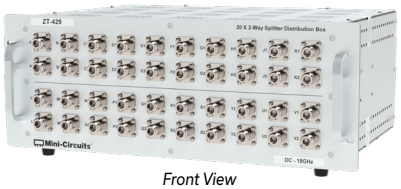
RACK-MOUNTED

Splitter / Combiner Rack ZT-429

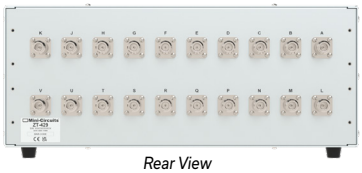
50Ω DC to 18 GHz 20 x 2-Way N-Type Female

KEY FEATURES

- Rack-mounted RF splitter / combiner system
- 20 x 2-way splitters in 4U rack space
- Connectors in-line on the front & rear panels
- Wide band resistive splitter design



Front View



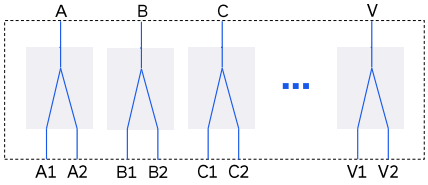
Rear View

Generic photo used for illustration purposes only

APPLICATIONS

- Production test setups
- Quantum computing
- 5G FR1 & FR3, WiFi 6E MIMO, UWB, Bluetooth
- Military radio, radar & electronic warfare
- Microwave radio & cellular infrastructure

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' rack-mounted test solutions enable convenient integration of any combination of passive or active RF and microwave components within complex production test environments. A wide range of standard configurations are supplied from stock, with custom configurations available upon request.

ZT-429 integrates 20 x 2-way splitter / combiners into a compact rack-mounted chassis requiring only 4U of rack space. The wideband resistive design of the splitters achieves close to the ideal 6 dB insertion loss and isolation across the full bandwidth from DC-18 GHz.

The orientation of the N-type connectors supports straight-through connections within the rack, with ports 1-2 of each splitter on the front panel and sum ports on the rear.

ELECTRICAL SPECIFICATIONS AT +25°C (EACH SPLITTER)

Parameter	Conditions	Min.	Typ.	Max.	Units
Frequency		DC		18	GHz
Insertion Loss	DC – 6 GHz		7.0	8.0	dB
	6 – 12 GHz		7.8	9.0	
	12 – 18 GHz		8.7	10.0	
Isolation	DC – 6 GHz	5.0	7.0		dB
	6 – 12 GHz	6.0	7.8		
	12 – 18 GHz	6.5	8.5		
Input Return Loss[1]	DC – 6 GHz		22		dB
	6 – 12 GHz		18		
	12 – 18 GHz		15		
Output Return Loss[2]	DC – 6 GHz		22		dB
	6 – 12 GHz		18		
	12 – 18 GHz		12		
Input Power	As a splitter into load with 2:1 max VSWR			+10	dBm

1. Splitter sum ports (A to V)
2. Splitter output ports (A1, A2 to V1, V2)

REV. A
ECO-026855
ZT-429
MCL NY
250821

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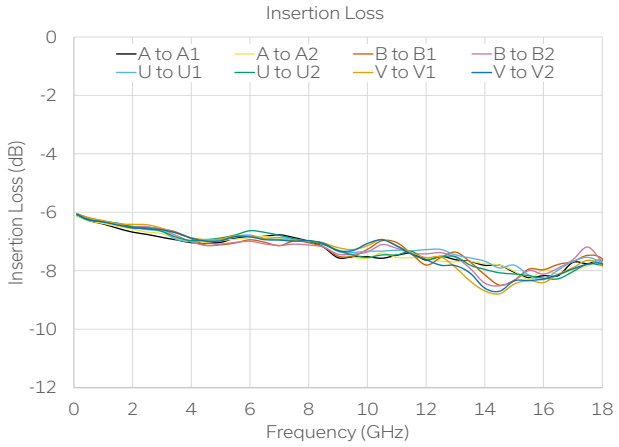
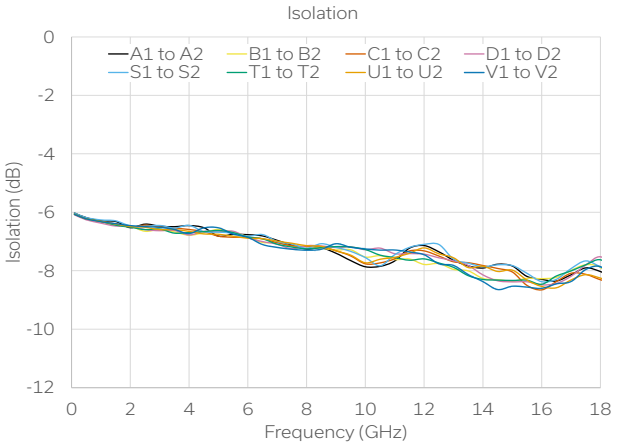
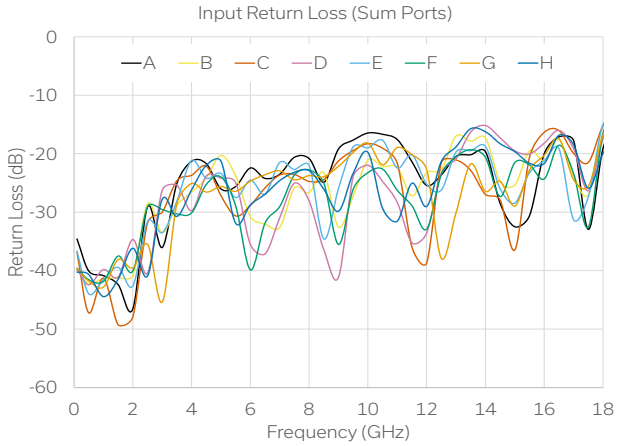
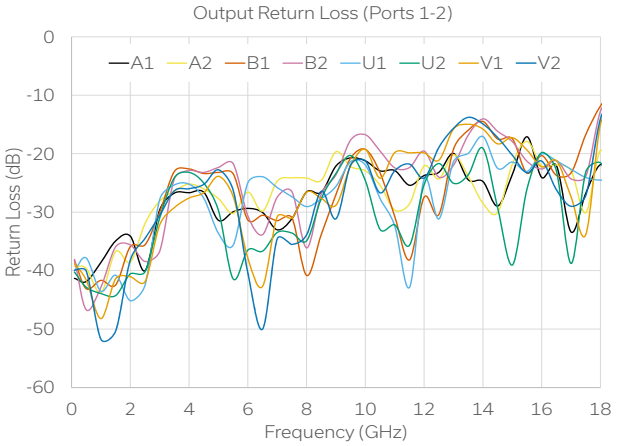
TYPICAL PERFORMANCE GRAPHS









ABSOLUTE MAXIMUM RATINGS

Parameter	Conditions	Limits	Units
Temperature	Operating	0 to +50	°C
	Storage	-20 to +60	

Permanent damage may occur if any of these limits are exceeded. Operating in the range between operating power limits and absolute maximum ratings for extended periods of time may result in reduced life and reliability.

CONNECTIONS

Port	Function	Connector
A to V	Sum port	N-type female
A1, A2 to V1, V2	Input / output port	N-type female

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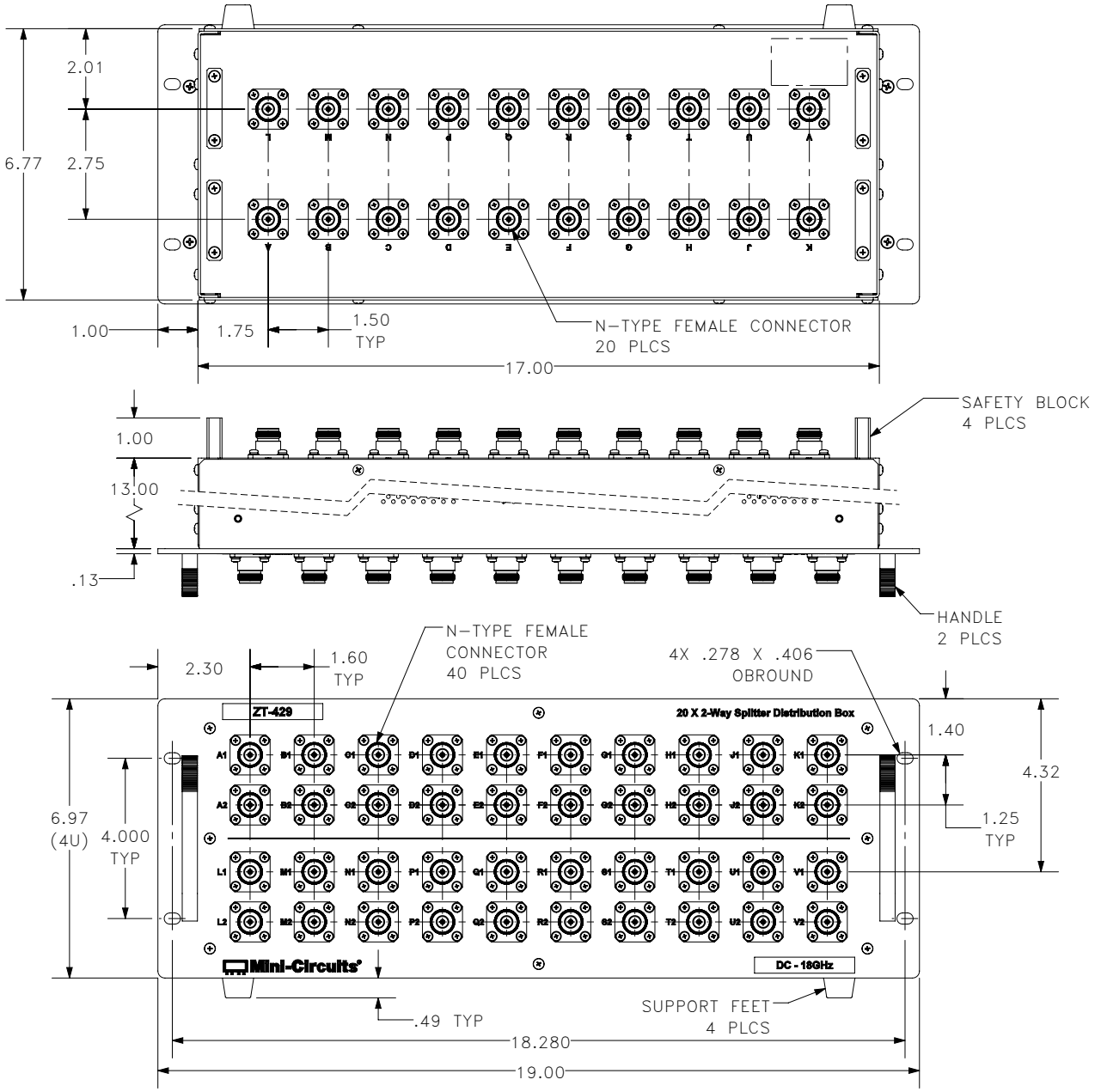
50Ω DC to 18 GHz 20 x 2-Way N-Type Female

CASE STYLE DRAWING



PRODUCT MARKING*

Product Marking: ZT-429
Product Description: 20 X 2-Way Splitter Distribution Box
Product Frequency: DC – 18 GHz
Unit ID Label: Serial number and other identification marks
*Marking may contain other features or characters for internal lot control

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DETAILED MODEL INFORMATION IS AVAILABLE ON OUR WEBSITE CLICK HERE

Case Style	99-01-3705
Environmental Rating	ENV55
Regulatory Compliance	Refer to our website for compliance methodologies and qualifications CE UKCA www.minicircuits.com/quality/environmental_introduction.html

Contact Us: testsolutions@minicircuits.com

NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

Mini-Circuits

Environmental Specifications **ENV55**

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-0° to 50° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-20° to 60° C Ambient Environment	Individual Model Data Sheet
Operating and Storage Humidity	5% to 85% RH (non-condensing)	Ambient
Bench Handling Test	Bench Top Tip 45° & Drop	MIL-PRF-28800F
Transit Drop Test	Free Fall Drop, 20 cm (7.9 inches)	MIL-PRF-28800F Class 3

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