iWave
Embedding Intelligence

Development Platform iW-RainboW-G15D-Q7
i.MX6 Qseven Development Kit

The Development Platform incorporates Qseven compatible i.MX6 SOM which is based on Freescale's i.MX6 Series multimedia focused processor and Generic Qseven compatible Development Board. This platform can be used for quick prototyping of any high end applications in verticals like Automotive, Industrial & Medical. Being a nano ITX form factor with 120mmx120mm size, the board is highly packed with all necessary onboard connectors to validate complete i.MX6 CPU features.

APPLICATIONS : Industrial HMI, Automotive IVI, Video & Navigation, Graphical Instrument Clusters, Portable Medical Devices, Intelligent Industrial Control Systems and Home Energy Management Systems

iW-RainboW-G15D-Q7 HIGHLIGHTS

Ideal for Quick Proof of concept (POC) development.

Shortens 60% of the new product development life cycle

Quick customization services in a very shorter period

SPECIFICATIONS

i.MX6 CPU Module:
i.MX6 Quad/Dual/Dual Lite/Solo
ARM®Cortex™-A9 core @1GHz/800MHz

RAM
1GB DDR3 for Q/D/DL (Expandable up to 4GB*)
512MB DDR3 for Solo (Expandable up to 2GB*)

Storage
4GB eMMC Flash (Expandable*)
2MB SPI Flash (Expandable*)
On-board Micro SD Slot

Carrier Board:

Storage
SATA 3.0 - 1Port
Standard SD/MMC or
On -board WiFi(WYSAAVDX7) -1 Port*

Communication Interfaces
Gigabit Ethernet - 1 Port
USB 2.0 Host - 2 Ports
USB 2.0 OTG - 1 Port
USB Debug Port (Serial to USB conversion)
UART - 2 Ports
4 Wire Resistive Touch Connector*
CAN - 2 Ports

PCIe x 1 Slot
Mini PCIe Slot*
 - PCIe Interface
 - USB Host Interface
 - SIM Interface
 - SMB Interface

OS: Linux 4.1.15, Android Nougat 7.1.1

Sensors
3-Axis Accelerometer
Digital e-Compass
Ambient Light Sensor
Altimeter/Barometer

Audio and Video
AC'97 codec- Audio IN/OUT Jacks
TV-IN RCA Jack (NTSC/PAL Input)*
Parallel Camera ZIF Connector- CSI1 (8Bit)
MIPI Camera Connector
LVDS1 - 7" 800x480 Display with Capacitive TP
Backlight PWM Control
HDMI v1.4 - Port
LVDS 2 Connector

On-Board Headers
10 Pin JTAG Header*
SPI Header
4x4 Keypad Interface Header
RTC Coin Cell Holder

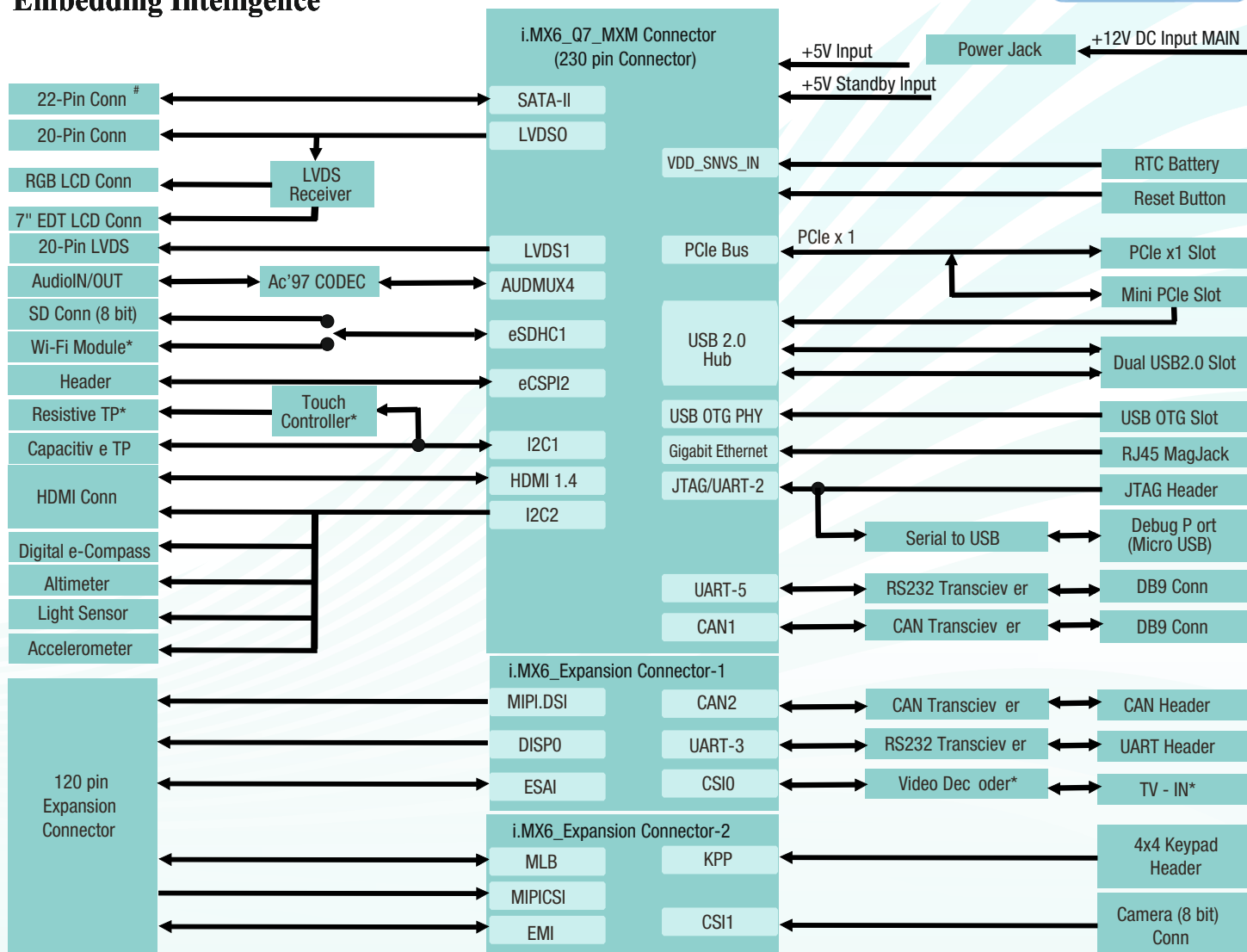### 120 Pin Expansion Connector Interface
24bpp RGB LCDIF
ESAI
MIPI-DSI
MIPI-CSI
CSI2 (8 Bit)
Memory Interface (Address/Data Muxed)
MLB (Supported only in Automotive CPU)
Operating Temperature: 0 to 50C ^{o}
Form Factor: Nano ITX 120mmx120mm
Power Input:12V @2A DC Input

*Optional items are not included in the standard deliverables

i.MX6 Qseven DEVELOPMENT BOARD BLOCK DIAGRAM

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Proven Partner NXP

i.MX6_Q7_MXM Connector (230 pin Connector)

- SATA-II
- LVDS0
- LVDS1
- AUDMUX4
- eSDHC1
- eCSPI2
- I2C1
- HDMI 1.4
- I2C2

+5V Input
+5V Standby Input
+12V DC Input MAIN
Power Jack

- VDD_SNVS_IN — RTC Battery
- Reset Button
- PCIe Bus — PCIe x 1 — PCIe x1 Slot
- Mini PCIe Slot
- USB 2.0 Hub — Dual USB2.0 Slot
- USB OTG PHY — USB OTG Slot
- Gigabit Ethernet — RJ45 MagJack
- JTAG/UART-2 — JTAG Header
- Serial to USB — Debug Port (Micro USB)
- UART-5 — RS232 Transciever — DB9 Conn
- CAN1 — CAN Transciever — DB9 Conn

22-Pin Conn #
20-Pin Conn
RGB LCD Conn
LVDS Receiver
7" EDT LCD Conn
20-Pin LVDS
AudioIN/OUT — Ac'97 CODEC
SD Conn (8 bit)
Wi-Fi Module*
Header
Resistive TP* — Touch Controller*
Capacitive TP
HDMI Conn
Digital e-Compass
Altimeter
Light Sensor
Accelerometer

i.MX6_Expansion Connector-1

- MIPI.DSI
- DISP0
- ESAI
- CAN2 — CAN Transciever — CAN Header
- UART-3 — RS232 Transciever — UART Header
- CSI0 — Video Decoder* — TV - IN*

120 pin Expansion Connector

i.MX6_Expansion Connector-2

- MLB
- MIPICSI
- EMI
- KPP — 4x4 Keypad Header
- CSI1 — Camera (8 bit) Conn

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Support available only for i.MX6 Quad and Dual CPUs

OS SUPPORT

Linux 4.1.15
Android Nougat 7.1.1

DELIVERABLES

iW-RainboW-G15D-Q7 Platform
Board Support Packages
Power Adapter
User Manual

OPTIONAL ADD ON MODULES

Camera Add On Module
24BPP LCD Add On Module
Wi-Fi Add On Module
3G and GPS Add On Module

CUSTOM DEVELOPMENT

Custom SOM/ Carrier Card Development
BSP Development/ OS Porting
Design Review & 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 PartnerExcellence 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

i.MX 6 Qseven Development Platform
The device can be ordered online from the iWave Website
https://www.iwavesystems.com/product/i-mx-6-qseven-som/
Or from our Local Partners in your region
http://www.iwavesystems.https://www.iwavesystems.com/

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