



# ICASD1721-D2S

## PRODUCT SUMMARY



## 1.7 – 2.1 GHz DIFFERENTIAL TO SINGLE-ENDED GAIN AMPLIFIER

**ICASD1721-D2S** is a differential input, single-ended output, high-gain RF Amplifier designed for Wireless Infrastructure supporting all 3GPP 5G NR FR1 bands from 1.7 to 2.1 GHz. Based on GaAs technology, the amplifier excels in both low noise figure and high linearity, allowing the device to be used in both receiver and transmitter applications. The device is overmolded in a 2 x 2 mm<sup>2</sup> LGA package, with 100 Ω input and 50 Ω output impedances.

This amplifier is part of iCana's differential gain amplifier product line designed for wireless infrastructure supporting major 3GPP bands.

### Key Features

- Frequency range: 1.7 – 2.1 GHz
- High and flat gain:  $S_{21} = 18.5 \text{ dB} \pm 0.2 \text{ dB}$
- Low noise figure:  $NF = 2.4 \text{ dB}$
- Good linearity:  $OIP3 = 30 \text{ dBm}$
- High power:  $OP1\text{dB} = 19 \text{ dBm}$
- Excellent return loss:  $S_{11} > 13 \text{ dB}$ ,  $S_{22} > 15 \text{ dB}$
- Single operation voltage ranging from 3.3 V to 5 V
- Low drain current:  $I_{DD} = 51 \text{ mA}$
- Power down mode:  $I_{DD} = 1 \text{ mA}$
- Impedance: 100 Ω differential input, 50 Ω single ended output
- No need for external choke inductor
- Package size: 2.0 x 2.0 x 0.75 mm<sup>3</sup>

### Typical Applications

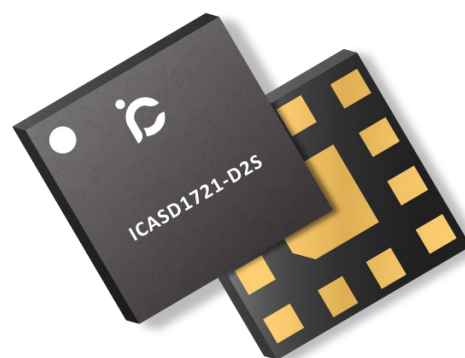
- 3GPP 5G NR FR1 bands n1, n2, n3, n25, n34, n39, n65, n66, n70, n80, n84, n86, and n95
- Massive MIMO
- Wireless communications infrastructure

### Ordering Guide

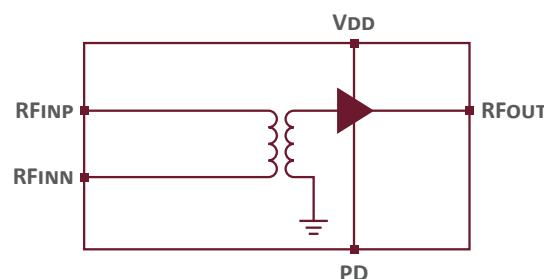
Part Name	Description
ICASD1721-D2S	1.7 – 2.1 GHz Differential to Single-Ended Gain Amplifier
ICASD1721-D2S-EVB	Evaluation Board for ICASD1721-D2S

### 5G NR FR1 D2SE Product Line

Product Name	Description
ICASD1721-D2S	1.7 – 2.1 GHz
ICASD2328-D2S	2.3 – 2.8 GHz
ICASD3338-D2S	3.3 – 3.8 GHz
ICASD4450-D2S	4.4 – 5.0 GHz



12 Pad 2 x 2 mm<sup>2</sup> SMT Package



Functional Block Diagram

REV 1.0

#### DISCLAIMER

All Rights Reserved. Copyright ©2022 iCana Ltd. All information in this document is provided in connection with iCana Ltd. ("iCana") products as a service to its customers and may be used for informational purposes only. iCana assumes no responsibility for errors or omissions in this information contained and iCana may change its documentation, products, specifications or product descriptions at any time, without prior notice.

**iCana Ltd.**

5F, No. 28-2, Baogao Road, Xindian District,  
New Taipei City 231, Taiwan (ROC)

**icana-rf.com**