iWave
Embedding Intelligence

RainboW-G11D is a cost effective multipurpose platform powered by automotive grade i.MX536 MXM SOM. The platform integrates rich set of features with on-board Wi-Fi module, PCIe mini card slot for 3G module, HDMI, dual LCD display, SATA and various communication interfaces suitable for evaluating wide range of applications. With the built-in CAN, 1080p HD decode and connectivity features, the platform is ideal solution to build a quick vehicle entertainment systems with rich multimedia experience.

The platform comes with optimized drivers and software packages for various operating systems and suitable for broad embedded applications including Industrial, Automotive and Medical.

APPLICATIONS : Automotive IVI, Rear Seat Entertainment, Instrument Cluster, Portable Navigation, Telematics, Industrial HMI, Telehealth, POS Terminal, Security Systems, High-end PDAs, Digital Signage.

iW-RainboW-G11D-MXM HIGHLIGHTS

Suitable for advanced multimedia requirements

Dual Display support

Ideal for quick development

Compact Nano ITX form factor

Quick customization is possible

Suitable for wide range of application

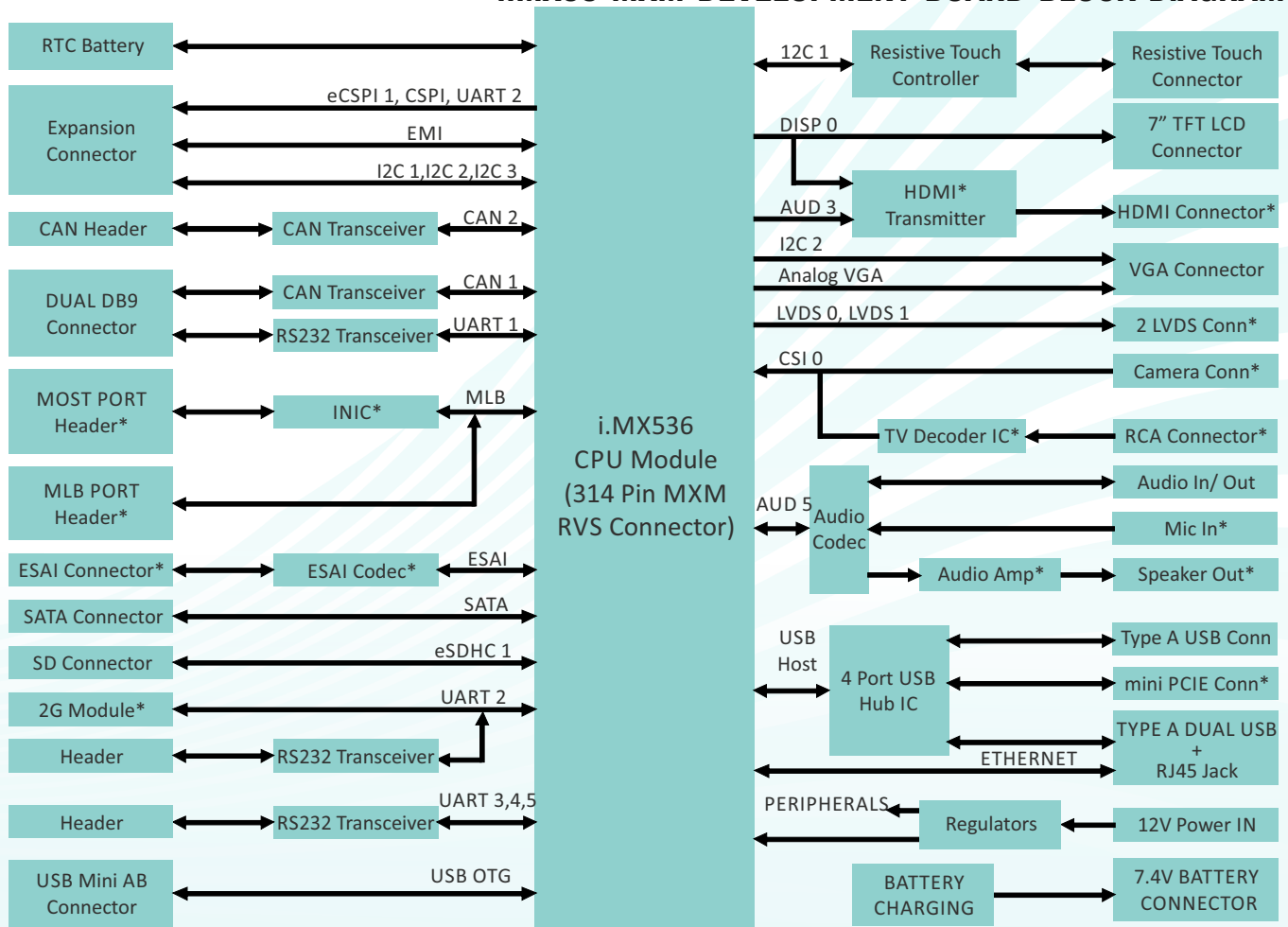## SPECIFICATIONS

CPU	Video Out
Freescale's i.MX536 @ 800 MHz	7" WVGA TFT LCD with resistive touch
RAM	VGA Out – DB15
512MB DDR2 RAM (Expandable to 1GB)	HDMI Port*
Storage	Dual LVDS ports*
2GB MicroSD card	**Connectivity**
8GB eMMC Flash*	802.11b/g/n Wi-Fi*
Standard SD card	PCIe Mini Card for 3G Module*
SATA Port	**Expansion Connector**
Communication Interfaces	UART, SPI, I2C
10/100 Ethernet port – RJ45	MLB, Audio, GPIOs
USB 2.0 Host : 2 Ports	**Expansion Headers**
RS232 Console Port – DB9	MOST & CAN Headers*
CAN Port – DB9*	ESAI & UART Headers*
Audio	**Temperature**
On-board Audio Codec	0°C to +60°C
Headphone & Mic Jacks	**Form Factor**
Video in	120mm x 120mm, Nano ITX
Camera Interface*	**OS Support****
TV IN*	Linux 2.6.35, Android 2.3, WEC7*, QNX*

*Optional
** Note: Device drivers provided are for specific interface chipsets, which are used in iWave's Carrier board

i.MX53 MXM DEVELOPMENT BOARD BLOCK DIAGRAM

Block diagram centered on **i.MX536 CPU Module (314 Pin MXM RVS Connector)**.

Left side connections:
- RTC Battery
- Expansion Connector — eCSPI 1, CSPI, UART 2 / EMI / I2C 1,I2C 2,I2C 3
- CAN Header — CAN Transceiver — CAN 2
- DUAL DB9 Connector — CAN Transceiver — CAN 1 / RS232 Transceiver — UART 1
- MOST PORT Header* — INIC* — MLB
- MLB PORT Header*
- ESAI Connector* — ESAI Codec* — ESAI
- SATA Connector — SATA
- SD Connector — eSDHC 1
- 2G Module* — UART 2
- Header — RS232 Transceiver
- Header — RS232 Transceiver — UART 3,4,5
- USB Mini AB Connector — USB OTG

Right side connections:
- 12C 1 — Resistive Touch Controller — Resistive Touch Connector
- DISP 0 — 7" TFT LCD Connector
- AUD 3 — HDMI* Transmitter — HDMI Connector*
- I2C 2
- Analog VGA — VGA Connector
- LVDS 0, LVDS 1 — 2 LVDS Conn*
- CSI 0 — Camera Conn*
- TV Decoder IC* — RCA Connector*
- AUD 5 — Audio Codec — Audio In/ Out / Mic In* / Audio Amp* — Speaker Out*
- USB Host — 4 Port USB Hub IC — Type A USB Conn / mini PCIE Conn* / TYPE A DUAL USB + RJ45 Jack / ETHERNET
- PERIPHERALS — Regulators — 12V Power IN
- BATTERY CHARGING — 7.4V BATTERY CONNECTOR

Optional

OS SUPPORT

Linux 2.6.35
Android 2.3
WEC7*
QNX *

DELIVERABLES

RainboW-G11D Platform
Board Support Packages
Power Adapter
User Manual

OPTIONAL KITS

RainboW-G11M-MXM
(i.MX53 SOM Module)

CUSTOM DEVELOPMENT

Custom SOM/ Carrier development
BSP Development/ OS Porting
Design Review & Support

Optional

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 not included in the standard deliverables

Ordering the i.MX53 Development Board
The board can be ordered online from the iWave Website
http://www.iwavesystems.com/webforms

IW-G11D-MXM-BR-R1.0