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XR16M890IL40-0C-EB XR16M890IM48-0C-EB XR16M890IL32-0C-EB

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INTRODUCTION

This user's manual is for the XR16M890 evaluation board. Table 1 shows the different devices and packages that the evaluation board supports. This user's manual will describe the hardware setup required to operate the different packages.

1.0 HARDWARE SETUP

1.1 Packages description

The evaluation board supports all 3 packages of the XR16M890. The ordering part number, package and location on the board is shown below in Table 1. Table 2 lists the evaluation board ordering part numbers.

TABLE 1: PACKAGE LIST

ORDERING PART NUMBER	PACKAGE	LOCATION
XR16M890IL32-F	32-pin QFN	U7
XR16M890IL40-F	40-pin QFN	U5
XR16M890IM48-F	48-pin TQFP	U8

TABLE 2: EVALUATION BOARD ORDERING PART NUMBERS

PART NUMBER
XR16M890L32-0A-EB
XR16M890L40-0A-EB
XR16M890M48-0A-EB

1.2 Jumper Settings

1.2.1 XR16M890IL32

The following jumpers apply to the XR16M890IL32:

TABLE 3: JUMPER SETTINGS FOR XR16M890IL32

JUMPERS	FUNCTIONS	COMMENTS
J20	Selects the supply voltage for UART modem I/Os including GPIO3-GPIO0 (VCC_UART)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J21	Selects the supply voltage for UART core logic (VCC_CORE)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J22	Selects the supply voltage for CPU bus interface (VCC_BUS)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J23	Selects the supply voltage for GPIO15-GPIO4 (VCC_GPIO)	Not used for XR16M890IL32 Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J41	Selects VLIO mode	Jumper in selects VLIO mode Jumper out de-selects VLIO mode

TABLE 3: JUMPER SETTINGS FOR XR16M890IL32

JUMPERS	FUNCTIONS	COMMENTS
J26	Selects between 40-QFN & 32-QFN packages for received data	Jumper on 1&2 sends received data to 40-QFN package Jumper on 2&3 sends received data to 32-QFN package (default)
J33	Selects 48-TQFP package for received data	Jumper on sends received data to 48-TQFP package (Not installed for XR16M890IL32 package)
J27	Selects the RTS# signal between 40-QFN & 32-QFN packages as the read enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 40-QFN package Jumper on 2&3 selects RTS# signal of 32-QFN package (default)
J38	Selects the RTS# signal of 48-TQFP package as the read enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 48-TQFP package Jumper on 2&3 enables the read enable signal for SP3497E
J29	Selects transmitted data from 40-QFN or 32-QFN package	Jumper on 1&2 selects 40-QFN package Jumper on 2&3 selects 32-QFN package (default)
J37	Selects transmitted data from 48-TQFP package	Jumper on selects transmitted data from 48-TQFP package (Not installed for XR16M890IL32 package)
J32	Selects the RTS# signal between 40-QFN & 32-QFN packages as the write enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 40-QFN package Jumper on 2&3 selects RTS# signal of 32-QFN package (default)
J39	Selects the RTS# signal of 48-TQFP package as the write enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 48-TQFP package Jumper on 2&3 enables the write enable signal for SP3497E

1.2.2 XR16M890IL40

The following jumpers apply to the XR16M890IL40:

TABLE 4: JUMPER SETTINGS FOR XR16M890IL40

JUMPERS	FUNCTIONS	COMMENTS
J20	Selects the supply voltage for UART modem I/Os including GPIO3-GPIO0 (VCC_UART)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J21	Selects the supply voltage for UART core logic (VCC_CORE)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J22	Selects the supply voltage for CPU bus interface (VCC_BUS)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J23	Selects the supply voltage for GPIO15-GPIO4 (VCC_GPIO)	Not used for XR16M890IL32 Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J41	Selects VLIO mode	Jumper in selects VLIO mode Jumper out de-selects VLIO mode
J34	Enable/Disable Auto RS-485 mode at power-up (can be enabled/disabled in software after power-up)	J34 in enables Auto RS-485 mode at power-up J34 out disables Auto RS-485 mode at power-up

TABLE 4: JUMPER SETTINGS FOR XR16M890IL40

JUMPERS	FUNCTIONS	COMMENTS
J35	SLEEP/PWRDN pin	Header installed, no jumpers installed (default) Refer to the datasheet for the behavior of this pin
J26	Selects between 40-QFN & 32-QFN packages for received data	Jumper on 1&2 sends received data to 40-QFN package (default) Jumper on 2&3 sends received data to 32-QFN package
J33	Selects 48-TQFP package for received data	Jumper on sends received data to 48-TQFP package (Not installed for XR16M890IL40 package)
J27	Selects the RTS# signal between 40-QFN & 32-QFN packages as the read enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 40-QFN package (default) Jumper on 2&3 selects RTS# signal of 32-QFN package
J38	Selects the RTS# signal of 48-TQFP package as the read enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 48-TQFP package Jumper on 2&3 enables the read enable signal for SP3497E
J29	Selects transmitted data from 40-QFN or 32-QFN package	Jumper on 1&2 selects 40-QFN package (default) Jumper on 2&3 selects 32-QFN package
J37	Selects transmitted data from 48-TQFP package	Jumper on selects transmitted data from 48-TQFP package (Not installed for XR16M890IL40package)
J32	Selects the RTS# signal between 40-QFN & 32-QFN packages as the write enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 40-QFN package (default) Jumper on 2&3 selects RTS# signal of 32-QFN package
J39	Selects the RTS# signal of 48-TQFP package as the write enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 48-TQFP package Jumper on 2&3 enables the write enable signal for SP3497E

1.2.3 XR16M890IM48

The following jumpers apply to the XR16M890IM48:

TABLE 5: JUMPER SETTINGS FOR XR16M890IL48

JUMPERS	FUNCTIONS	COMMENTS
J20	Selects the supply voltage for UART modem I/Os including GPIO3-GPIO0 (VCC_UART)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J21	Selects the supply voltage for UART core logic (VCC_CORE)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J22	Selects the supply voltage for CPU bus interface (VCC_BUS)	Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J23	Selects the supply voltage for GPIO15-GPIO4 (VCC_GPIO)	Not used for XR16M890IL32 Jumper in 1&2 selects 3.3V (default) Jumper in 3&4 selects 2.5V Jumper in 5&6 selects 1.8V
J43	Enable/Disable Auto RS-485 mode at power-up (can be enabled/disabled in software after power-up)	J34 in enables Auto RS-485 mode at power-up J34 out disables Auto RS-485 mode at power-up
J44	SLEEP/PWRDN pin	Header installed, no jumpers installed (default) Refer to the datasheet for the behavior of this pin
J26	Selects between 40-QFN & 32-QFN packages for received data	Jumper on 1&2 sends received data to 40-QFN package Jumper on 2&3 sends received data to 32-QFN package
J33	Selects 48-TQFP package for received data	Jumper on sends received data to 48-TQFP package (default)
J27	Selects the RTS# signal between 40-QFN & 32-QFN packages as the read enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 40-QFN package Jumper on 2&3 selects RTS# signal of 32-QFN package
J38	Selects the RTS# signal of 48-TQFP package as the read enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 48-TQFP package Jumper on 2&3 enables the read enable signal for SP3497E
J29	Selects transmitted data from 40-QFN or 32-QFN package	Jumper on 1&2 selects 40-QFN package Jumper on 2&3 selects 32-QFN package
J37	Selects transmitted data from 48-TQFP package	Jumper on selects transmitted data from 48-TQFP package (default)
J32	Selects the RTS# signal between 40-QFN & 32-QFN packages as the write enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 40-QFN package Jumper on 2&3 selects RTS# signal of 32-QFN package
J39	Selects the RTS# signal of 48-TQFP package as the write enable signal for SP3497E	Jumper on 1&2 selects RTS# signal of 48-TQFP package Jumper on 2&3 enables the write enable signal for SP3497E

2.0 SAMPLE INITIALIZATION ROUTINE AND SUPPORT

For a sample initialization routine or if there are any questions, send an e-mail to uarttechsupport@exar.com.

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