



Smart Technology. Delivered.™

# Low Profile Omni Directional Antennas

*Laird designs and manufactures customized, performance-critical products for wireless and other advanced electronics applications.*







Smart Technology. Delivered.™

## About Laird

Laird provides systems, components and solutions that protect electronics from electromagnetic interference and heat, which enables connectivity in mission critical systems through wireless applications and antenna systems. We are a leader in the design, development and delivery of innovative technologies that enable people, organisations and applications to connect efficiently and effectively. Our reputation has been built on three guiding principles:

- Innovation- putting our in-depth knowledge of the latest materials and processes to work in creating outstanding products for our customers.
- Reliable fulfillment- delivering what our customers need to their exact specifications, on time and on budget, and in the quantities required.
- Speed- rationalizing the design and delivery cycle to minimize the time from initial concept to final implementation.



# Phantom®

The Laird unique patented Phantom® is a tough antenna for outdoor or indoor applications. Measuring only 3.4" tall, the Phantom UHF antenna's revolutionary design features field diversity with both vertical and horizontal polarization components. This gives the antenna diversity, frequency agility, low visibility, wide bandwidth and a low angle radiation pattern that is superior to traditional gain antennas in most applications.

Part Number		142-160 MHz Tunable	150-168 MHz Tunable	156-172 MHz	380-400 MHz	410-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz	698-960 MHz	760-870 MHz	806-866 MHz	821-896 MHz	806-960 MHz	890-960 MHz	902-928 MHz	1710-2500 MHz	1710-2700 MHz	1850-1990 MHz	2.4-2.5GHz	2.5-2.7 GHz	4.9-6.0GHz	B - Black, W - White	"G - Ground Plane Required, N - No Ground Plane"	"Mounting Style, N - NMO Mountable, P - Permanent, C - Cable Pigtail"		
VHF	TRAT1420	X																						W	G	N		
	TRABT1420	X																							B	G	N	
	TRABT14208UM	X																							B	G	N	
	TRABT1420P	X																							B	G	P	
	TRAT1500		X																						W	G	N	
	TRABT1500		X																							B	G	N
	TRAT15008UM		X																						W	G	N	
	TRABT15008UM		X																							B	G	N
	TRAT1500P		X																							W	G	P
	TRAT1500P-ST		X																							W	G	P
	TRABT1500P		X																							B	G	P
	TRAT1560			X																						W	G	N
	TRABT1560			X																						B	G	N
	TRAT1560P			X																						W	G	P
UHF	TRA3803			X																					W	G	N	
	TRAB3803			X																					B	G	N	
	TRA3803P			X																					W	G	P	
	TRAB3803P			X																					B	G	P	
	TRA4103				X																				W	G	N	
	TRAB4103				X																				B	G	N	
	TRA41038UM				X																				W	G	N	
	TRAB41038UM				X																				B	G	N	
	TRA4103P				X																				W	G	P	
	TRAB4103P				X																				B	G	P	
	TRA4303					X																				W	G	N
	TRAB4303					X																				B	G	N
	TRAB43038UM					X																				B	G	N
	TRA4303P					X																				W	G	P
	TRAB4303P					X																				B	G	P
	TRA4500N						X																			W	N	N
	TRAB4500N						X																			B	N	N
	TRA4500NP						X																			W	N	P
	TRAB4500NP						X																			B	N	P
	TRA4503						X																			W	G	N
	TRAB4503						X																			B	G	N
	TRA45038UM						X																			W	G	N
	TRAB45038UM						X																			B	G	N
	TRA4503P						X																			W	G	P
TRAB4503P						X																			B	G	P	
TRA4503PTB						X																			W	G	P	



# Phantom® Con't

Part Number		142-160 MHz Tunable	150-168 MHz Tunable	156-172 MHz	380-400 MHz	410-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz	698-960 MHz	760-870 MHz	806-866 MHz	821-896 MHz	806-960 MHz	890-960 MHz	902-928 MHz	1710-2500 MHz	1710-2700 MHz	1850-1990 MHz	2.4-2.5GHz	2.5-2.7 GHz	4.9-6.0GHz	B - Black, W - White	"G - Ground Plane Required, N - No Ground Plane"	"Mounting Style, N - NMO Mountable, P - Permanent, C - Cable Pigtail"
UHF	TRA4703								X															W	G	N
	TRAB4703								X															B	G	N
	TRAB47038UM								X															B	G	N
	TRA4703P								X															W	G	P
	TRAB4703P								X															B	G	P
	TRA4903									X														W	G	N
	TRAB4903									X														B	G	N
	TRA4903P									X														W	G	P
	TRAB4903P									X														B	G	P
700/800 MHz	TRA7603									X														W	G	N
	TRAB7603									X														B	G	N
	TRAB7603P									X														B	G	P
	TRA8063										X													W	G	N
	TRAB8063										X													B	G	N
	TRA80638UM										X													W	G	N
	TRAB80638UM										X													B	G	N
	TRA8063N										X													W	G	N
	TRAB8063N										X													B	N	N
	TRA8063NP										X													W	G	P
	TRAB8063NP										X													B	N	P
	TRA8063P										X													W	G	P
	TRAB8063P										X													B	G	P
	TRA8213											X												W	G	N
	TRAB8213											X												B	G	N
	TRA82138UM											X												W	G	N
	TRAB82138UM											X												B	G	N
	TRA8213N											X												B	N	N
	TRA8213NP											X												W	N	P
	TRAB8213NP											X												B	N	P
	TRA8213P											X												W	G	P
	TRAB8213P											X												B	G	P
	TRA8903												X											W	G	N
	TRAB8903												X											B	G	N
	TRA8903N												X											W	N	N
	TRAB8903N												X											B	N	N
	TRA8903NP												X											W	N	P
	TRAB8903NP												X											B	N	P
	TRA8903P												X											W	G	P
	TRAB8903P												X											B	G	P
	TRA89023													X										B	G	N
	TRAB89023N													X										B	N	N
	TRA89023NP													X										B	N	P
TRAB89023P													X										B	G	P	
TRA9020S3PBN-001													X										B	N	P	
TRA9020S3PWN-001													X										W	N	P	
TRA9023													X										W	G	N	
TRAB9023N													X										W	N	N	
TRA9023NP													X										W	N	P	
TRAB9023P													X										W	G	P	



# Phantom® Con't

Part Number		142-160 MHz Tunable	150-168 MHz Tunable	156-172 MHz	380-400 MHz	410-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz	698-960 MHz	760-870 MHz	806-866 MHz	821-896 MHz	806-960 MHz	890-960 MHz	902-928 MHz	1710-2500 MHz	1710-2700 MHz	1850-1990 MHz	2.4-2.5GHz	2.5-2.7 GHz	4.9-6.0GHz	B - Black, W - White	"G - Ground Plane Required, N - No Ground Plane"	"Mounting Style, N - NMO Mountable, P - Permanent, C - Cable Pigtail"
PIGTAIL	TRAB9023PT5CMMX																X							B	G	C
	TRA18503																			X					W	G
CELLULAR	TRAB18503																			X				B	G	N
	TRA18503NP																			X				W	N	P
	TRA18503P																			X				W	G	P
	TRAB18503P																			X				B	G	P
DUAL BAND	TRA821/18503												X							X				W	G	N
	TRAB821/18503												X							X				B	G	N
	TRA821/18503P												X							X				W	G	P
	TRAB821/18503P												X							X				B	G	P
MULTI BAND	TRA806/17103													X			X							W	G	N
	TRAB806/17103													X			X							B	G	N
	TRA806/17103P													X			X							W	G	P
	TRAB806/17103P													X			X							B	G	P
	TRA806M3NW-001											X	X						X	X				W	G	N
	TRA806M3NB-001											X	X						X	X				B	G	N
	TRA806M3PW-001											X	X						X	X				W	G	P
	TRA806M3PB-001											X	X						X	X				B	G	P
LTE	TRA6927M3AWN-001									X									X					W	N	N
	TRA6927M3NB-001									X									X					B	G	N
	TRA6927M3NB-MT1									X									X					B	G	N
	TRA6927M3NBN-001									X									X					B	N	N
	TRA6927M3NW-001									X									X					W	G	N
	TRA6927M3NWN-001									X									X					W	N	N
	TRA6927M3PB-001									X									X					B	G	P
	TRA6927M3PBN-001									X									X					B	N	P
	TRA6927M3PW-001									X									X					W	G	P
	TRA6927M3PWN-001									X									X					W	N	P
2.4/5.8 GHZ	TRA24003																			X				W	G	N
	TRAB24003																			X				B	G	N
	TRA24003P																			X				W	G	P
	TRAB24003P																			X				B	G	P
	TRA24003N																			X				B	N	N
	TRA24003NP																			X				W	N	P
	TRAB24003NP																			X				B	N	P
	TRA24/49003																			X	X			W	G	N
	TRAB24/49003																			X	X			B	G	N
	TRA24/49003P																			X	X			W	G	P
	TRAB24/49003P																			X	X			B	G	P
	TRA58003																					X		W	G	N
	TRAB58003																					X		B	G	N
	TRA58003P																					X		W	G	P
	TRAB58003P																					X		B	G	P





# Phantom Elite®

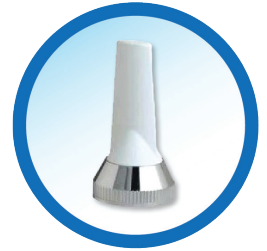
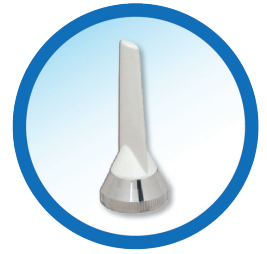
Laird's unique patented Phantom Elite® dual-band cellular antenna operates simultaneously on Cellular 821-896 MHz and PCE 1850-1990 MHz and is a tough antenna for outdoor or indoor applications. Suitable for outdoor and indoor applications, the revolutionary design measures only 2.7" and features field diversity with both vertical and horizontal polarization. This gives the antenna diversity, frequency agility, low visibility, wide bandwidth and a low angle radiation pattern that is superior to traditional gain antennas in most applications.

Part Number		144-148 MHz	150-155 MHz	152-157 MHz	153-158 MHz	155-160MHz	160-165 MHz	165-170 MHz	380-400 MHz	406-425 MHz	410-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz	490-520 MHz	498-520 MHz	698-806 MHz	760-870 MHz	806-866 MHz	821-896 MHz	890-960 MHz	902-928 MHz	1850-1990 MHz	2.4-2.5 GHz	4.9-6.0 GHz	B - Black, W - White	"G - Ground Plane Required, N - No Ground Plane"	"Mounting Style, N - NMO Mountable, P - Permanent, B - Bayonet 3/4" Adpt. Inc."		
VHF	ETRA1440	X																									W	G	B		
	ETRA1440	X																										B	G	B	
	ETRA1500		X																									W	G	B	
	ETRA1500		X																									B	G	B	
	ETRA1500GM88BI		X																									B	G	B	
	ETRA1520			X																								B	G	B	
	ETRA1530				X																							B	G	B	
	ETRA1550					X																						W	G	B	
	ETRA1550					X																						B	G	B	
	ETRA1600						X																					B	G	B	
	ETRA1650							X																				W	G	B	
	ETRA1650							X																				B	G	B	
UHF	ETRA4063							X																				W	G	N	
	ETRA4063							X																					B	G	N
	ETRA4103								X																				W	G	N
	ETRA4103								X																				B	G	N
	ETRA4303									X																			W	G	N
	ETRA4303									X																			B	G	N
	ETRA4303P									X																			W	G	P
	ETRA4303P									X																			B	G	P
	ETRA4500N										X																		W	G	N
	ETRA4500N										X																		B	G	N
	ETRA4503										X																		W	G	N
	ETRA4503										X																		B	G	N
	ETRA4503P										X																		W	G	P
	ETRA4503P										X																		B	G	P
	ETRA4703											X																	W	G	N
	ETRA4703											X																	B	G	N
	ETRA4703P											X																	W	G	P
	ETRA4903												X																W	G	N
	ETRA4903												X																B	G	N
	ETRA4901S3NB-001													X															B	G	N
	ETRA4981S3NB-001														X														B	G	N
	ETRA4981S3PB-001														X														B	G	P
	ETRA6983															X													W	G	N
	ETRA6983															X													B	G	N
	ETRA6983P															X													W	G	P
	ETRA6983P															X													B	G	P



# Phantom Elite® Con't

	Part Number	144-148 MHz	150-155 MHz	152-157 MHz	153-158 MHz	155-160MHz	160-165 MHz	165-170 MHz	380-400 MHz	406-425 MHz	410-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz	490-520 MHz	498-520 MHz	698-806 MHz	760-870 MHz	806-866 MHz	821-896 MHz	890-960 MHz	902-928 MHz	1850-1990 MHz	2.4-2.5 GHz	4.9-6.0 GHz	B - Black, W - White	"G - Ground Plane Required, N - No Ground Plane"	"Mounting Style, N - NMO Mountable, P - Permanent, B - Bayonet 3/4" Adpt. Inc."	
		<b>700/800 MHz</b>	ETRA7603																		X								W	G
ETRAB7603																				X								B	G	N
ETRA7603P																				X								W	G	P
ETRAB7603P																				X								B	G	P
ETRA8063																					X							W	G	N
ETRAB8063																					X							B	G	N
ETRA8063NP																					X							W	N	P
ETRAB8063NP																					X							B	N	P
ETRA8063P																					X							B	G	P
ETRA8213																						X						W	G	N
ETRAB8213																						X						B	G	N
ETRA8903																							X					W	G	N
ETRAB8903																							X					B	G	N
ETRA9023																								X				W	G	N
ETRAB9023																								X				B	G	N
ETRA9023-10PK																									X			B	G	N
ETRA9023N																								X			B	N	N	
ETRA9023P																								X			B	G	P	
<b>DUAL BAND</b>	ETRA821/18503																				X		X				W	G	N	
	ETRAB821/18503																				X		X				B	G	N	
	ETRA821/18503P																				X		X				W	G	P	
	ETRAB821/18503P																				X		X				B	G	P	
<b>2.4/5.8 GHz</b>	ETRAB24003																							X			B	G	N	
	ETRA24003P																							X			B	G	P	
	ETRA24003(CM)(DTM)																							X			W	G	N(P)(N)	
	ETRA24003NP																							X			W	N	P	
	ETRA24003P																							X			W	G	P	
	ETRA24003WM																							X			W	G	P	
	ETRA58003																									X	W	G	N	
	ETRAB58003																									X	B	G	N	
	ETRA58003P																									X	W	G	P	
	ETRAB58003P																									X	B	G	P	



# HCR Omnidirectional Antennas

The Laird HCR Rotatable Shell Omnidirectional Antenna is a tough low-profile antenna for outdoor or indoor applications and features field diversity with vertical polarization. This gives the antenna diversity, frequency agility, low visibility, wide bandwidth and a low angle radiation pattern that is superior to traditional gain antennas in most applications.

Part Number	698-960 MHz	806-960 MHz	821-896 MHz	824-849 MHz	880-960 MHz	1710-1990 MHz	1710-2700 MHz	Laird Label	B - Black, W - White	Mounting Style N - NMO P - Permanent
HCR6927M3NBL-001	X						X	Y	B	N
HCR6927M3NBN-001	X						X	N	B	N
HCR6927M3NWL-001	X						X	Y	W	N
HCR6927M3NWN-001	X						X	N	W	N
HCR6927M3PBL-001	X						X	Y	B	P
HCR6927M3PBN-001	X						X	N	B	P
HCR6927M3PWL-001	X						X	Y	W	P
HCR6927M3PWN-001	X						X	N	W	P
HCR8065M3NBL-001		X					X	Y	B	N
HCR8065M3NBN-001		X					X	N	B	N
HCR8065M3NWL-001		X					X	Y	W	N
HCR8065M3NWN-001		X					X	N	W	N
HCR8065M3PBL-001		X					X	Y	B	P
HCR8065M3PBN-001		X					X	N	B	P
HCR8065M3PWL-001		X					X	Y	W	P
HCR8065M3PWN-001		X					X	N	W	P
HCR8210M3NBL-001			X					Y	B	N
HCR8210M3NBN-001			X					N	B	N
HCR8210M3NWL-001			X					Y	W	N
HCR8210M3NWN-001			X					N	W	N
HCR8210M3PBL-001			X					Y	B	P
HCR8210M3PBN-001			X					N	B	P
HCR8210M3PWL-001			X					Y	W	P
HCR8210M3PWN-001			X					N	W	P
HCR8240M3NBL-001				X				Y	B	N
HCR8240M3NBN-001				X				N	B	N
HCR8240M3NWL-001				X				Y	W	N
HCR8240M3NWN-001				X				N	W	N
HCR8240M3PBL-001				X				Y	B	P
HCR8240M3PBN-001				X				N	B	P
HCR8240M3PWL-001				X				Y	W	P
HCR8240M3PWN-001				X				N	W	P
HCR8819M3NBL-001					X	X		Y	B	N
HCR8819M3NBN-001					X	X		N	B	N
HCR8819M3NWL-001					X	X		Y	B	N
HCR8819M3NWN-001					X	X		N	W	N
HCR8819M3PBL-001					X	X		Y	B	P
HCR8819M3PBN-001					X	X		N	B	P
HCR8819M3PWL-001					X	X		Y	W	P
HCR8819M3PWN-001					X	X		N	W	P





# Ultra Phantom®

Laird's unique patented Ultra Phantom is a single band rugged low-profile antenna for outdoor or indoor applications. The Ultra Phantom features vertical polarization, low visibility, wide bandwidth and a low angle radiation pattern that is superior to traditional gain antennas in most applications.

Part Number	380-410 MHz	406-440 MHz	430-490 MHz	450-512 MHz	B - Black, W - White	"G - Ground Plane Required, N - No Ground Plane"	"Mounting Style, N - NMO Mountable, P - Permanent, C - Cable Pigtail"
UTRA380251NW-001	X				W	G	N
UTRA406152NB-001		X			B	G	N
UTRA406152NW-001		X			W	G	N
UTRA406152PB-001		X			B	G	P
UTRA406152PW-001		X			W	G	P
UTRA430153NB-001			X		B	G	N
UTRA430153NW-001			X		W	G	N
UTRA450253NB-001				X	B	G	N
UTRA450253NW-001				X	W	G	N



# Phantom® Fin

The Laird Phantom Fin multiband antenna provides an excellent solution for the public safety, transportation and aftermarket fleet applications. The Phantom Fin requires only (1) one single hole mount/fixing which reduces vehicle damage, cost of installation and visual impact. The Phantom Fin design provides multiple antenna functions while remaining discrete. The Phantom Fin multiband antenna integrates 4G/LTE, GPS, UHF and WLAN frequency operation into one IP67 rated aerodynamic housing.

Part Number	Number of Leads		3G/4G LTE - 698-960MHz / 1710-2700MHz	WiFi - 2400-2500MHz / 4900-5875MHz	GPS - 1575MHz	UHF 1 - 380-430MHz	UHF - 430-520MHz	UHF - 450-470MHz	"Mounting Style, N - NMO Mountable, P - Permanent, C - Cable Pigtail"	3G/4G LTE - Connector Type	WiFi Connector Type	GPS Connector Type	UHF Connector Type
FHQ69273CD-518VC3	4	1	1	1	1				P	SMA-Male	SMA-Male	SMA-Male	PL259
FHQ69273CD-518VC4	4	1	1	1	1				P	SMA-Male	SMA-Male	SMA-Male	FME-Plug
FHQ69273CD-518VC5	4	1	1	1	1				P	SMA-Male	RPSMA-Male	SMA-Male	PL259
FHQ69273CD-518VC6	4	1	1	1	1				P	SMA-Male	RPSMA-Male	SMA-Male	FME-Plug
FHQ69273CE-518VC3	4	1	1			1	1		P	SMA-Male	SMA-Male	SMA-Male	PL259
FHQ69273CE-518VC4	4	1	1			1	1		P	SMA-Male	SMA-Male	SMA-Male	FME-Plug
FHQ69273CE-518VC5	4	1	1			1	1		P	SMA-Male	RPSMA-Male	SMA-Male	PL259
FHQ69273CE-518VC6	4	1	1			1	1		P	SMA-Male	RPSMA-Male	SMA-Male	FME-Plug



# LPS Omnidirectional Antennas

The Laird LPS antenna is a multiband low profile omnidirectional disk-puck antenna designed to be a surface mount antenna that performs well on metallic and non-metallic surfaces. The antenna is ideal for use in Machine-to-Machine (M2M) applications. The housing incorporates a low profile, rugged design that conforms to IP67 standards making the antenna suitable for both indoor and outdoor applications.

Part Number	698-960 MHz	824-894 MHz	1710-2170 MHz	1710-2700 MHz	"Mounting Style N - NMO P - Permanent"	Cable Type	Connector
LPS69223NT-61RTNM	X			X	P	RG-316	RP-TNCM
LPS69223NT-61SMAM	X			X	P	RG-316	SMAM
LPS69273NT-61RTNM	X			X	P	RG-316	RP-TNCM
LPS69273NT-61SMAM	X			X	P	RG-316	SMAM
LPS82403NT-61SMAM		X	X		P	RG-316	SMAM
LPS88213NT-61RTNM		X	X		P	RG-316	RP-TNCM
LPS88213NT-61SMAM		X	X		P	RG-316	SMAM





# Laird™

Smart Technology. Delivered.™

[www.lairdtech.com](http://www.lairdtech.com)

Americas: +1.847.839.6925

IAS-AmericasSales@lairdtech.com

Europe: +44.1628.858941

IAS-EUSales@lairdtech.com

Asia:

IAS-AsiaSales@lairdtech.com

Middle East and Africa: +44.1628.858941

IAS-MEASales@lairdtech.com

IAS-BRO-PHANTOM 1016

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