iWave
Embedding Intelligence

Quick Start Board RainboW-G13S
i.MX50 QSB

iWave Systems Technologies Pvt. Ltd., a leading innovative Embedded Product Engineering Services company headquartered in Bangalore launched i.MX50 QSB - Industry's first low cost development platform based on Freescale's i.MX50x processor. It is a highly integrated development platform for increased performance aiming at eReaders, Industrial Kiosk, Home/ Industrial/ Office-Automation Portable Medical Devices, Appliance Control applications.

The i.MX50 QSB with its integrated features on-chip EPD/ LCD Controller, Ethernet, Dual USB, Dual SD, USB Device, VGA , Audio IN/ OUT & Serial interfaces priced at $199, enables developers to quickly prototype their application needs around i.MX50x processor and optimize the development effort and time to market of their products.

The i.MX50x processor is a system-on-chip (SoC) that incorporates high performance 800MHz ARM® Cortex™-A8 processor and Electronic Paper Display (EPD) Controller .

APPLICATIONS : Industrial, Automotive, Medical, General Embedded.

i.MX50 QSB HIGHLIGHTS

Cost effective, open source, multipurpose platform .

The built-in EPD/LCD controller enhances the compactness of eBook Readers

ARM Cortex-A8 with lower power consumption eliminates the need for heat sink and helps ID developers to design silent, air-tight enclosed solutions
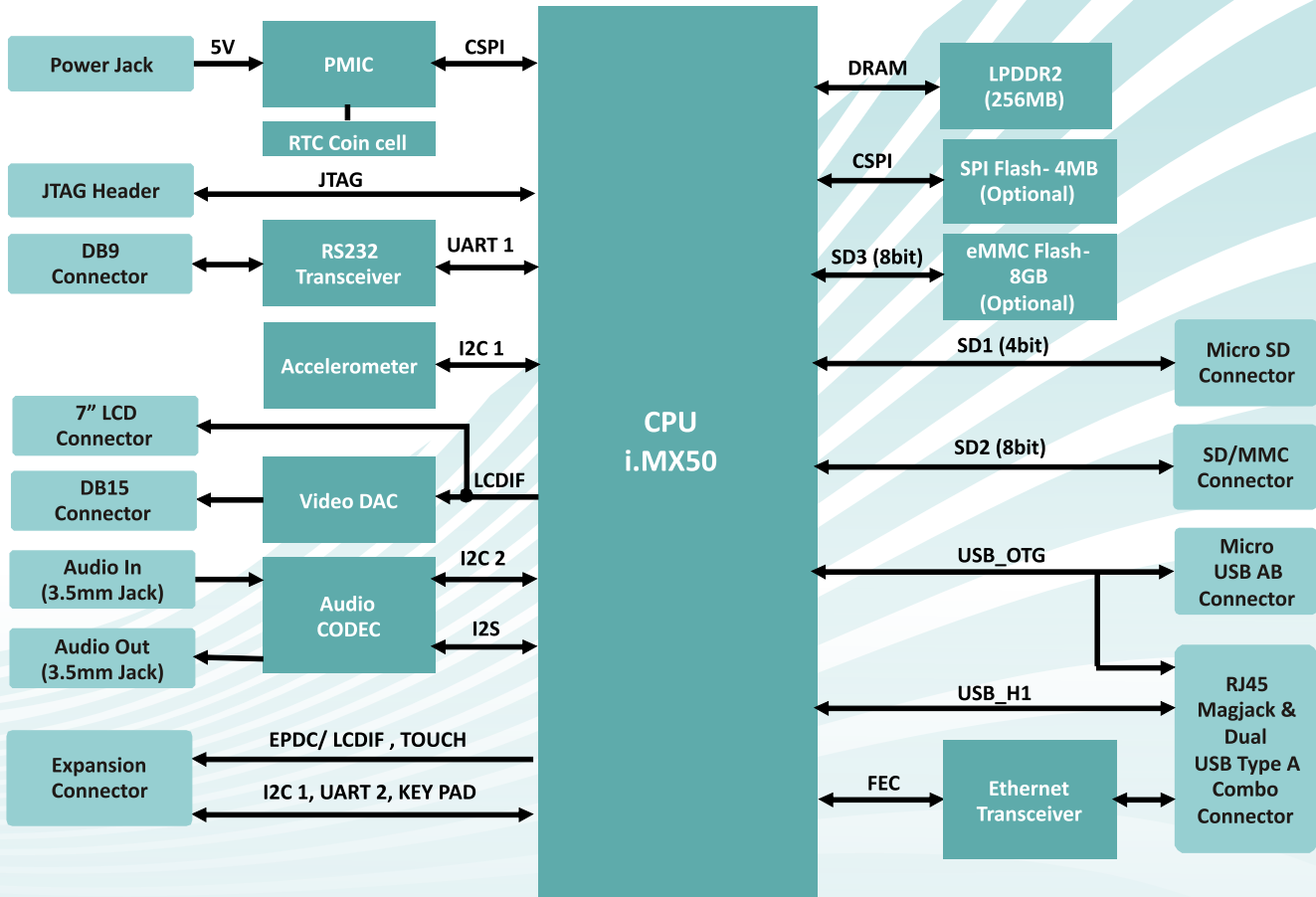
Board Support Packages available on the QSB to create applications ranging from Windows Embedded to Linux and Android OS

SPECIFICATIONS

Processor	Expansion Connector - Interfaces
i.MX50x ARM Cortex A8 @ 800 MHz	EPDC
PMIC	LCD
Freescale MC34708	I2C1
Memory	UART2
256MB LPDDR2 (Expandable)	4 Wire Touch
2GB Micro SD (Expandable)	Keypad (3x3)
4MB SPI NOR Flash*	**Switches & Headers**
8GB eMMC Flash *	Reset Switch
On Board peripherals	Boot mode setting DIP Switches
Micro SD slot	JTAG Header
Standard SD/MMC(8-Bit) slot	**Power Supply**
USB2.0 Host Type A	Onboard 3V Coin cell for RTC
Micro USB2.0 device	External 5V, 2A DC Input
10/100 Ethernet – RJ45 Jack	**Temperature**
Audio Codec – Mic & Headphone Jacks	Operating 0°C to +55°C
VGA Display port – DB15	**Board Form factor**
RS232 debug console – DB9	3inch x 3inch
3 Axis accelerometer	**OS Support**
Onboard 7" LCD Connector*	Linux 2.6.35
Onboard Touch Connector*	WEC 7*, Android*

Optional

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Alliance Member

i.MX50 QSB BLOCK DIAGRAM

Power Jack — 5V → PMIC — CSPI → CPU i.MX50
PMIC — RTC Coin cell
JTAG Header — JTAG → CPU
DB9 Connector — RS232 Transceiver — UART 1 → CPU
Accelerometer — I2C 1 → CPU
7" LCD Connector
DB15 Connector — Video DAC — LCDIF → CPU
Audio In (3.5mm Jack) — Audio CODEC — I2C 2 → CPU
Audio Out (3.5mm Jack) — Audio CODEC — I2S → CPU
Expansion Connector — EPDC/ LCDIF , TOUCH → CPU
Expansion Connector — I2C 1, UART 2, KEY PAD → CPU

CPU i.MX50 — DRAM → LPDDR2 (256MB)
CPU — CSPI → SPI Flash- 4MB (Optional)
CPU — SD3 (8bit) → eMMC Flash- 8GB (Optional)
CPU — SD1 (4bit) → Micro SD Connector
CPU — SD2 (8bit) → SD/MMC Connector
CPU — USB_OTG → Micro USB AB Connector
CPU — USB_H1 → RJ45 Magjack & Dual USB Type A Combo Connector
CPU — FEC → Ethernet Transceiver → RJ45 Magjack & Dual USB Type A Combo Connector

OS SUPPORT

Linux 2.6.35
WEC 7 *
Android 2.3*

DELIVERABLES

i.MX50 QSB Board
2 GB Micro SD Card (Linux loaded)
Power Adapter
Quick Start Guide

OPTIONAL KITS

i.MX50 EPDC Daughter card
MCIMX28 LCD Daughter card

CUSTOM DEVELOPMENT

QSB Hardware customization
BSP Development/ OS Porting
Design review and support
Custom SOM/ Carrier Development

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 properties of their respective owners.

*Optional items not included in the standard deliverables

Ordering the QSB
The QSB can be ordered online from the iWave Website
http://www.iwavesystems.com/enquiry.htm