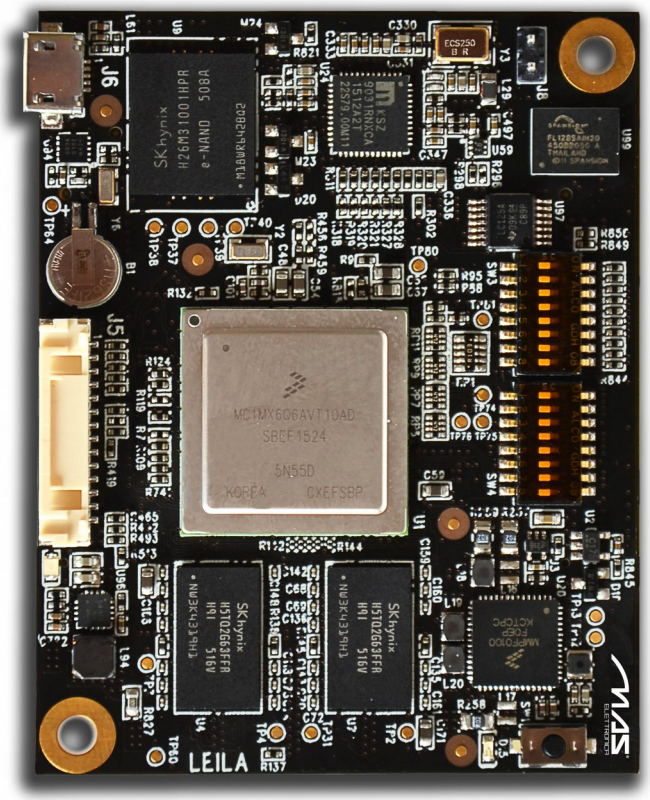
LEILA SOM
i.MX6
Data Brief



Mas Elettronica Sas
Via Risorgimento 16/C
35030 Selvazzano Dentro (PD)
Italy.

Revision History..

Rev.	Document Code	Released	Written	Verified	Approved
1.1	**Leila i.MX6 Data brief**		Sandro Mascetti		

Contents

Summary

Introduction

The Leila iMX6 is a computer module based on the Freescale© i.MX 6 embedded System-on-Chip (SoC). The SoC features a scalable multicore ARM Cortex™ A9 processor with one to four cores, depending on the version. The CPU frequency peaks at 1.2GHz. The module delivers high CPU and graphical performance with minimum power consumption.

The Leila iMX6 incorporates DVFS (Dynamic Voltage and Frequency Scaling) and Thermal Throttling which enables the system to continuously adjust operating frequency and voltage in response to changes in workload and temperature to achieve the best performance with the lowest power consumption. The module is also available in an industrial temperature range (-40°C to 85°C) variant.

The module targets a wide range of applications, including: Digital Signage, Medical Devices, Navigation, Industrial Automation, HMIs, Avionics, Entertainment system, POS, Data Acquisition, Thin Clients, Robotics, Gaming and much more

It offers a wide range of interfaces from simple GPIOs, industry standard I2C, SPI, CAN, and UART
buses through to high speed USB 2.0 interfaces and high speed PCI Express, SATA, and gigabit Ethernet. The HDMI and dual channel LVDS interfaces make it very easy to connect large, full HD resolution displays.

The Leila iMX6 module encapsulates the complexity associated with modern day electronic design, such as high speed impedance controlled layouts with high component density utilising blind and buried via technology. This allows the customer to create a carrier board which implements the application specific electronics generally being much less complicated. The Leila iMX6 module takes this one step further and implements an interface pin out which allows direct connection of real world I/O ports without needing to cross traces or traverse layers, referred to as Direct Breakout™. This becomes increasingly important for customers as more interfaces move toward high speed, serial technologies that use impedance controlled differential pairs, as it allows them to easily route such interfaces to common connectors in a simple, robust fashion.

The Leila iMX6 comes Embedded Linux 3.1x and Android images 4.4.3.

For more information contact our support

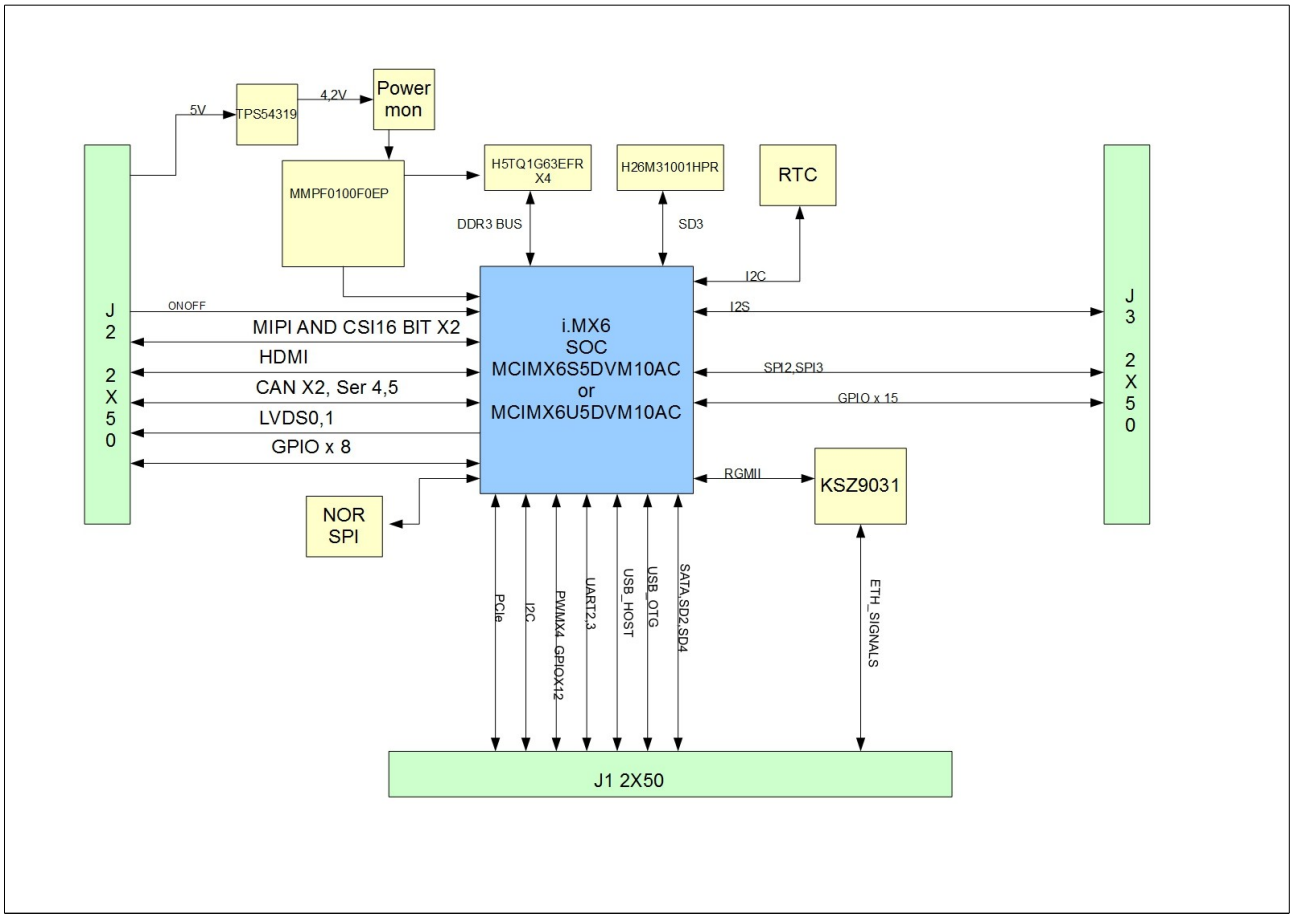
support@maselettronica.com

Features

The features of the Leila CPU board

- CPU i.MX6 Freescale
- CPU Type Cortex-A9 MPCore up to Single/Dual and Quad core
- CPU clock (Max) up to 1.2GHz
- RAM up to 4Gbyte DDR3
- eMMC up to 64Gbyte
- Camera Interface 2 x CSI(16 bit), 1 x MIPI
- Video Encore /Decore 1080p60 H.264 Decore / 1080p30 H.264 Encore
- 3D Graphic Acceleration GPU 3D Vivante
- HDMI v.1.4 1920x1080
- LVDS Dual 1920x1200 24-bit
- SATA II 3Gb/s
- PCIe 2.0 (1 lane)
- FlexCAN
- SD/MMC x 2
- Boot from SPI_flash
- Ethernet 10/100/1000 Mbit/s
- Power Monitor
- External RTC
- USB Host/Device USB 2.0: 1 x Host, 1 x OTG
- Uart x 4 up to 3,6 Mbps
- Dimentions 55x71mm
- Power 5 V

System Block Diagram



Power supply

The board must be powered through the board to board connector, the supply must be 5V +/- 5%

Absolute Maximum Rating

Power Supply	Min	Max	Unit
Main Power Supply, DC IN	4,6	5,5	V
Digital IOs: UARTs, LCD, MMC2, ISP, SPI, McBSP,I2C,GPMC, JTAG	3,0	3,6	V

Table 1 Absolute Maximum Characteristics

Operational Characteristics

Power supplies

Power Supply	Min	Typical	Max	Unit
Main Power Supply, DC IN	4,75	5	5,25	V

Table 2 Power Supplies Operational Characteristics

Power Consumption

Power Supply	Min	Typical	Max	Unit
Main Power Supply, DC IN		TBD		
RTC backup battery current draw		TBD		

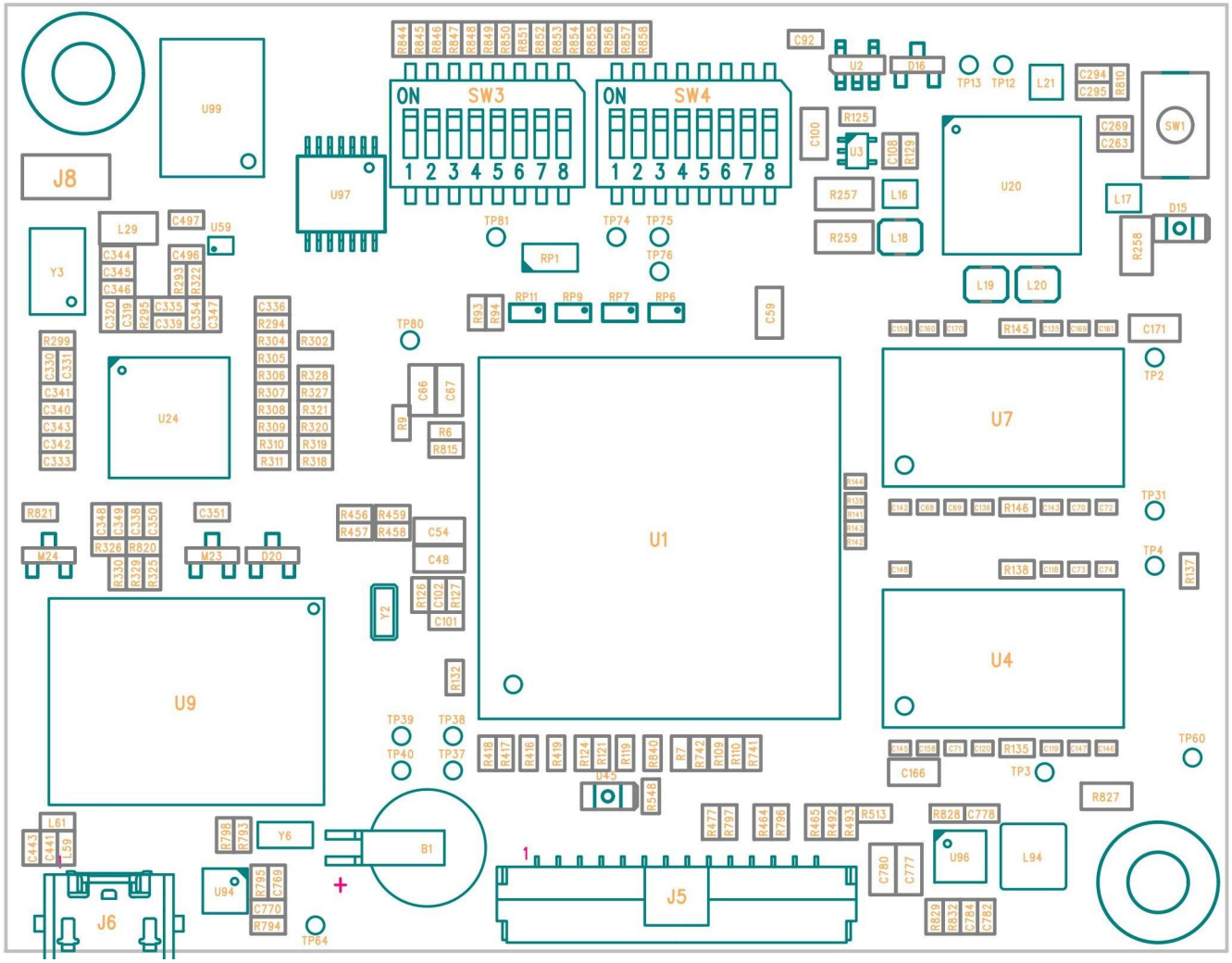
Table 3 Power Consumption

Environmental Specifications

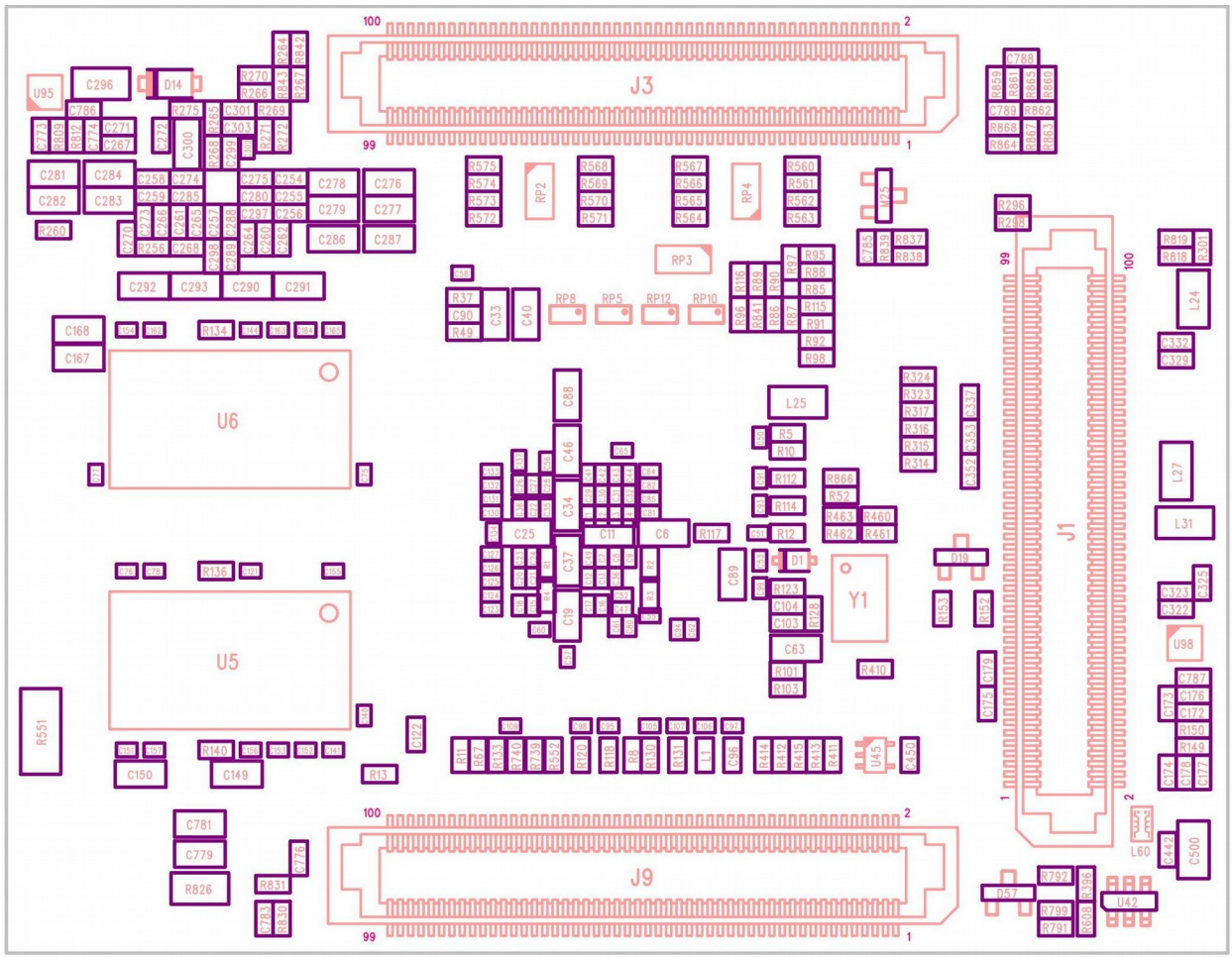
	Min	Max
Commercial Operating Temperature Range	0	70°C
Extended Operating Temperature Range	-40°C	105°C
Industrial Operating Temperature Range	-40°C	85°C

Table 5 Environmental specifications

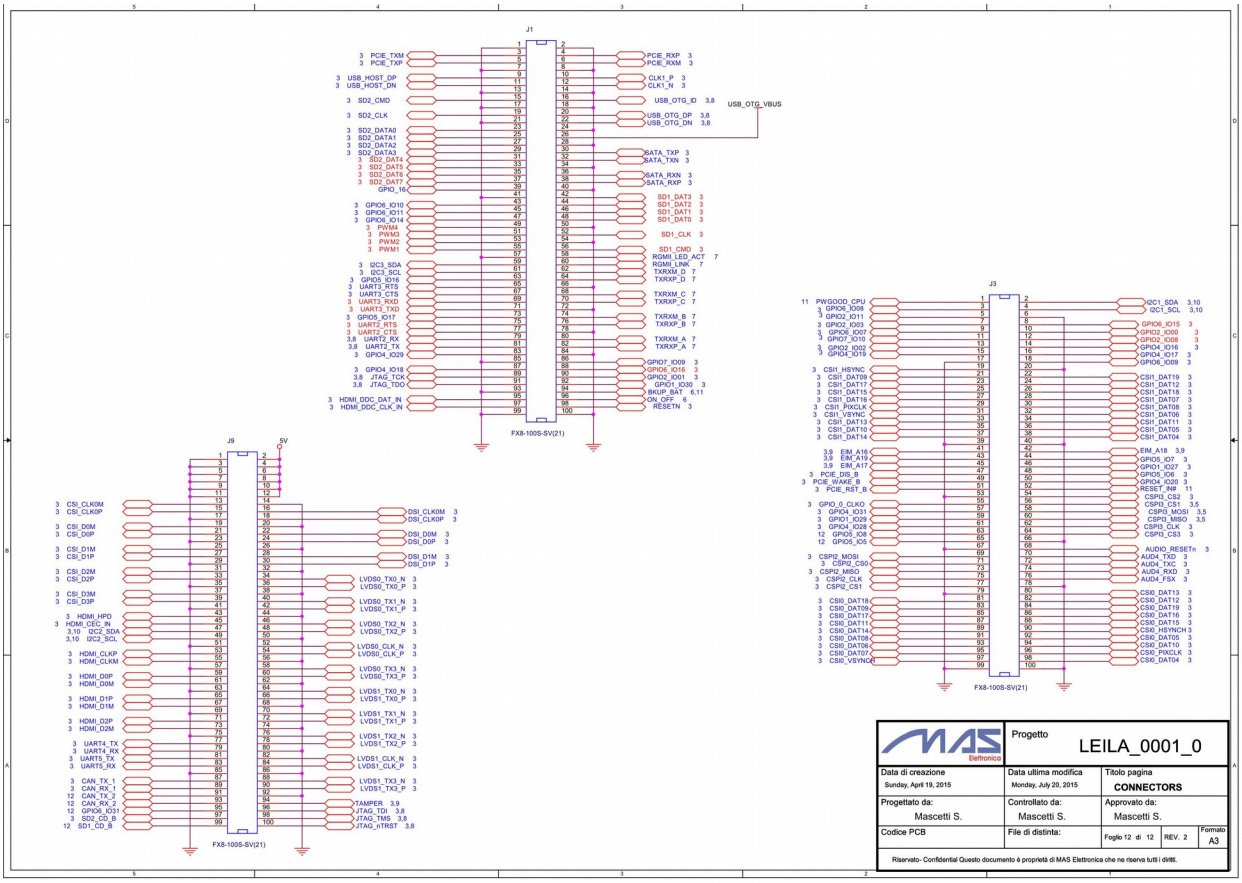
Board layout top side



Board layout bottom side



Board connection schematics



Rohs compliance

The Leila CPU Board comply with the European Union’s Directive 2002/95/EC: "Restrictions of Hazardous Substances".

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Contact Informations

Mas Elettronica Sas
Via Rossi 1
35030 Rubano (PD)
Italy.
Tel +39 0498687469
Fax +39 0498687469

Sales : info@maselettronica.com
Support: support@maselettronica.com