

## MoCA MAC and baseband digital device

Data brief

### Features

- Supports MoCA v1.1 in A, B, C, D, E and F bands
- Digital MAC and PHY processing
- External analog front end (AFE)
- AFE connected via 3-Gb/s SERDES link
- SPI for AFE initialization
- Giga-MII (GMII) interface
- STMoCA manager application software in Linux stack on host
- Firmware-based MoCA state machine capable of in-field update
- Tx and Rx are 256-QAM capable (optional)
- Up to 16 nodes
- Data rate 170 Mb/s
- Aggregation up to 10 frames
- 16 parameterized quality of service (PQoS) flows

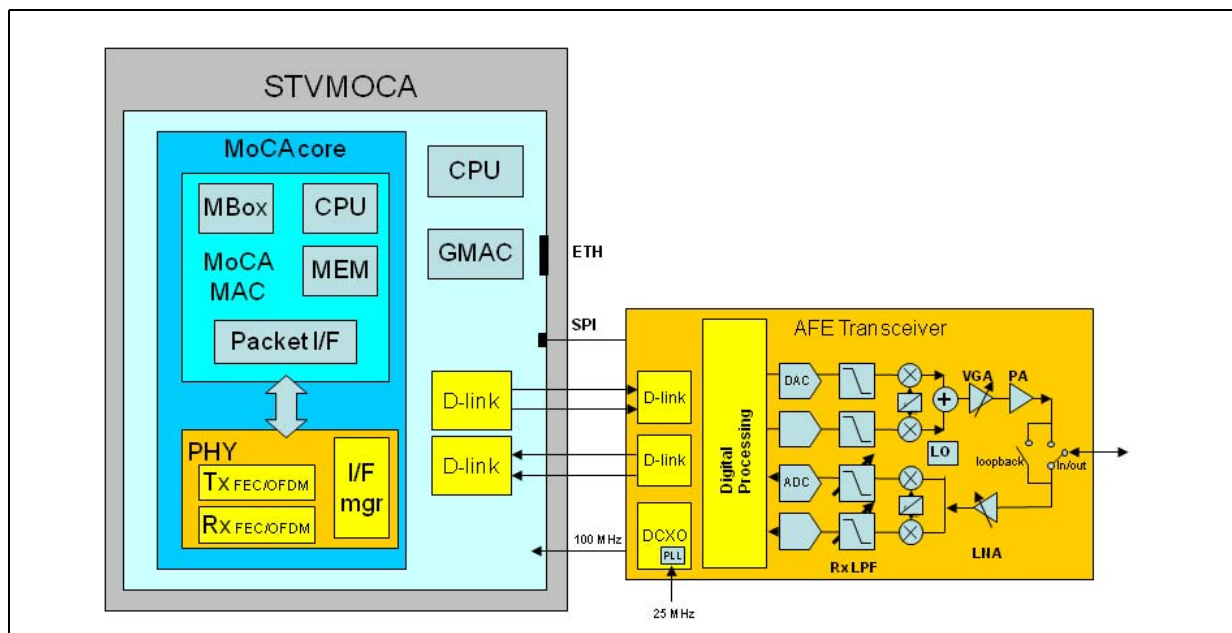
- Four fixed-priority (high, medium, low and broadcast) flows
- 1.2-V and 3.3-V supplies, plus 2.5 V from the internal regulator
- Package: 240-pin LFBGA 15x15 mm<sup>2</sup>

### Description

The STVMOCA device, in conjunction with the AFE transceiver, connects ST back-end devices to the home MoCA network as defined by the MoCA standard (specification v1.1). The STVMOCA chip is mainly associated with the back-end devices of the STx71xx family, such as STi7105, and the STiHXXX families.

The STVMOCA chip contains MAC and PHY processing and a high-speed SERDES interface to the analog front-end (AFE) device.

The IC may be interfaced to the host processor via the GMII port.



# Overview

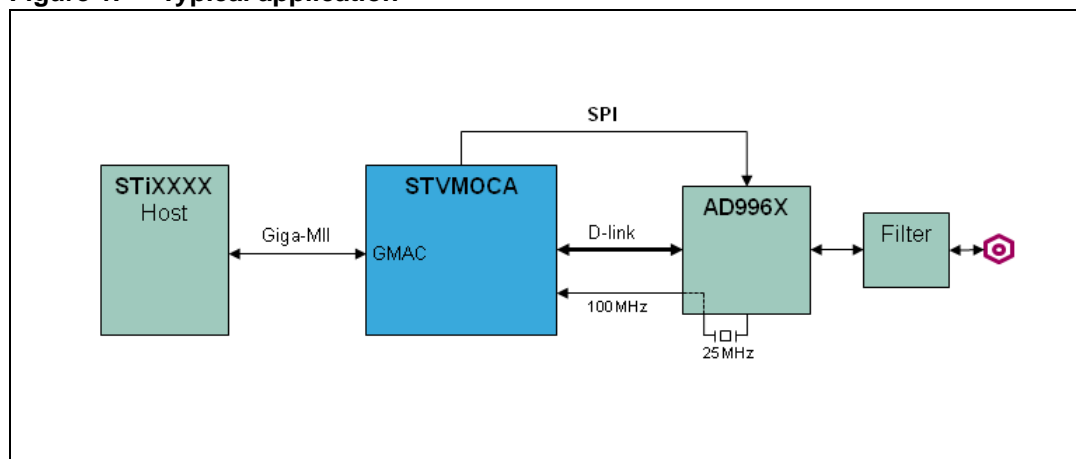
The MoCA (Multimedia over Coax Alliance) standard enables the transmission of IP data over small local coaxial networks, for example, within the home. MoCA, through its flexible frequency plan, allows co-existence with other signals such as satellite and cable on the same coaxial network. MoCA implements parameterized quality of service (PQoS) for smooth, glitch-free audio and video streaming. Up to 16 nodes may be connected on a single network.

The STVMOCA in conjunction with the AFE implements the MoCA 1.1 standard.

The STVMOCA chip is designed to work together with an analog front-end IC and host CPU.

Features	Benefits
Supports MoCA v1.1 in A, B, C, D, E and F bands	Support for all MoCA 1.1 bands in a single design
Third-party analog front end (AFE)	Separate FE allows better isolation of the MoCA network from noise generated by the host and improves package power dissipation
AFE connected via 3-Gb/s SERDES link	Provides flexible high-performance error-free link
Giga-MII	Allows more than 220 Mb/s to be transmitted; this data rate exceeds MoCA 1.1 specifications
STVMOCA manager application software in Linux stack on remote host	Allows flexible control of the MoCA link
Firmware-based MoCA state machine capable of in-field update	Allows remote firmware update
TX and RX are 256-QAM capable	Allows higher throughput rate
Aggregation up to 10 frames	Allows better bandwidth optimization

**Figure 1. Typical application**



## Ordering information

**Table 1. Device summary**

Order code	Temperature range	Package	Packaging
STVMOCAABA	0 - 70 °C	LFBGA240	Tray

## Revision history

**Table 2. Document revision history**

Date	Revision	Changes
26-Jun-2010	1	Initial release.

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