

# LT86101CH --- Product Brief

## Type-C-to-HDMI Converter

### 1. Features

- fCompliant to HDMI1.4b, Type-C r1.2, USB PD2.0 and HDMI1.4b Alt Mode v1.0 Standards
- fSupport Hot-Plug Detect for HDMI Output Interface
- fSupport DDC and CEC
- fSupport Only AC Coupled HDMI Output Interface
- fProgrammable Input Equalization
- fProgrammable Output Swing and De-emphasis
- fUSB Full-Featured, Orientation and Role Detection
- f2 Power Roles Supported: Source and Sink
- f2 Data Roles Supported: UFP and DRP
- f3-level Current Ability Detection for Type-C Power:
- fUSB Default, 1.5A@5V, 3A@5V
- fInternal MCU and Flash for Online Firmware Upgrade
- fSupport External I2C Debug
- f1.8V/3.3V Power Supply
- fPackaged in 5mmx5mm QFN40

### 2. General Description

LT86101CH is a TMDS signal re-driver with HDMI1.4b interfaced output and Type-C interfaced input. TMDS signal quality is deeply-optimized and enhanced by performing cable and board trace loss compensation.

The input receiver of LT86101CH features a multi-level programmable linear equalizer, supporting up to 25dB loss compensation due to Inter-Symbol Interference (ISI). The output transmitter re-drives the received signal with multi-level programmable output swing and maximum 6dB de-emphasis. In coordination with DDC

channel, a build-in frequency detector monitors clock channel and automatically adjust input equalization and output swing.

Type-C operating is controlled by CC detect, CC logic and PD management unit. A high performance passive differential switch compliant with HDMI1.4b Alternate Mode is also integrated to realize clock and data channel exchange according to Type-C interface insert orientation. This relieves BOM cost and mobile system design complexity.

LT86101CH internally integrates an 8-bit OCM and SPI flash memory (stacked die) to configure and run program. Online software upgrade is also supported.

The LT86101CH is fabricated in advanced CMOS process and implemented in a small outline 5mmx5mm QFN40 package. This package is RoHS compliant and specified to operate from -40°C to +85°C.

### 3. Applications

- fSmartphone, Tablet and Other Mobile Devices
- fVR/AR Eco-System and Home Entertainment
- fPC, Notebook, All-in-Ones Computer and Docking

### 4. Ordering Information

Table 4.1.1 Ordering Information

Part No.	Operating Temp. Range	Package	Packing
LT86101CH	-40 to +85	QFN40 (5*5)	Tray



**LONTIUM**