

# ACPM-9301

## TD-SCDMA/LTE B34/B39 MIPI APT PA

2.0 mm × 2.5 mm

### Power Amplifier Module

(1880–2025 MHz)

#### Product Brief



#### Description

The ACPM-9301 is a fully matched 10-pin surface mount power amplifier module developed for TD-SCDMA, TD-LTE B34, and B39. The 2 mm × 2.5 mm form-factor package is self contained, and it incorporates 50-ohm input and output matching networks.

The ACPM-9301 features CoolPAM circuit technology that supports two power modes—low and high. The CoolPAM is a stage bypass technology enhancing PAE (power added efficiency) at low power range. The stage bypass feature enhances PAE further at low output range, and it enables the power amplifier to have exceptionally low quiescent current. Without a DC-DC converter, it dramatically saves average current consumption, extends the talk time of mobiles, and prolongs a battery life. It can be used with the APT (average power tracking) operation to reduce the power consumption when VCC1 and VCC2 are connected to a DC-DC converter externally, which adjusts the VCC1 and VCC2 voltage according to the output power level.

The power amplifier is manufactured on an advanced InGaP HBT (hetero-junction bipolar transistor) MMIC (microwave monolithic integrated circuit) technology that offers state-of-the-art reliability, temperature stability, and ruggedness.

#### Features

- Thin package (0.82 mm typical)
- Excellent linearity in APT mode
- MIPI RFFE interface
- Two-mode power
- Quiescent current control for high power mode and low power mode
- Ten-pin surface mounting package
- Internal 50-ohm matching networks for both RF input and output
- Separate drive and output VCC supplies
- Green – Lead-free and RoHS compliant

#### Applications

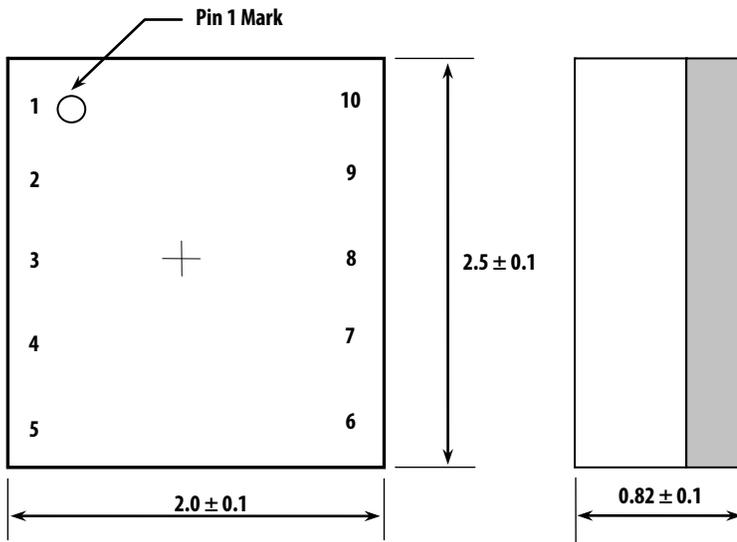
- TD-SCDMA Band 34 and Band 39
- TD-LTE Band 39

#### Ordering Information

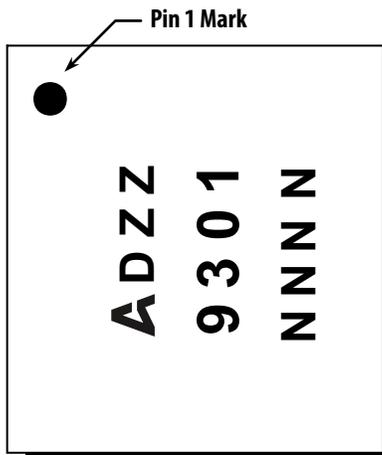
Part Number	Number of Devices	Container
ACPM-9301-TR1	1,000	178 mm (7 in.) tape/reel

## Package Dimensions

All dimensions are in millimeters.



## Marking Specification



- D – Date Code
- ZZ – Assembly Lot Identification
- 9301 – Device Code

## Pin Description

Pin #	Name	Description
1	VCC1	DC supply voltage, connect the first RF stage collector to which APT is applied (0.5V~3.5V)
2	RFIN	RF input
3	VBAT	DC supply voltage, connect to the bias circuitry with a fixed voltage (higher than 3.2V)
4	VIO	RFFE enable
5	SDATA	RFFE data
6	SCLK	RFFE clock
7	GND	Ground
8	NC	No connection
9	RFOUT	RF output
10	VCC2	DC supply voltage, connect to the second RF stage collector to which APT is applied (0.5V~3.5V)

For product information and a complete list of distributors, please go to our web site:

[www.avagotech.com](http://www.avagotech.com)

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