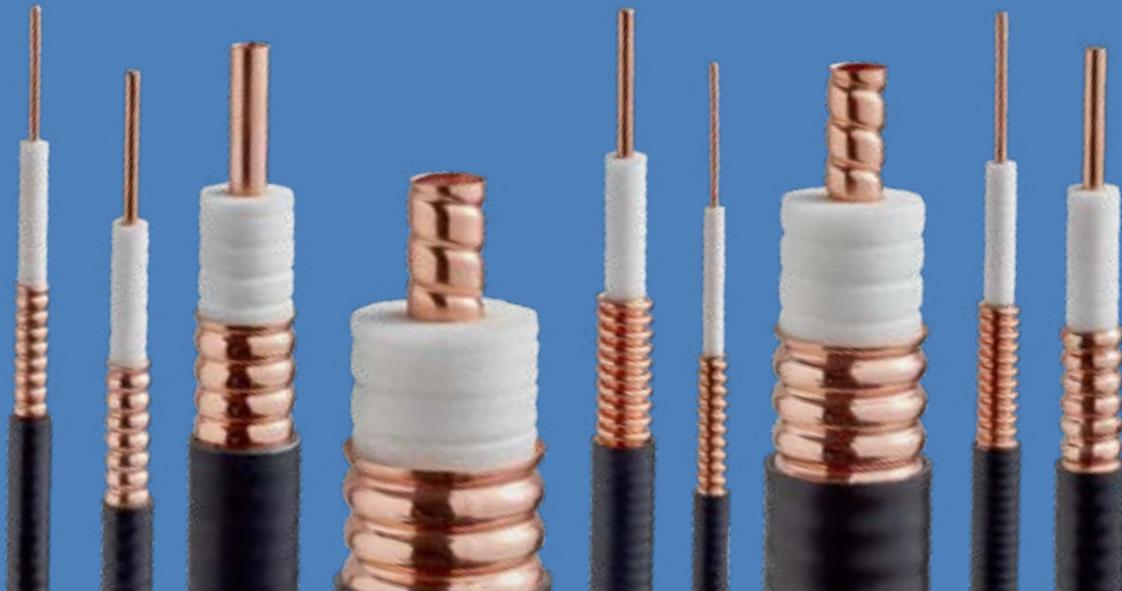




**RFS Technologies**  
an Amphenol Company

# MAKING THE MOST OF CBRS, C-BAND & LAA

Edition 1 / 2.2024



**CBRS, C-BAND & LAA SUPPORTIVE CELLFLEX FEEDER CABLES**

RFS TECHNOLOGIES, INC. MAKING THE MOST OF CBRS, C-BAND, & LAA

## **AN EXPERT PARTNER WITH THE RIGHT PRODUCTS AND SOLUTIONS LIKE CBRS, C-Band and LAA supportive CELLFLEX Feeder Cables SIMPLIFIES YOUR NETWORK EVOLUTION**

Every organization that wants to make the most of CBRS, C-Band and LAA spectrum — whether they're an experienced network operator or an enterprise building a network for the first time — can benefit from a partner that brings them:

- Deep understanding of network technologies and architectures.
- CBRS, C-Band and LAA products and solutions that are engineered from the ground-up to optimize use of spectrum and space while reducing capital costs.
- A complete suite of network services, from network design and installation through network operation, monitoring and management.

RFS Technologies' Cellflex cables now supporting CBRS, C-Band, and higher frequency bands, gives us a competitive edge with superior mechanical and electrical performance compared to other brands.

Specifications for RFS Technologies' CBRS, C-Band and LAA cables are now available online, simplifying ordering by consolidating Return Loss/VSWR into one clear category. This streamlined process makes purchasing high-quality cables from RFS Technologies easier than ever before.



# CBRS, C-Band and LAA SPECTRUM UNLEASHES NEW OPPORTUNITIES FOR NETWORK OPERATORS AND ENTERPRISES

FEATURE	CBRS	C-BAND	LAA
<b>Definition</b>	<p>A 150 MHz spectrum band between 3.55 and 3.7 GHz, shared among three tiers: incumbent users, Priority Access License (PAL) holders, and General Authorized Access (GAA) users.</p> <p><b>CBRS: 3.55GHz-3.7GHz</b></p>	<p>A portion of the mid-band spectrum, specifically between 3.7 and 3.98 GHz, licensed for 5G use.</p> <p><b>C-Band: 3.7GHz-3.98GHz</b></p>	<p>A technology that leverages the unlicensed 5 GHz band alongside licensed spectrum to enhance LTE capabilities, potentially reaching gigabit speeds.</p> <p><b>LAA: 5.15GHz-5.925GHz</b></p>
<b>Application</b>	<p>Primarily used for private networks and augmenting 4G LTE capabilities, suitable for specific applications like wireless ISP services.</p>	<p>Key for 5G deployment, supporting larger channel sizes and better propagation characteristics for widespread mobile broadband use.</p>	<p>Used to boost LTE data speeds, especially in congested areas, and will eventually support 5G networks for improved performance and coverage.</p>
<b>Difference</b>	<p>Offers shared access with limitations on channel size and power, making it less ideal for widespread mobile use.</p>	<p>Provides larger, exclusive channels suitable for broad 5G deployment, unlike CBRS and LAA.</p>	<p>Combines licensed and unlicensed spectrum for enhanced speeds, distinct from the shared access model of CBRS and the exclusive use model of C-Band.</p>
<b>Speed Potential</b>	<p>Limited by shared access and power restrictions, primarily enhancing 4G and private LTE networks.</p>	<p>Supports large 5G channels for enhanced mobile broadband (eMBB), aiming for high speeds and better coverage.</p>	<p>Can theoretically reach peak speeds of 1Gbps and beyond by utilizing both licensed and unlicensed spectrum.</p>
<b>Deployment</b>	<p>More suited for private networks and augmenting existing LTE networks within large organizations or for niche applications.</p>	<p>Widely deployed for public 5G networks, offering significant improvements in speed and coverage.</p>	<p>Initially deployed to enhance LTE networks; future integration into 5G networks will boost performance and coverage.</p>

# RFS Technologies' CBRS, C-Band, and LAA supportive CELLFLEX feeder cables SIMPLIFY EVERY ASPECT OF NETWORK DEPLOYMENTS AND OPERATIONS

RFS Technologies builds on more than 120 years of experience partnering with our customers to advance and evolve communications networks. We combine our unparalleled experience with our deep understanding of radio frequency technologies to provide products, solutions and services that help organizations in every industry make the best possible use of CBRS, C-Band and LAA spectrum outdoors and indoors.

## CELLFLEX® SETS THE STANDARD FOR COMMUNICATION CABLES

It was 1961 when we pioneered CELLFLEX, the foam dielectric corrugated coaxial cables that quickly became the industry's preferred choice for base station applications. Since then, CELLFLEX cables have been proving their value in indoor and outdoor applications around the world.



## A COMPREHENSIVE, FUTUREPROOF PORTFOLIO

Our entire portfolio of CELLFLEX cables supports frequencies from low MHz ranges to 6 GHz to protect your investment. You can take advantage of emerging spectrum and evolve to 5G anywhere in the world – no matter which stage of evolution you're in today.

With 20 CELLFLEX cable models ranging from 1/4-inch to 1 5/8-inch in outer diameter, there's a CELLFLEX cable for even the most complicated and demanding applications.

## MEETING THE WORLD'S HIGHEST FIRE SAFETY STANDARDS

CELLFLEX cables meet international flame- and fire-retardancy standards, including:

- IEC 60754-1/-2: Halogen-free and non-corrosive jacket tests
- IEC 60332-1: Flame tests
- IEC 60332-3-24: Cable bundle tests
- IEC 61034: Low-smoke emission tests

## INDUSTRY-LEADING ELECTRICAL PERFORMANCE

CELLFLEX foam dielectric corrugated cables feature copper outer and inner conductors that are key to premium performance:

- The solid copper conductors virtually eliminate interference due to passive intermodulation (PIM) and intermodulation distortion (IMD).
- The outer conductor creates a continuous electromagnetic and radio frequency interference (EMI/RFI) shield that minimizes system interference.
- With extremely low attenuation, excellent heat transfer properties and temperature-stabilized dielectric material, CELLFLEX cables deliver safe, long-term operation, even at high transmit power levels. These low VSWR cables help maintain system integrity.

## REMARKABLE FLEXIBILITY AND STRENGTH

We've been continually advancing and refining our corrugation technology since we invented the first corrugated, seamwelded cable in 1951. Our ongoing dedication to superior corrugation techniques means CELLFLEX cables bend easily without risk of damage, even against strong bending forces. This rugged flexibility makes installations faster, easier and lower risk than installations using smooth wall cables. CELLFLEX cables are also easier to reuse and recycle than competing cables because the layers are not bonded.

# SMALLER CABLES SUPPORT CBRS, C-BAND, LAA AND BEYOND

## CELLFLEX® Smaller Cables

1/4" Cable	3/8" Cable	1/2" cable	Frequency Band [MHz]	Return Loss [dB]	VSWR	Reflection Coefficient [%]
<a href="#">SCF14-50J*</a>	<a href="#">SCF38-50J*</a>	<a href="#">SCF12-50J*</a>	450-617	≥20	≤1.222	≤10.0
<a href="#">SCF14-50JFN*</a>	<a href="#">SCF38-50JFN*</a>	<a href="#">SCF12-50JFN*</a>	617-960	≥24	≤1.135	≤6.3
<a href="#">LCF14-50J*</a>	<a href="#">LCF38-50J*</a>	<a href="#">LCF12-50J*</a>	1695-2200			
<a href="#">LCF14-50JFN*</a>	<a href="#">LCF38-50JFN*</a>	<a href="#">LCF12-50JFN*</a>	2300-2700	≥20	≤1.222	≤10.0
		<a href="#">LCF12-50JFN-BAA*</a>	3500-4200	≥18	≤1.288	≤12.6
			5150-6000	≥16	≤1.377	≤15.8

## LCF78-50J\*

7/8" Cable	Frequency Band [MHz]	Return Loss [dB]	VSWR	Reflection Coefficient [%]
<a href="#">LCF8-50JA*</a>	450-617	≥20	≤1.222	≤10.0
<a href="#">LCF78-50JFNA*</a>	617-960	≥24	≤1.135	≤6.3
<a href="#">LCF78-50JFNA-BAA*</a>	1695-2200			
	2300-2700	≥20	≤1.222	≤10.0
	3500-4200	≥18	≤1.288	≤12.6

## UCF114-50J\*

1 1/4" Cable	Frequency Band [MHz]	Return Loss [dB]	VSWR	Reflection Coefficient [%]
<a href="#">UCF114-50JA*</a>	450-617	≥20	≤1.222	≤10.0
<a href="#">UCF114-50JFNA*</a>	617-960	≥24	≤1.135	≤6.3
<a href="#">UCF114-50JFNA-BAA*</a>	1695-2200			
	2300-2700	≥20	≤1.222	≤10.0
	3500-4100	≥15	≤1.433	≤17.8

## LCF158-50J\*

1 5/8" Cable	Frequency Band [MHz]	Return Loss [dB]	VSWR	Reflection Coefficient [%]
<a href="#">LCF158-50JA*</a>	450-617	≥20	≤1.222	≤10.0
<a href="#">LCF158-50JFNA*</a>	617-960	≥24	≤1.135	≤6.3
<a href="#">LCF158-50JFNA-BAA*</a>	1695-2200			
	2300-2700	≥20	≤1.222	≤10.0
	3500-3980	≥12	≤1.671	≤25.1

\*Stands for Jacket types of J, JA, JFN and JFNA.  
 J, JA features outdoor rated PE (polyethylene), zero halogen.  
 JFN, JFNA features operating in the presence of fire, low smoke emission, zero halogen.







an Amphenol Company