

LED

IC

MEMS

IMAGING

PACKAGING

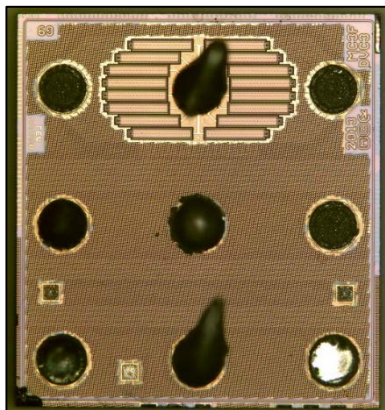
SYSTEM

POWER

# Cavendish Kinetics 32CK417R

## MEMS Antenna Tuner

*Cavendish Kinetics revolutionizes the RF industry with its world first MEMS antenna tuner exhibiting extra small size (only 2mm<sup>2</sup>) and very low insertion losses*



Cavendish Kinetics promises to transform the RF stage in mobile phone with its MEMS tunable capacitors. Today the 32CKxxx family is optimized for the antenna tuning function. And Cavendish Kinetics wants to use its SmarTune technology in RF filters and Tx antenna switch.

The Cavendish Kinetics components are integrated in Nubia smartphones.

With a very small footprint, less than to 2mm<sup>2</sup>, the 32CK417R is the smallest antenna tuner on the market. Moreover, the specific SmarTune technology offers a fine capability to tune the capacitor value, 32 steps between the min and max value to have a seamless tuning. The report provides all details on the structure of the component and the supply chain to produce this astonishing MEMS.

The 32CK417R integrates an ASIC to drive the variable capacitor and thanks to a SPI or MIPI bus communication, to facilitate the integration for phone manufacturers.

The Wafer Level Packaging, from STATS ChipPAC, reduces the insertion loss, 5x lower than RF SOI solution. All the wafer manufacturing process, ASIC part and MEMS part, are performed by Tower Jazz.

The report includes a detailed technology and cost analysis describing the innovations of Cavendish Kinetics and TowerJazz of this unique Antenna Tuner.

**Title:** MEMS Antenna Tuner

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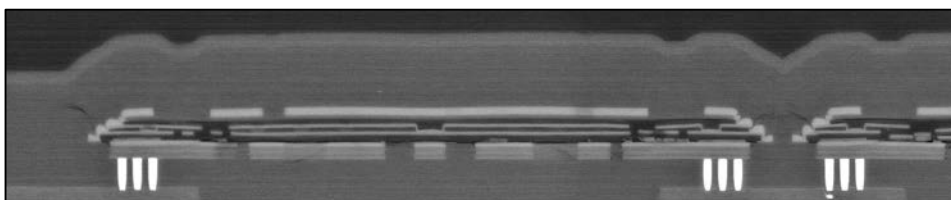
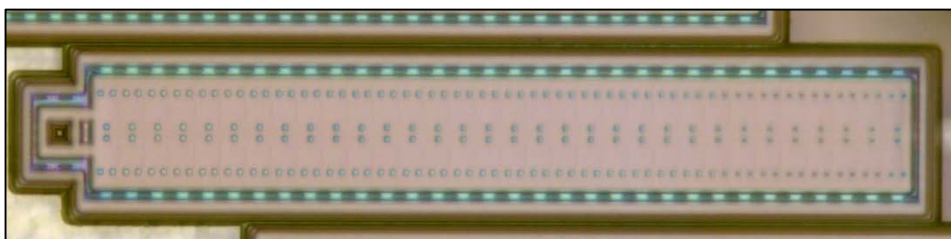
**PRICE:**

Full report: EUR 2,990

Technology report: EUR 1,990

COMPLETE TEARDOWN WITH:

- Detailed Photos
- Precise Measurements
- Material Analysis
- Manufacturing Process Flow
- Supply Chain Evaluation
- Comparison with Wispry MEMS Antenna Tuner
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- Selling Price Estimation



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Sylvain is in charge of costing analyses for IC, Power and MEMS. He has more than 10 years of experience in the MEMS manufacturing costs analysis and has studied a wide range of technologies.



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Yvon is the laboratory manager. He has deep knowledge in chemical & physical technical analyses. He previously worked for 25 years in Atmel Nantes Laboratory and analyses MEMS for more than 8 years.

# ANALYSIS PERFORMED WITH OUR COSTING TOOLS MEMS COSIM+ AND IC PRICE+

	Process-Based Costing Tools	Parametric Costing Tools
Integrated Circuits		IC Price+
MEMS	MEMS CoSim+	MEMS Price+
Power Devices & Modules	Power CoSim+	Power Price+
LEDs	LED CoSim+	
Advanced Packaging	3D-Package CoSim+	
Electronic Boards Substrates		PCB Price+
Electronic Systems	SYScost+	
Displays		Display Price+

## MEMS Cosim+

Cost simulation tool to evaluate the cost of any MEMS process or device:

**From single chip to complex structures.**

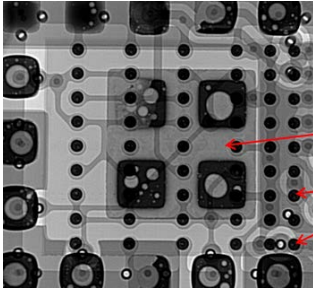
MEMS CoSim+ is a process-based costing tool used to evaluate the manufacturing cost per wafer using your own inputs or using the pre-defined parameters included in the tool.

It is possible to enter any MEMS process flow.

## RELATED REPORTS

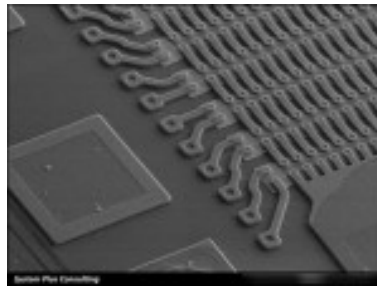
### Wispry A210 RF MEMS Antenna Tuner

The first MEMS Antenna tuner in high volume on the market.



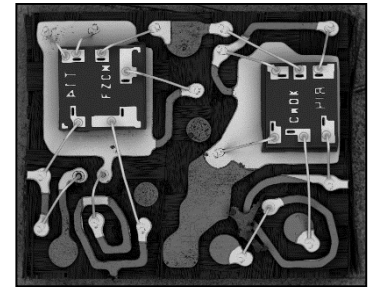
### Paratek – ON Semi BST Tunable RF Capacitor

The first Tunable Capacitor using Paratek technology in WLCSP.



### Avago FBAR Filter All-Silicon MEMS Duplexer

The highest volume production MEMS using TSV Technology based on AlN piezoelectric active layer.



Pages: 85  
Date: November 2011  
Full report: EUR 1,990\*

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