

# ACPM-9320

## LTE Band 20 MIPI APT PA

### 2.0 mm × 2.5 mm

## Power Amplifier Module

### Product Brief



#### Description

The ACPM-9320 is a fully matched 10-pin surface mount power amplifier module developed for LTE Band 20. The 2 mm × 2.5 mm form-factor package is self contained, and it incorporates 50-ohm input and output matching networks.

The ACPM-9320 features CoolPAM circuit technology that supports two power modes—low and high. The CoolPAM is a stage bypass technology that enhances PAE (power added efficiency) at low power range. The stage bypass feature enhances PAE further at low output range, and it enables the PA (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 the 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

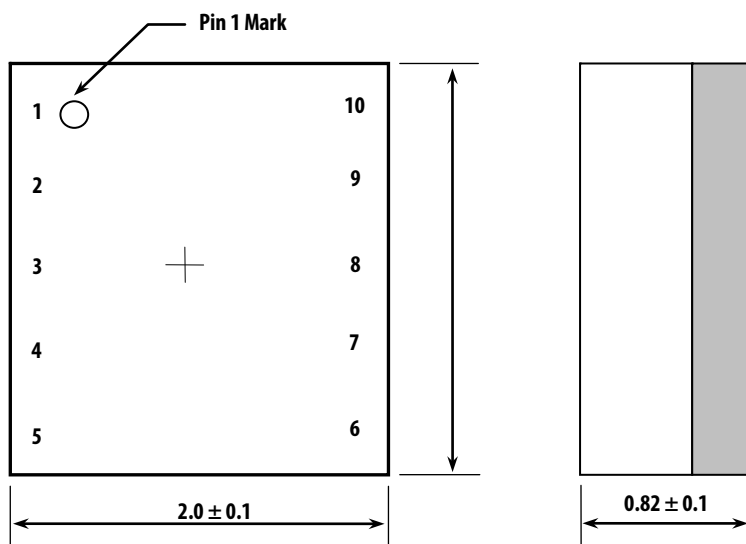
- LTE Band 20

#### Ordering Information

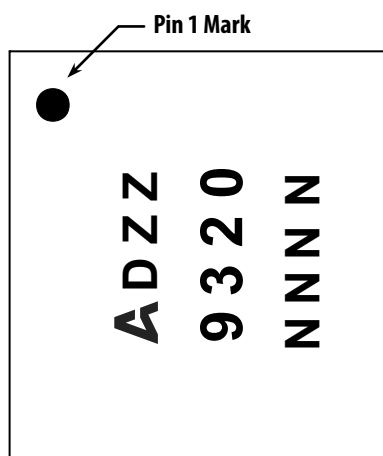
| Part Number   | Number of Devices | Container            |
|---------------|-------------------|----------------------|
| ACPM-9320-TR1 | 1,000             | 178mm (7") Tape/Reel |

## Package Dimensions

The dimensions are in millimeters.



## Marking Specification



D – Date Code  
ZZ – Assembly Lot Identification  
9320 – 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 dlock                                                                                      |
| 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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