

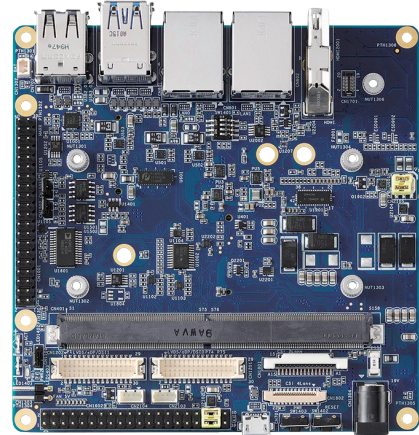
# I-Pi SMARC Plus/I-Pi SMARC Plus X

## SMARC 2.1 Carrier Board with M.2 Extension

### Features

- SMARC revision 2.1 compliant
- Dual LVDS, DSI, HDMI and eDP (BOM option) graphic output interfaces
- M.2 E-Key and M.2 B-Key expansion slots
- Dual GbE ports and USB 2.0 / USB 3.0 interfaces
- Interchangeable audio codec interface
- 40-pin MRAA compliant signal header
- Rugged operating temperature (option): -40°C to +85°C
- 10 year product availability

Note: Pi SMARC Plus X uses a different I<sup>2</sup>C address for the GPIO expander and is unique to x86-based modules.



### Specifications

#### • Video

##### HDMI

1x HDMI 1.4b / 2.0b

##### eDP

1x eDP 1.3 (bom option)

##### MIPI-DSI

1x MIPI-DSI 4 lanes

##### Cameras

1x MIPI-CSI dual lane interface  
1x MIPI-CSI quad lane interface

#### • Audio

##### Audio Codec

Interchangeable audio codec connector with I2S and HDA signals

#### • Dual Ethernet

##### Primary LAN

1x 10/100/1000 RJ45 connector

##### Secondary LAN

1x 10/100/1000 RJ45 connector

#### • Expansion Busses

##### PCIe

PCIe over M.2 connector

##### USB

2x USB 3.0, 2x USB 2.0, 1x USB 2.0 OTG connectors

##### UART

4x UART interfaces SER2 (TX/X/CTS/RTS) and SER0, SER1, SER3 (TX/RX)

##### CAN

2x CAN 2 interface pin headers

##### SPI

2x SPI pin headers

##### I<sup>2</sup>S

1x I<sup>2</sup>S interface to audio interface

##### I<sup>2</sup>C

2x I<sup>2</sup>C interface on pin header

##### GPIO

17x GPIO with interrupt on pin header

#### • Storage

##### SDIO

1x SDIO (4-bit) compatible with SD/SDIO standard, up to version 3.0

#### • Mechanical and Environmental

##### Form Factor

SGET SMARC Specifications 2.1

##### Dimensions

110 mm x 110 mm

##### Operating Temperature

Standard: 0°C to +60°C  
Rugged: -40°C to +85°C (optional)

##### Humidity

5-90% RH operating, non-condensing  
5-95% RH storage (and operating with conformal coating)

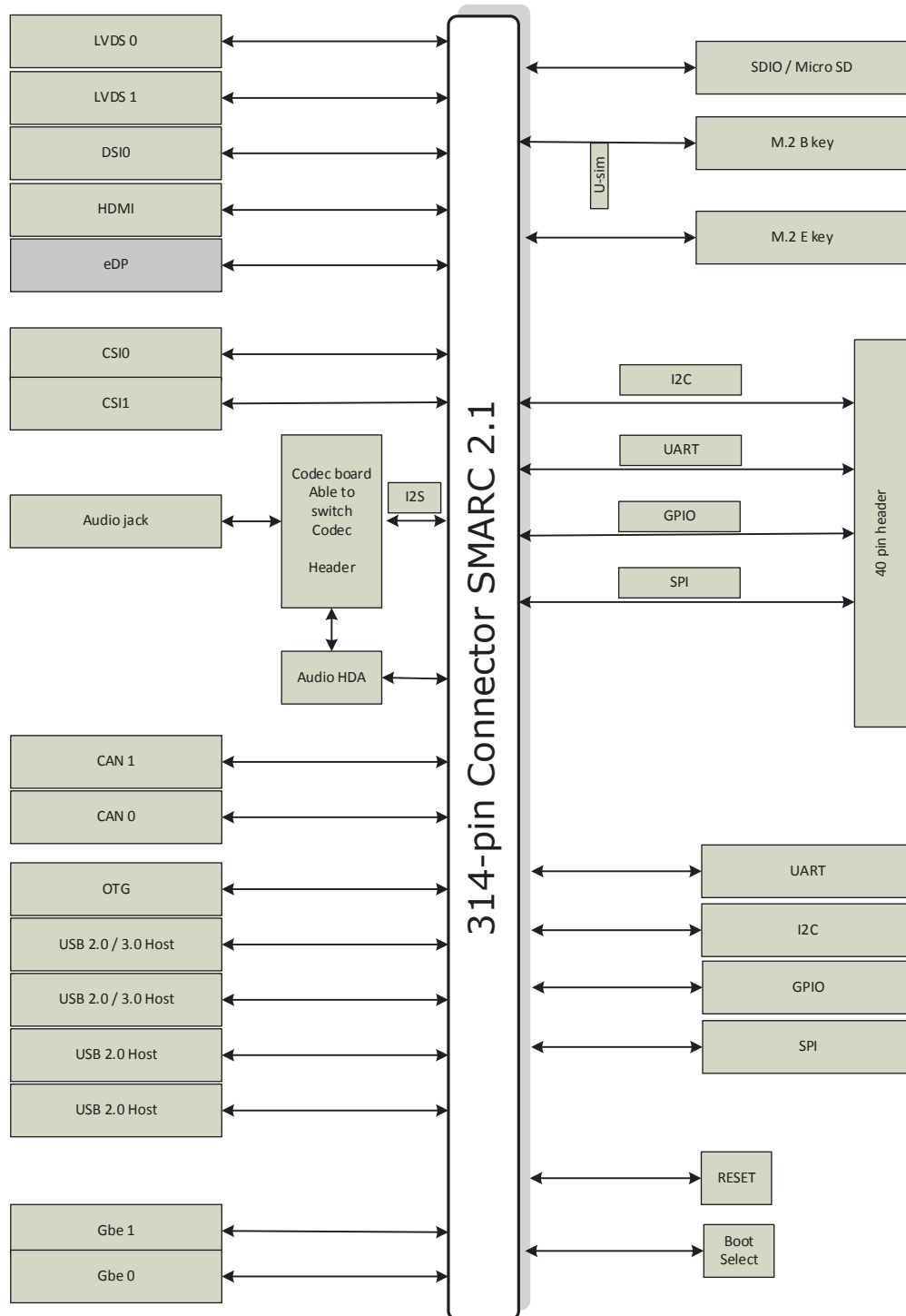
##### Shock and Vibration

IEC 60068-2-64 and IEC-60068-2-27, MIL-STD-202 F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D

##### HALT

Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

## Functional Diagram



# I-Pi SMARC Plus

---

## Ordering Information

- **91-77A07-0020**  
I-Pi SMARC plus carrier for performance level SMARC 2.1 and later ARM modules (no audio add-on card)
- **91-77A07-5010**  
I-Pi SMARC plus X carrier for performance level SMARC 2.1 and later X86 modules (no audio add-on card)
- **91-77A07-3010**  
I-I-Pi SMARC plus carrier for performance level SMARC 2.1 and later ARM modules with TI TLV320 I2S audio add-on card
- **91-77A07-4010**  
I-Pi's SMARC Plus X carrier for performance level SMARC 2.1 and later x86 modules with a Realtek ALC888 audio add-on card