1 (CFG) not lighting
		Closed	Programming mode	LED VD1 (CFG) lighting
2	SA1-2	Open	Standard SPI mode	No
		Closed	CSn = 0. SSI mode	No
3	SA3-1	Open	Normal mode	LED VD3 (SLEEP) not lighting
		Closed	Sleep mode	LED VD3 (SLEEP) lighting
4	SA3-2	Open	FT232 in normal mode	No
		Closed	FTF232 is reset	No
5	SA4-1	Open	SSI mode	No
		Closed	Standard SPI mode	No
6	SA4-2	Open	SSI mode	No

		Closed	Standard SPI mode	No
7	SW1	VDD	K1382HX045 output pull-up (OWI interface)	No
		GND	K1382HX045 output normal load	No

### SPI Interface

For SPI-USB conversion is use FT232H IC.

For working with SPI mode need closed jumpers LM9 and JM10. For go to programming mode need also close switch SA1-1. For angle reading mode need to open switch SA1-1.

SPI signals available on XP5 and XP2 connectors.

For connect K1382HX045 to external SPI controller need open jumpers JM9, JM10 and close jumpers JM8, JM11.

*! For working with SPI switches SA1-2 and SA3-2 must to open.*

### SSI Interface

SSI RS0485 driver soldered on board. For SSI mode need to close jumpers JM8, JM11 (jumpers JM9, JM10 must be open) and open switches SA4-1, SA4-2. Switch SA1-2 must be closed.

K1382HX045 SSI mode select with bit SSI\_MODE=1.

*! After SSI\_MODE is set working through SPI is blocked. For reset bit SSI\_MODE need use only OWI interface.*

**Table 2. SSI interface connection table**

XP4 (DB-9) connector pin number	Signal
1	Ground
2	DATA_n
3	Ground
4	CLOCK_p
5	Ground
6	5V supply
7	DATA_p
8	Ground
9	CLOCK_n

## **OWI Interface**

For OWI data communication is using JM3 connector.

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