

iW-RainboW-G15S

Single Board Computer

support

ARM Cortex A9 @ 1GHz/800MHz Quad/Dual/Dual Lite/Solo core

100mmx72mm Pico-ITX form-factor

3D video playback in high definition

Technical and quick customization

5+ years, long term support

HD 1080p encode and decode

HIGHLIGHTS

# Single Board Computer iW-RainboW-G15S i.MX6 Pico-ITX SBC



iWave's new i.MX6 Quad/Dual/Dual Lite/Solo based Pico-ITX SBC integrates all standard interfaces into a single board with ultra compact yet highly integrated platform that can be utilized across multiple embedded PC, system and industrial designs. It has got all the necessary functions that the embedded world demands on a single board. It also provides an expansion header through which interfaces can be used according to their applications. Measuring just 100mm x 72mm, the Pico-ITX is currently the smallest complete ARM Cortex A9 main board in the industry, smaller than all existing ATX, BTX and ITX form factors.

**APPLICATIONS:** Intelligent Industrial Control Systems, Industrial Human-Machine interface, Ultra Portable Devices, Home Energy Management Systems, Portable Medical Devices

## **SPECIFICATIONS**

CPU:					
i.MX6 Q/D/DL/S @1GHz/800MHz ARM-Cortex-A9					
PMIC:					
Freescale MMPF0100					
RAM:					
1GB DDR3 for Q/D/DL (Expandable up to 4GB*)					
512MB DDR3 for Solo (Expandable up to 2GB*)					
Storage:					
On-board Micro SD Slot					
Standard SD/SDI0 Slot					
SPI Flash 16Mbit					
4GB eMMC Flash					
Optional SATA 7 Pin Connector*					
Communication Interfaces:					
10/100/1000 Mbps Ethernet					
Half mini PCIe card Connector					
Dual USB Host Connector					
Micro USB OTG Connector					
CAN Transceiver - 1 Port					
Audio & Video Interfaces:					
AC97 Audio Codec with Audio Out Jack & Audio In Header					
HDMI Port					
LVDS Connector with Backlight Support [LVDS0]					
4 Wire Resistive Touch Controller					
8 Bit CMOS Camera Connector [CSI1]					
2 Lanes MIPI Camera Connector					

\*Optional features are not supported by default

<b>Debug &amp; Status Indication Support:</b>						
Micro USB Debug Port						
JTAG Header						
4 Pos User Dip Switch & Status LEDs						
Expansion Header-84 Pin:						
MIPI DSI						
SPI Interface-1No						
CSI0 Camera interface						
CAN2 Interface						
UART- 3 Nos						
12C- 3 Nos						
GPIOs						
LVDS1 Interface						
Optional MLB interface*						
Miscellaneous:						
RTC Controller*						
Operating Temperature:						
-20°C to +85°C						
Power Input:						
5V, 2A						
Form Factor:						
Pico-ITX (100mmx72mm)						
Operating Systems:						
Linux 3.0.35						
Android 4.3 Jelly Bean						
WEC7						





# i.MX6 PICO-ITX SBC BLOCK DIAGRAM

	DDR3(64bit)	<b>i.M</b> ) MMDC	X6 Q/D/DL/S		
	eMMC (4GB)	eSDHC4	SATA III 3.0 Gbps	SATA	7 pin SATA Connector*
Micro SD Connector	SPI Flash (16MB) CCSPI1 SD(4bit)	eCSPI1 eSDHC3	LVDSO	LVDSO	LVDS LCD Connector+ Backlight
Standard SD Connector	SD/SDIO/MMC (4bit)	eSDHC1	I2C1	I2C1 Resistive Touch Controller	Resistive Touch Connector
Audio Out Jack	AC97 Audio Codec	AUDMUX4	10/100/1000 ENET	Gigabit Ethernet PHY	RJ45 Connector
Audio In Header			UART-2	UART2 UART to USB	Micro AB USB Debug Connector
Micro USB OTG Connector	USB OTG	USB OTG HS PHY	CAN1	CAN1 CAN Transciever	CAN Header
Dual Stack USB Host Connector	4 Port USB HUB	USB HOST1 HS PHY	eCSPI2 CAN2	eCSPI2 CAN2	
MINI PCIe Connector	PCIe	PCIe, CLK1	GPIOs	GPIOs MLB 3pin or 6pin	
CMOS Camera Connector	CSI1 8bit	CSI1	MLB <sup>+</sup> CSI0	CSI0 8bit	84pin Expansion
MIPI Camera Connector	MIPI CSI	MIPICSI	UART1,3,4 LVDS1	UART X 3 LVDS1	Header
HDMI Connector	HDMI	HDMI	MIPI.DSI	MIPI DSI	
User Dip Switch & Status LEDs	GPIOs	GPIOs	I2C 1,2,3	12C x 3	Davier la de /
	RTC Controller*	I2C	Processor Power	Power to	Power Jack / 2 pin Power Connector
JTAG Connector		JTAG		Onboard Peripherals	

#### **OS SUPPORT**

Linux 3.0.35 Android 4.3 JB WEC7

# DELIVERABLES

.35 i.MX6 Pico-ITX SBC .3 JB Board Support Packages 5V @2A Power Adapter User Manual

## **OPTIONAL ADD ON MODULES**

Advanced Learning Platform

### **CUSTOM DEVELOPMENT**

BSP Development/OS Porting Custom Application/GUI Development Design Review and Support

iWave Systems Technologies, established in 1999, focuses on Product Engineering Services involving Embedded Hardware, Software & FPGA. The company designs and develops cutting edge products and solutions. iWave has been an innovator in the development of highly integrated, high performance, low power and low cost System On Modules and Development Platforms. iWave's expertise has brought out multiple SOMs based on ARM, Freescale, Intel Atom, Marvell and TI Processors.

iWave Systems has won the confidence of its customers over the years by being a reliable partner in developing innovative products. Our engineers combine outstanding System design experience to deliver Quality Solutions. iWave specializes across Industrial, Automotive and Medical domains. We support our customers by being time efficient, which in turn helps our customers accelerate time to market their products. iWave is a Windows embedded Silver partner and a winner of the Partner Excellence Award.

Note: iWave reserves the right to change these specifications without notice as part of iWave's continuous effort to meet the best of breed specification. The registered trademarks are proprietary of their respective owners.

\*Optional items are not included in the standard deliverables

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#### Ordering the i.MX6 Pico-ITX SBC

The board can be ordered online from the iWave Website http://www.iwavesystems.com/webforms