

# NA1011/NA1011-ET

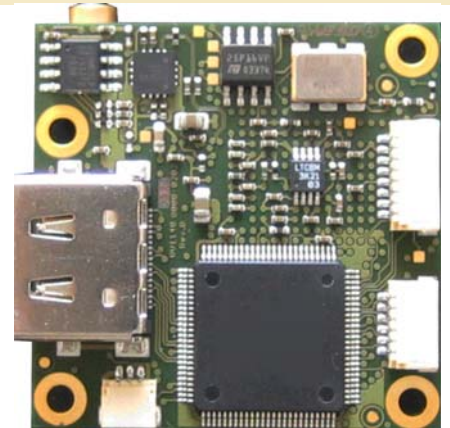
3G/HD-SDI to HDMI Converter

NanoConverter is a family of small form factor solutions for transmitting and receiving standard based video signals over different physical media such as coaxial cables and optical fibre.

Different video formats and interface standards are supported from the transmitter and receiver side including DVI, HDMI, CVBS, YPbPr, RGB, 3G-SDI, HD-SDI and SD-SDI.

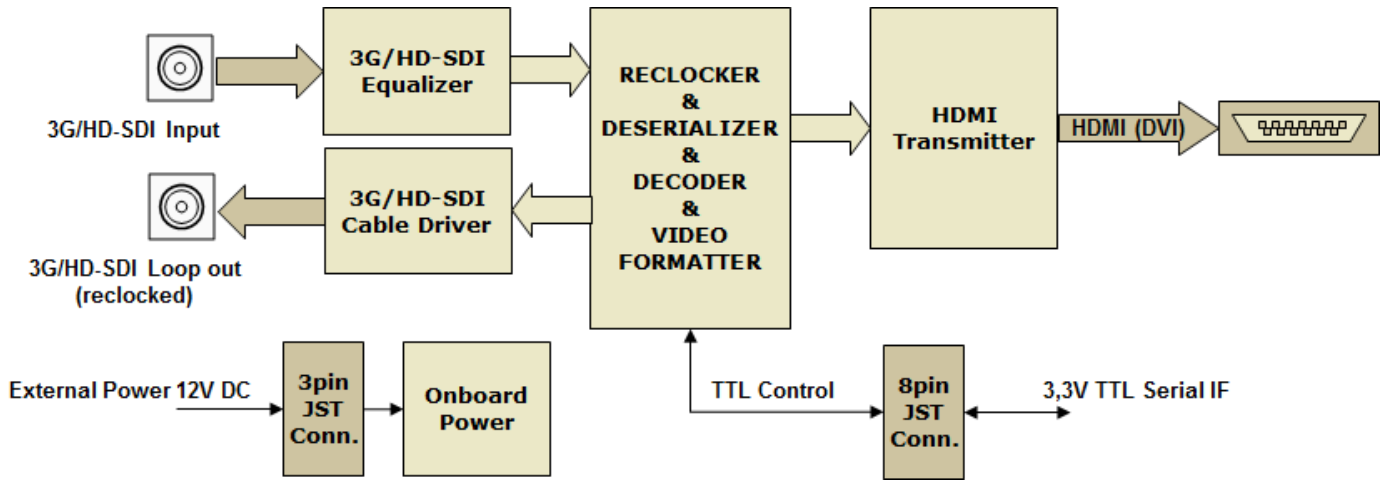
## NA1011 - Features

- + One 3G/HD-SDI input supporting the following bit rates due to SMPTE292M and SMPTE424M (level A)
  - + 1.485 Gbps
  - + 1.485/1.001 Gbps
  - + 2.97 Gbps
  - + 2.97/1.001 Gbps
- + SDI loop out with reclocking
- + Input & output connector: 75Ohm MCX jacks
- + One HDMI output, HDMI 1.3 compliant, no HDCP support
- + Output connector: 19 pin HDMI connector
- + Output data format: RGB444, 3x10 bit
- + Supported input and output video formats
  - + 1080i at 50/59.94/60 Hz
  - + 1080p at 50/25/24/59.94/29.97/23.98/60/30 Hz
  - + 720p at 50/59.94/60 Hz
- + Native video signal processing and formatting only. No image scaling, no format conversion.
- + Power input + 12V DC regulated
- + PCB dimensions 38mm x 38mm
- + NA1011-ET, extended operating temperature range version

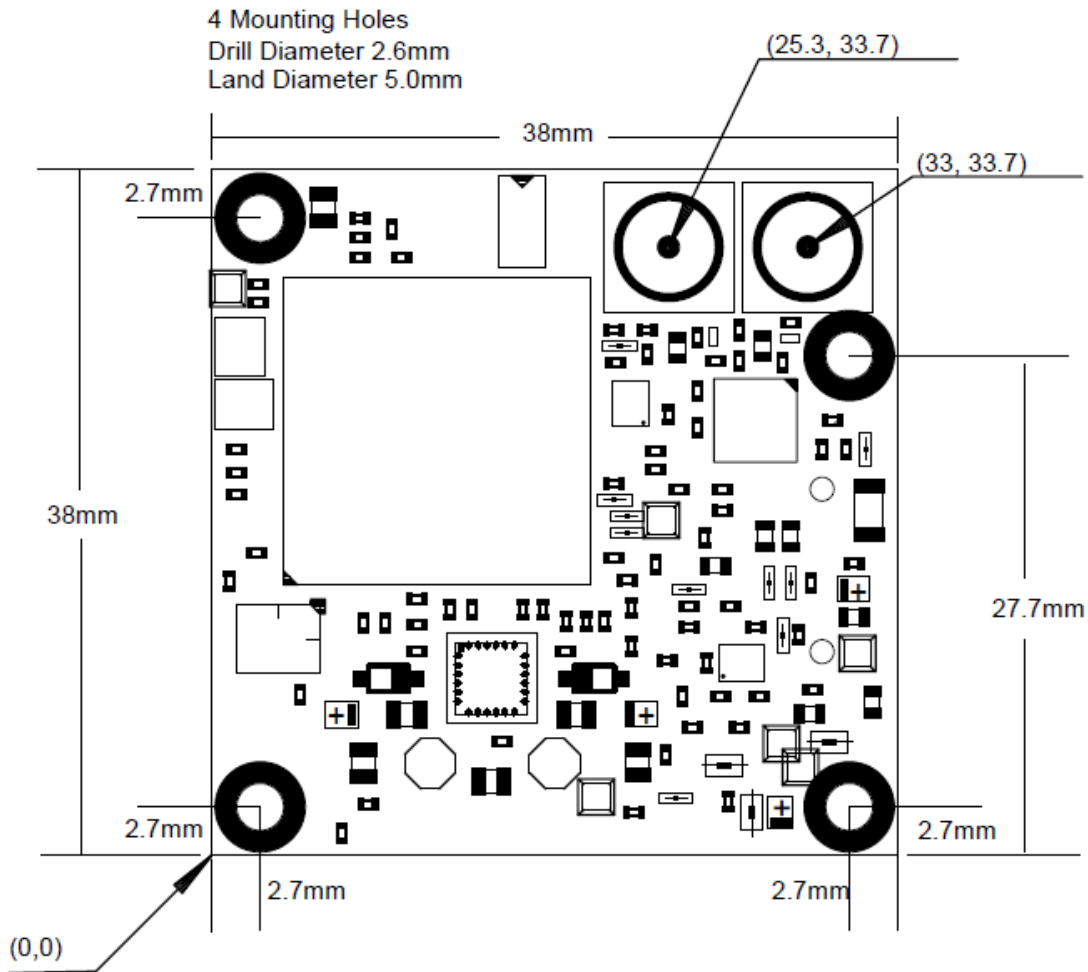


NANOCONVERTER PRODUCTS are RoHS, REACH and UL/UR compliant.

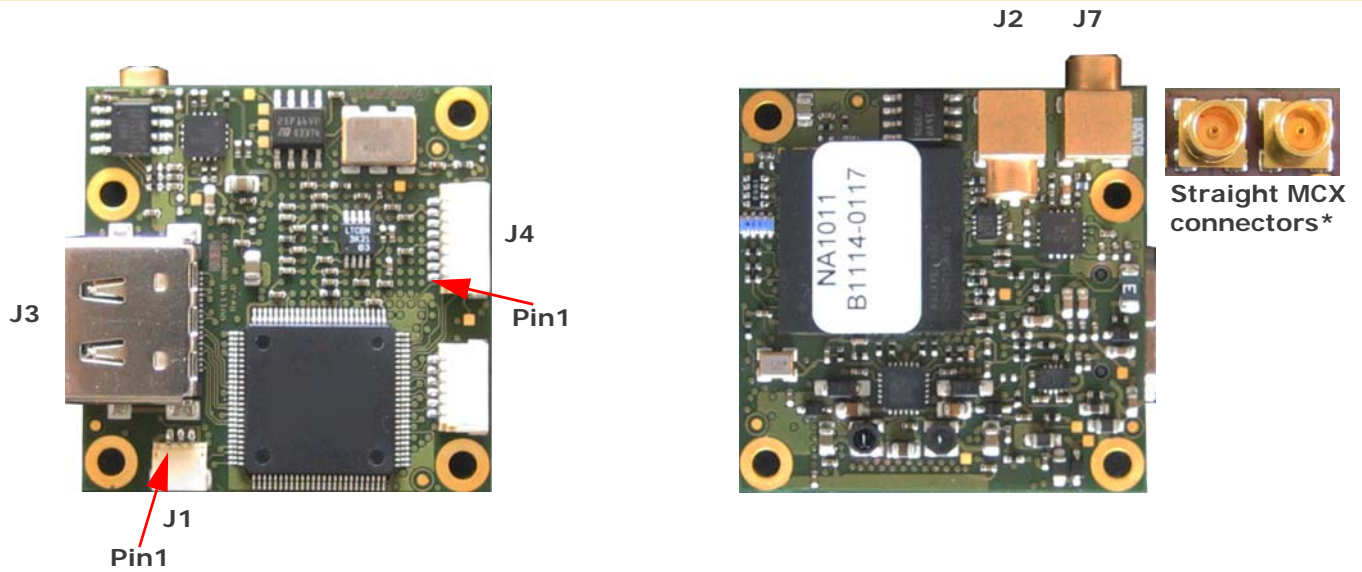
## Block Diagram



## PCB Outline



## PCB Connectors



### Power Connector J1 (JST SM03B-SRSS-TB)

Pin	Signal
1	Vin DC input, 5V to 18V
2*	Shutdown/Reset, has pull up resistor of 4,7kOhm to Vin
3	GND (0V)

\*For device shutdown pull pin 2 to GND. Keep open or pull to Vin for normal operation. For device reset pull pin 2 to GND for a minimum of 1ms.

### HDMI Output Connector J3 (Samtec HDMR-19-02-F-SM-PF)

(Pin assignment due to HDMI standard)

### 3G/HD-SDI Connectors J7 (In) and J2 (Out)

(MCX 75Ohm)

J7: 3G/HD-SDI input

J2: 3G/HD-SDI output (reclocked)

**\*Note: NA1011 has straight MCX connectors. Right angled MCX connectors are optional available as NA1011-RA product.**

## Serial Control Interface J4 (JST SM08B-SRSS-TB)

Pin	Signal
1	reserved, do not connect
2	reserved, do not connect
3	reserved, do not connect
4	GND
5	RX data (host to device), 3.3V TTL, 4V max.
6	TX data (device to host), 3.3V TTL, 4V max.
7	GND
8	reserved, do not connect

## Operating Range

Supply Voltage (Tolerance +/- 5%.) :

Vin (DC)	min	typ	max
	5V	12V	18V

Ambient temperature:

NA1011: 0°C to +50°C (32°F to 122°F), Humidity 20% to 70%

NA1011-ET: -25°C to +70°C (-13°F to 158°F), Humidity 20% to 70%

## Input Current Requirements (at 25°C ambient temperature)

Vin	3G Operation	HD Operation	Condition
5V	510mA	450mA	Shutdown = Vin or OPEN
12V	220mA	200mA	Shutdown = Vin or OPEN
18V	160mA	145mA	Shutdown = Vin or OPEN
5-18V	<10mA	<10mA	Shutdown = GND

### Notes:

1. The device detects and measures video input parameter and adjusts all necessary settings accordingly. Manual control is not required. However, the serial control interface can be used for status checking. Any terminal software can be used, whereas parameters have to be set to 38400bps, 8 data bits, no parity and 1 stop bit (8N1). No handshake must be used.
2. The current device version does not support audio.
3. This device does not support HDCP encryption.