

# CBRS Antennas Brochure



**THE** Antenna Authority

**Laird**<sup>TM</sup> **CONNECTIVITY**

# CBRS - The Innovation Band

The Citizen's Broadband Radio Service (CBRS) band of frequencies was opened for use by the FCC in 2015. This exciting new range of public spectrum from 3550-3700 MHz enables systems operators to design LTE networks that are fully self-contained, free of the requirement to operate through a carrier's network. The goal is to bring the do-it-yourself simplicity of Wi-Fi to long-range and low-latency LTE applications for systems designers. The applications are endless: self-contained intranet that blankets whole outdoor areas, monitoring systems and sensors for industrial applications, on-site asset tracking and more can all enjoy the convenience and range of LTE, without the cost of data plans and carrier subscriptions.

Our line of CBRS-ready antennas covers a wide range of needs in the CBRS space, including outdoor sector coverage, in-building access, mobile vehicle connectivity, and internal antennas for mobile devices.

## Indoor Distributed Antenna Systems (IDAS)

[webpage](#)

Our in-building line of CBRS-ready antennas support high-quality connectivity with a wide range of port options and covered frequencies. They are designed for optimal radiating efficiency while also providing pleasing aesthetics and slim form factors. They provide wide-angle coverage to provide the broadest coverage possible. They are low-PIM designs which resist interference for a more reliable connection.



Laird Connectivity Family	# of Ports	Radiation Pattern	Frequencies (MHz)	VSWR (Max)	PIM, 3rd Order (dBc, max)	Mounting Type	Cable Length (cm)	Connector	Color
CFSA69383P	1	Omnidirectional (Horizontal)	698-960 1350-1550 1690-3800	<1.5:1 <2.0:1 <1.5:1	<-150	Ceiling	30	Type N Female or 4.3-10 Female	White
CFD69383P	2	Omnidirectional (Horizontal)	698-960 1350-1550 1690-4000	<1.5:1 <2.0:1 <1.8:1	<-150	Ceiling	30	Type N Female or 4.3-10 Female	White
CMD69423P	2	Omnidirectional (Horizontal)	698-960 1350-1550 1690-4200	2:1	<-150	Ceiling	30	Type N Female or 4.3-10 Female	White
CFSA35606P	1	Omnidirectional (Horizontal)	350-520 600-960 1350-1550 1690-6000	<2.5:1 (250-380 MHz) <2.0:1 (380-5925 MHz)	<-150	Ceiling	30	Type N Female or 4.3-10 Female	White
CMS38606P	1	Omnidirectional (Horizontal)	350-520 600-960 1395-1435 1690-6000	<3.0:1 (380-520 MHz) <2.0:1 (600-6000 MHz)	<-150	Ceiling	30	Type N Female or 4.3-10 Female	White

## Internal Antennas

[webpage](#)

For integration inside the enclosures of OEM devices, our line of flexible, adhesive-backed internal embedded antennas provide connectivity across the broad spectrum of cellular frequencies, including CBRS. Our Revie Flex antennas are ground plane independent, with a wide bandwidth and >50% efficiency, and are customizable with many connectors and cable lengths available.



Laird Connectivity Family	No. of Ports	Port Type	Frequency (MHz)	VSWR (max)	Efficiency (%) @ 2550-3700 MHz	Cable Length (cm)	Connector	Color
EFF6060A3S-xxMHF1	1	5G/LTE-M/CAT M1/ NB-IOT/CBRS	600-6000	<2.5:1	>60%	10, 15, or 20	MHF1 / U.FL or equivalent	Black
EFF6989A3S-19MHF1	1	5G/LTE-M/CAT M1/ NB-IOT/CBRS	698-6000	<2.5 @ 698-1690 MHz <2.0 @ 1690-2500 MHz <2.5 @ 2500-4200 MHz <2.2 @ 4900-6000 MHz	>65%	19	MHF1 / U.FL or equivalent	Black

# Mobile Vehicular Antennas [webpage](#)

For vehicles that need multiple types of connections on the go, our Gar and Barracuda mobile vehicular antennas are an industry-leading solution for multi-protocol connectivity with a single-hole mount and a low-profile form factor. The antennas support up to 6 ports for multiple radio connections, and are IP67 rated for reliable weather resistance in vehicle mounted applications.



Laird Connectivity Family	# of Ports	Port Type	Frequency (MHz)	VSWR (max)	Cable Type* (length, cm)	Connector	Mounting Type	Color
<b>VFH69383x22JU</b>	6	2x CBRS/5G/ISM 2x Wi-Fi 1x UHF 1x GNSS	380-520 698-960 1690-3800 2400-2500 4900-6000	2.5:1 (UHF/LTE) 2.0:1 (Wi-Fi)	RG174 (518)	LTE: SMA Male Wi-Fi: SMA Male UHF: SMA or QMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFH69383x23JW</b>	6	2x CBRS/5G/ISM 3x Wi-Fi 1x GNSS	698-960 1690-3800 2400-2500 4900-6000	<2.0:1	RG174 (518)	LTE: SMA Male Wi-Fi: SMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFP69383x22JN</b>	5	2x CBRS/5G/ISM 2x Wi-Fi 1x GNSS	698-960 1690-3800 2400-2500 4900-6000	<2.0:1	RG174 (518 or 91)	LTE: SMA Male Wi-Fi: SMA or RPSMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFQ69383x2NJU</b>	4	2x CBRS/5G/ISM 1x UHF 1x GNSS	380-520 698-960 1690-3800 2400-2500 4900-6000	2.5:1 (UHF/LTE) 2.0:1 (Wi-Fi)	LMR 100 Pigtailed, LMR195 jumper cables (518)	LTE: SMA Male UHF: SMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFQ69383x21JN</b>	4	2x CBRS/5G/ISM 1x Wi-Fi 1x GNSS	698-960 1690-3800 2400-2500 4900-6000	<2.0:1	RG14 (518)	LTE: SMA Male Wi-Fi: RPSMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFT69383x11JN</b>	3	1x CBRS/5G/ISM 1x Wi-Fi 1x GNSS	698-960 1690-3800 2400-2500 4900-6000	<2.0:1	RG174 (518)	LTE: SMA Male Wi-Fi: RPSMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFT69383x2NJN</b>	3	2x CBRS/5G/ISM 1x GNSS	698-960 1690-3800 2400-2500 4900-6000	<2.0:1	LMR 100 Pigtailed, LMR195 jumper cables (518)	LTE: SMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White
<b>VFD69383x1NJN</b>	2	1x CBRS/5G/ISM 1x GNSS	698-960 1690-3800 2400-2500 4900-6000	<2.0:1	LMR 100 Pigtailed, LMR195 jumper cables (518)	LTE: SMA Male GNSS: SMA Male	Single Direct Stud	<b>B</b> = Black <b>W</b> = White

\* LMR or equivalent.

# Outdoor Infrastructure Antennas [webpage](#)

For outdoor omnidirectional and sector coverage, our CBRS-ready outdoor infrastructure antennas feature broad coverage and wide frequency support. They're designed to resist the elements with IP67 rating.



Laird Connectivity Family	No. of Ports	Beamwidth (Azimuth)	Beamwidth (Elevation)	Frequencies (MHz)	VSWR (Max)	Peak Gain @ 2550-3700 MHz (dBi, max)	Connector	Color
<b>OC35506P</b>	1	360°	30°	3550-3700	1.5:1	6.8	Type N Female	White
<b>S3307BPNF</b>	1	360°	8°	3300-3800	2.0:1	9.0	Type N Female	White
<b>SJS330065-17-001</b>	2	65°	7°	3300-3800	1.5:1	17.0	2x Type N Female	White

# Custom Antennas [webpage](#)

After decades of design engineering and OEM manufacturing experience, Laird Connectivity's superior design, RF engineering and testing practices have set the standard for high performance and reliability. Let us help you accelerate your wireless product development with end-to-end custom antenna design and manufacturing. We have experience in custom small cell applications that are perfect for CBRS use cases.







# Connected. No Matter What.

Laird Connectivity simplifies wireless connectivity with market-leading modules, antennas, IoT devices, and customer-specific wireless solutions. **THE** Antenna Authority whose products are trusted by companies around the world for their performance and reliability. With best-in-class support and comprehensive design services, we reduce your risk and improve your time-to-market. When you need unmatched wireless performance to connect your applications with security and confidence, Laird Connectivity Delivers – No Matter What.



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[lairdconnect.com](http://lairdconnect.com)