



Smart Technology. Delivered.

# Telecom-Cellular Antenna Solutions

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





Smart Technology. Delivered.

## About Laird

Laird is a global technology business focused on enabling wireless communication and smart systems, and providing components and systems that protect electronics. Laird operates through two divisions, Wireless Systems and Performance Materials. Wireless Systems solutions include antenna systems, embedded wireless modules, telematics products and wireless automation and control solutions. Performance Materials solutions include electromagnetic interference shielding, thermal management and signal integrity products. As a leader in the design, supply and support of innovative technology, our products allow people, organisations, machines and applications to connect effectively, helping to build a world where smart technology transforms the way of life. Custom products are supplied to major sectors of the electronics industry including the handset, telecommunications, IT, automotive, public safety, consumer, medical, rail, mining and industrial markets. Providing value and differentiation to our customers through innovation, reliable fulfilment and speed, Laird PLC is listed and headquartered in London, and employs over 9,000 people in more than 58 facilities located in 18 countries.

## A Brief Introduction to Telecom - Cellular

Cellular antennas eliminate the “last wire” going to the workstation. This reduces or eliminates cabling and increases user mobility throughout the facility. Cellular antennas also eliminate signal dead spots or shadows, allowing users to be reached anywhere inside or outside a building.

## Depend on Laird

Laird’s Telecom - Cellular wireless antennas are particularly applicable for environments where aesthetics and wide-angle coverage are necessary for successful wireless deployment. Their surprisingly small size allows the antennas to be hidden almost anywhere, providing an invisible solution for most applications.

## Benefits of Telecom - Cellular Technology

Some benefits of using Laird’s Telecom - Cellular antennas include:

- Tight antenna pattern control
- Uniformity of wireless signal
- Multi-band operation
- Narrow or wide band per port
- Small, aesthetic packaging

# Telecom Cellular - External Antennas

## Directional Base Station

Antennas suited for long-range applications that provide directional pattern coverage. The products feature:

- Vertically polarized radiators with a maximum VSWR < 1.5
- UltraLink pigtails Type N (f) connector configured to application.
- UV Stable housing
- One-piece brass radiator
- Advance microwave substrate
- Stainless steel hardware
- PC series 200 watt power rating
- YA series 100 watt power rating
- DC ground for lightning protection



PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)		
		EL	AZ		LENGTH	WIDTH	HT
PC804N	806-902	70	90	8.0	330	—	—
PC826N	821-896	55	65	10.7	629	—	—
PC8210N	824-896	40	45	13.0	1,168	—	—
YA9-9 <sup>4</sup>	860-960	53	60	9.0	500	—	—
YA9-11 <sup>4</sup>	860-960	50	50	11.0	900	—	—
YA9W-11 <sup>2,4</sup>	860-960	45	—	11.0	850	—	—
YA9-13 <sup>4</sup>	860-960	30	38	13.0	1,450	—	—
YA9W-13 <sup>2,4</sup>	860-960	35	—	13.0	1,200	—	—
PC884N	880-960	70	90	8.0	330	—	—
PC886N	880-960	55	65	10.0	629	—	—
PC17113N	1710-1880	35	35	13.0	673	95	38
PC18513N	1850-1990	35	35	13.0	673	95	38
LP800-2500-9 <sup>3,4</sup>	806-960/ 1710-2500	55	90/75	13.0	394	267	70

1. Unless specified the antenna is a Yagi antenna
2. NLOS Aluminum Yagi
3. Log periodic antenna
4. Backhaul product

## Directional Indoor/Outdoor Panels

Antennas that offer high gain in a thin low profile package, and provide directional pattern coverage in indoor or outdoor environments. The products feature:

- Low profile designs
- UV stabilized radomes
- Integrated coaxial pigtails can be customized in length and connector for the app
- Vertically polarized design with VSWR < 2:1



PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)		
		EL	AZ		LENGTH	WIDTH	HT
ID850 <sup>6</sup>	806-896	60	80	7.5	284	224	56
ID0850	806-896	60	80	7.5	284	224	56
S8248P <sup>1</sup>	824-896	65	70	8.0	305	203	51
S888P <sup>1</sup>	880-960	65	70	8.0	305	203	51
S1718P <sup>1</sup>	1710-1880	65	65	8.0	152	152	32
S17112P <sup>1</sup>	1710-1880	25	65	12.0	330	152	25
S1711290P <sup>1</sup>	1710-1880	10	90	12.0	864	76	30
S1858P <sup>1</sup>	1850-1990	62	65	8.0	152	152	32
S18512P <sup>1</sup>	1850-1990	25	65	12.0	330	152	25
S1851290P <sup>1</sup>	1850-1990	10	90	12.0	864	76	30
ID1900 <sup>3,6</sup>	1850-1990	60	80	8.5	104	135	36
ID01900 <sup>4</sup>	1850-1990	60	80	8.5	104	135	36

1. Part numbers above are completed with the addition of the cable length and connector (e.g. S8248P12NF implies 12" of cable terminated in a TypeN female connector)
2. Connector/cable configurations can be customized to meet requirements
3. Reference part numbers CAF95979 and CAF95996
4. Reference part number CAF94318 and CAF95993
5. Reference part number ID850 is CAF95978 and ID0850 is CAF94122
6. For Indoor applications

## DirectLink™ Series Indoor/Outdoor Panels

Antennas designed to meet the most demanding needs of the contemporary wireless environment, and are well suited for both indoor and outdoor wall or mast applications. The products feature:

- Low profile designs
- UV stabilized radomes
- Integrated coaxial pigtails that can be customized in length and connector for the app
- VSWR <2:1 with a 75 watt power rating



PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)		
		EL	AZ		LENGTH	WIDTH	HT
S8242MP	824-896	120	110	2.0	101.6	76.2	38.1
S8802MP	880-960	120	110	2.0	101.6	76.2	38.1
S1718MP <sup>3</sup>	1710-1880	60	85	7.5	144.8	96.8	15
S1857MP	1850-1990	50	80	7.5	144.8	96.8	15

1. Part numbers above are completed with the addition of the cable length and connector (e.g. S1857MP10SMF implies 10" of cable terminated in a TypeN female connector)
2. Connector/cable configurations can be customized to meet requirements
3. Antenna has option for articulating mount (e.g., S1718AMP)

## Directional Indoor/Outdoor Sectors

Antennas comprising of a directional antenna array with a radiation pattern that is shaped to cover a specified beamwidth. They are used when wide angle coverage is required, and concentrate applied power towards a specified area at the exclusion of other areas. The products feature:

- Low profile vertically polarized designs
- Integrated coaxial pigtails can be customized in length and connector
- SR-series 25 watt power rating
- S-series 50 watt power rating



PART NUMBER	FREQUENCY (MHz)	ANTENNA TYPE	BANDWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)		
			EL	AZ		LENGTH	WIDTH	HT
S1711290P	1710-1880	90 deg Sector	10	90	12.0	864	76	30
SR1717140D	1710-1880	140 deg Sector	30	140	7.0	305	89	64
SR1716180D	1710-1880	180 deg Sector	30	180	6.0	305	89	64
S1851290P	1850-1990	90 deg Sector	10	90	12.0	864	76	30
SR1857140D	1850-1990	140 deg Sector	30	140	7.0	305	89	64
SR1856180D	1850-1990	180 deg Sector	30	180	6.0	305	89	64

1. Part numbers above are completed with the addition of the cable length and connector (e.g. SR1717140D12NF implies 12" of cable terminated in a TypeN female connector)
2. Connector/cable configurations can be customized to meet requirements
3. VSWR < 2:1



# Directional Indoor Multi-polarity Panels

Directional dual port multi-polarization panel antennas that are well suited for indoor applications where multipath is a concern. The products feature:

- Low profile designs
- HVP & SLP models offer polarization diversity
- A minimum of 18 dB isolation and max VSWR of 1.5
- Integrated coaxial pigtailed can be customized in length and connector for the app
- 25 watt power rating



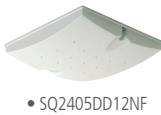
PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)		
		EL	AZ		LENGTH	WIDTH	HT
S828HVP/SLP <sup>2</sup>	824-896	65	70	8.0	305/305	305/203	44/51
S888HVP/SLP <sup>2</sup>	880-960	65	70	8.0	305/305	305/203	44/51
S9028PC <sup>4</sup>	902-928	65	65	7.5	254	254	38
S1717HVP/SLP <sup>2</sup>	1710-1880	65	70	7.0	375/152	235/152	64/32
S1718PC <sup>4</sup>	1710-1880	65	65	7.0	152	152	32
S1857HVP/SLP <sup>2</sup>	1850-1990	65	70	7.0	375/152	235/152	64/32
S1857PC <sup>4</sup>	1850-1990	65	65	7.0	152	152	32

1. Part numbers above are completed with the addition of the cable length and connector (e.g. S828HVP12NF implies 12" of cable terminated in a TypeN female connector)
2. Antenna can be configured in either dual H/V (e.g. S828HVP) or slant +/- 45 polarization (e.g. S828SLP)
3. Connector/cable configurations can be customized to meet requirements
4. Circularly polarized antenna

# Squint™ Directional Indoor Panels

Antennas that offer high gain in a thin low profile package, and provide directional pattern coverage in indoor or outdoor environments. The products feature:

- Low profile designs
- UV stabilized radomes
- Integrated coaxial pigtailed can be customized in length and connector for the app
- Vertically polarized design with VSWR < 2:1



PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)			PATTERN TYPE
		EL	AZ		LENGTH	WIDTH	HT	
SQ1715DD	1710-1880	65	70	5.0	152	152	32	Dual Directional
SQ1855DD	1850-1990	65	70	5.0	152	152	32	Dual Directional
S1857MD	1850-1990	68	69	7.0	184	95	51	Directional

1. Part numbers above are completed with the addition of the cable length and connector (e.g. SQ1715DD12NF implies 12" of cable terminated in a TypeN female connector)
2. Connector/cable configurations can be customized to meet requirements

# Squint™ Omnidirectional Indoor Panels

Antennas that feature an omnidirectional pattern while focusing energy where it is most desired. Unique pattern characteristics mitigate multipath issues. The products feature:

- Ceiling mount vertically polarized
- Omnidirectional while focusing energy where it is most desired.
- Unique pattern characteristics mitigate multi-path issues
- Single and multi-band models
- Integrated coaxial pigtailed can be customized in length and connector for the app
- 50 watt power rating



PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		VSWR	GAIN (dBi)	DIMENSIONS (mm)		
		EL	AZ			LENGTH	WIDTH	HT
SQ8243P	824-896	45.25	360	1.5	3.5	250	250	38
SQ8803P	880-960	45.25	360	1.5	3.5	250	250	38
SQ1713P	1710-1880	45	360	1.5	3.5	152	152	32
SQ1712PV <sup>3</sup>	1710-1880	75	360	1.5	2.0	102	102	22
SQ1853P	1850-1990	45	360	1.5	3.5	152	152	32
SQ1852PG	1850-1990	50	360	1.5	2.5	102	102	22
SQ1852PV <sup>3</sup>	1850-1990	75	360	1.5	2.0	102	102	22
SQ82183P	824-896/1850-1990	60	360	2.0	3.5	257	257	38
SQ87173P	870-960/1710-1880	60	360	2.0	3.0	257	257	38
SQ82243P	824-896/1850-1990/ 2400-2500	55	360	2.0	3.0	257	257	38

1. Part numbers above are completed with the addition of the cable length and connector (e.g. SQ8243P12NF implies 12" of cable terminated in a TypeN female connector)
2. Connector/cable configurations can be customized to meet requirements
3. Vehicular application

# Omnidirectional Indoor Panels

Omnidirectional single and dual port panel antennas that are well suited for indoor applications where a small foot print is required. The products feature:

- Low profile designs
- Single and multi-band models
- Extremely uniform and symmetrical pattern characteristics
- Integrated coaxial pigtailed can be customized in length and connector for the app



PART NUMBER	FREQUENCY (MHz)	BANDWIDTH (DEG)		VSWR	GAIN (dBi)	DIMENSIONS (mm)		
		EL	AZ			LENGTH	WIDTH	HT
SL8064P	806-866	100	360	2.0	4.0	155	155	32
SL8244P	824-896	100	360	2.0	4.0	152.4	152.4	31.75
SL8804P	880-960	100	360	2.0	4.0	152.4	152.4	31.75
SL1852P	1850-1990	100	360	1.7	2.0	63.5	63.5	20.32
SL82184P <sup>3</sup>	824-896/1850-1990	-	360	2.0	4.0	152.4	152.4	31.75
SL88174P	880-960/1710-1880	-	360	2.0	4.0	152.4	152.4	31.75
SL80173WP	880-960/1710-1880/ 1920-2170	70/60/60	360	2.0	3.0	152.4	152.4	31.75
SL8025WP	806-960/1710-2170/ 2400-2500	55/50/60	360	2.0	3.0	152.4	152.4	31.75
SL17182P <sup>3</sup>	1710-1755/1850-1990 / 2110-2155	65	360	2.0	2.0	152.4	152.4	31.75

1. Part numbers above are completed with the addition of the cable length and connector (e.g. SL80173WP105M implies 12" of cable terminated in a SMA male connector)
2. Connector/cable configurations can be customized to meet requirements
3. Dual port antenna designs

# Microsphere™

Antennas that feature an omnidirectional pattern, and suited to a variety of uses including handheld devices, in-building systems, or other applications where mobility is a factor. The products feature:

- Surprisingly small size allows for an invisible solution for most apps
- The field pattern is vertically polarized and toroidal, providing omnidirectional coverage in any plane around the long axis of the antenna
- 50 watt power rating



• if850 microsphere • if8519 microsphere s\_LT • if900 900 MHz microsphere

MODEL	PART NUMBER	FREQUENCY (MHz)	VSWR	GAIN (dBi)	DIMENSIONS (mm)		
					LENGTH	WIDTH	HT
IF850-SF00	CAF95952	806-960	2.0	3.0	114	86	2.5
IF900-SF00	CAF95956	880-960	1.5	3.0	109	79	2.5
IF1800-SF00	CAF95954	1710-1880	1.5	3.0	56	35	2.5
IF1900-SF00	CAF95955	1850-1990	1.5	3.0	56	35	2.5
IF2100-SF00	CAF94358	1920-2170	2.0	3.0	55	36	2.5
IF8519-SF00	CAF94135	806-896/1850-1990	1.5	3.0	159	136	2.5
IF9018-SF00	CAF94126	880-960/1710-1880	1.5	3.0	129	156	2.5
IFMULT-SF002	CAF94362	806-960/1710-1990/ 1920-2170	2.0	3.0	112	138	2.5
IFULTRA-SF00	CAF94895	806-960/1710-1990/ 1920-2170/2400-2500	2.5	1.8/3.6/ 3/2.9	179	80	1.7

1. Comes with SMA (f) connector 2. Can be configured with Type N(f), SMA(f) R-SMA(f)

# Sphere™

Wireless antennas that offer considerable gain improvement over traditional dipole antennas, are particularly applicable in environments where aesthetics and wide angle coverage are necessary for successful wireless deployment. The products feature:

- Omnidirectional pattern provides optimal in-building coverage
- Quick installation with a standard ceiling tile frame metal clip
- Considerable gain improvement over traditional dipole solutions
- Gain 3 dBi with VSWR < 2.0
- 50 watt power rating



• IO1900 sphere



• IO850 Sphere

MODEL	PART NUMBER	FREQUENCY (MHz)	DIMENSIONS (mm)			CONNECTOR TYPES
			LENGTH	WIDTH	HT	
IO850	CAF94191	824-896	136	105	51	Type N(f), SMA (m)
IO900	CAF94125	880-960	136	105	51	SMA (m)
IO1900	CAF94130	1850-1990	64	63	27	Type N(f), SMA (m)

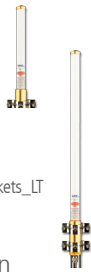
# Omnidirectional Sticks

Traditional antennas that provide a 360 degree transmission pattern, and are used when coverage in all directions is required. The products feature:

- Vertically polarized collinear design with a max VSWR of 2:1
- Protective UV inhibiting coating
- Radiating elements are made from high efficiency copper and are carefully phased to provide maximum gain in the horizontal plane
- 100 watt power rating

• FGSmallbestbracket\_LT

• FGlongbestbrackets\_LT



PART NUMBER	FREQUENCY (MHz)	BEAMWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)	
		EL	AZ		LENGTH	DIA
FG8063WP	806-896	-	360	5.0	737	33
FG8240	824-896	75	360	2.0	381	33
FG8243	824-896	33	360	5.0	625	33
FG8246	824-896	17	360	8.0	1651	33
FG821/18503	821-896/ 1850-1990	60/75	360	2.0/5.0	356	33
FGT880/21703	870-960/1710-1880/ 1900-2170	80/22/ 20	360	0.8/2.9/3.9	349	33
FG16397	806-896/890-960/ 1850-1990/ 2400-2500	110/90/ 60/70	360	2.0/1.0/3.3/ 2.0	356	33

1. See Fiberglass Base Antenna Accessories  
2. Type N (f) connector

# Omnidirectional Sticks

Traditional antennas that provide a 360 degree transmission pattern, and are used when coverage in all directions is required. The products feature:

- Vertically polarized collinear design
- Protective UV inhibiting coating
- Radiating elements are made from high efficiency copper and are carefully phased to provide maximum gain in the horizontal plane
- Type N(f) connector but other connectors available on selected models
- VSWR <2:1 with 100 watt power rating

• FGMedbestbrackets\_LT



• S1803B-2

PART NUMBER	FREQUENCY (MHz)	BEAMWIDTH (DEG)		GAIN (dBi)	DIMENSIONS (mm)	
		EL	AZ		LENGTH	DIA
S8240B	824-896	75	360	2.0	445	25
S8243B	824-896	45	360	5.0	780	25
S8244B	824-896	25	360	6.0	1070	25
OD9-6 <sup>4</sup>	860-960	16	360	6.0	1700	38
OD9-8 <sup>4</sup>	860-960	10	360	8.0	2600	38
OD9-11 <sup>4</sup>	860-960	7	360	11.0	3400	38
OD9-11D1 <sup>2,4</sup>	860-960	7	360	11.0	3400	38
S8800B	880-960	75	360	2.0	445	25
S8803B	880-896	45	360	5.0	780	25
S8804B	880-960	25	360	6.0	1070	25
S1713B <sup>3</sup>	1710-1880	38	360	5.0	320	25
S1800B <sup>3</sup>	1850-1990	-	360	2.0	203	25
S1803B <sup>3</sup>	1850-1990	38	360	5.0	305	25

1. Unless specified antennas are designed for outdoor use  
2. Built-in Electrical down tilt of 1 degree

3. Indoor Ceiling Grid Mount  
4. Backhaul product

# Phantom Antennas

Antennas that provide true field diversity design which ensures uninterrupted video and data transmissions in urban canyons and rural drop off areas. The products feature:

- True field diversity performance
- 3.0 dBi gain with a VSWR < 2.0
- Mechanically robust for both indoor and outdoor applications
- Ideal for both Cellular and M2M
- NMO mount standard
- 150 watt power rating

• Antenna Vehicular TRAB821 18503P



• Phantom Tall Pmt LT

• Antenna Vehicular Elites ETRAB8063 ETRA8063P



PART NUMBER	FREQUENCY (MHz)	BEAMWIDTH (DEG)		LENGTH (mm)
		EL	AZ	
TRA8213 <sup>2,3,4</sup>	821-896	130	360	69
TRA8063 <sup>2,3,4</sup>	890-960	130	360	69
TRA8903 <sup>2,4</sup>	890-960	130	360	69
TRA9023 <sup>2,3,4</sup>	902-928	130	360	69
TRA16003 <sup>2</sup>	1600-1850	130	360	69
TRA17753	1750-1825	130	360	69
TRA18503 <sup>2,4</sup>	1850-1990	130	360	69
TRA806/17103 <sup>2</sup>	806-960/1710-2500	130	360	69
TRA821/18503 <sup>2</sup>	821-896/1850-1990	130	360	69

1. The above part numbers represent White sheaths, but, Black is also available upon request.
2. Part comes in a "P-mount" configuration, e.g. TRA8213 becomes TRA8213P
3. Part comes in a "No ground plane" configuration, e.g. TRA8213 becomes TRA8213N
4. Part comes in a "No ground plane and P-mount" configuration, e.g. TRA8213 becomes TRA8213NP

# Low Profile Antennas

Unique, patented low profile antennas that are ideal where space is a concern in both indoor and outdoor applications. The products feature:

- The Phantoms yield true field diversity performance
- Mechanically robust for both indoor and outdoor applications
- 150 /100 watt power rating for the Phantoms/Discadoo® antennas
- 3.0 dBi gain with a VSWR < 2.0
- Ideal for both Cellular and M2M
- Discadoo® antenna requires a ground plane

1. The ETRA part numbers on the right represent White sheaths, but, Black is also available upon request.
2. Part comes in a "P-mount" configuration, e.g. ETRA8213 becomes ETRA8213P
3. Part comes in a "No ground plane" configuration, e.g. ETRA8213 becomes ETRA8213N
4. Part comes in a "No ground plane and P-mount" configuration, e.g. TRA8213 becomes TRA8213NP
5. The above DISC part numbers represent Black radomes, but, White is also available upon request.

PART NUMBER	FREQUENCY (MHz)	DIMENSIONS (mm)		ANTENNA TYPE
		LENGTH	DIA	
ETRA7603	760-870	69	-	Phantom Elite
ETRA7643	764-806	69	-	Phantom Elite
DISC806M5	806-866	19	121	Low Profile Discadoo
DTRA8063P2	806-866	32	-	Low Profile Phantom
DTRA8213P2	821-896	32	-	Low Profile Phantom
ETRA80632,3	821-896	69	-	Phantom Elite
ETRA82132,4	821-896	69	-	Phantom Elite
DISC824M5	824-896	19	121	Low Profile Discadoo
DISC890M	890-960	19	121	Low Profile Discadoo
ETRA8903	890-960	69	-	Phantom Elite
DTRA9023P2	902-928	32	-	Low Profile Phantom
ETRA9023	902-928	69	-	Phantom Elite
DTRA821/18503P2	821-896/1850-1990	32	-	Low Profile Phantom
ETRA821/185032	821-896/1850-1990	69	-	Phantom Elite

# Telecom - Cellular Internal Antennas Revie Series

Printed circuit board (PCB) antennas that are embedded inside devices for aesthetically pleasing integration with high durability. The products feature:

- Wide bandwidth
- RoHS compliant
- Ground plane independence
- Omnidirectional Vertically Polarized radiators

• Revie-Prime



• Antenna Vehicular GPST821 18503P



MODEL	PART NUMBER	FREQUENCY (MHz)	VSWR	GAIN (dBi)	DIMENSIONS (mm)		
					LENG	WID	HT
Revie	AAF95003/AAF95004	900/1800/1900	2.5	1.0	80	30	1.5
Revie Pro	MAF95256	868/900/1800/1900	2.5	1.0	80	30	1.5
Revie Prime	EPR9221A1	824-960/1710-2170	3.0/2.5	2.2/3.8	70	20	0.8

1. Other part numbers available based on connector and cable configuration, call for details.
2. Connector/cable configurations can be customized to meet requirements

# Heptaband-dipole Series

Portable wireless antennas that provide excellent radio transmission characteristics while offering the ultra flexibility of seven bands in one profile. The products feature:

- Wide bandwidth: 824-960/1575/1710-2170/2400-2500
- Gain of 1-3 dBi with max VSWR of 2.5:1
- Low profile blade style
- Available in black or gray
- Snap in or connectorized

• Heptaband flying lead



MODEL	PART NUMBER	DIMENSIONS (mm)		CONNECTOR TYPE
		LENG	WID	
HEPTA-FLO4 <sup>2</sup>	MAF94306	161	9.3	Snapin/Captive w/Flying lead (no connector)
HEPTA-IP04 <sup>2</sup>	MAF94304	161	9.3	Snapin/Captive w/IPEX MHF
HEPTA-xx <sup>1</sup>	MAF94300	161	9.3	RP- SMA, SMA, RP-TNC, TNC
HEPTA90-TN	MAF94309	161	9.3	TNC, Blade Angle- 90 degree

1. Other part numbers available based on connector and cable configuration, call for details.
2. Connector/cable configurations can be customized to meet requirements

# Rubber Duck Series

Portable wireless antennas that provide excellent radio transmission characteristics while offering a robust mechanical design capable of surviving the harshest environments. The product features:

- Omnidirectional vertically polarized dipole design
- Maximum VSWR of 1.5

• WXR Large



MODEL	PART NUMBER	FREQUENCY (MHz)	GAIN (dBi)	LENGTH (mm)	CONNECTOR TYPE
CXE-821	CXE-821-TN/CAF28266	824-896	2.5	179.3	TNC
CXF-821	CXF821TN/CAF28569	824-896	2.2	218.4	TNC
WXR-1850	CAF28793	1850-1990	1.0	177.8	TNC (m)

# Telecom - Cellular Special Applications

## Healthcare

Low profile antennas that provide maximum performance for critical hospital monitoring, featuring single or dual ISM frequency bands along with both horizontal and vertical polarization components to improve overall signal integrity in RF cluttered environments. The products feature:

- Single or dual ISM frequency bands.
- The SL60144PF model offers both horizontal and vertical polarization components to improve overall signal integrity in RF cluttered environments.
- Maximum VSWR of 2.0
- Low profile ceiling mount designs

PART NUMBER	FREQUENCY (MHz)	GAIN (dBi)	POLARIZATION	DIMENSIONS (mm)			CONNECTOR TYPE
				LENG	WID	HT	
SL6081PV	608-614	2.0	Vertical	155	155	32	SMA(m)
SL60144PF	608-614/ 1395-1432	2.0/3.0	Vert-Horiz	216	-	38	75 Ohm Fixed F(f)



• S2451DBT

## LTE Devices

Products that provide broadband global and localized solutions for devices, In-building Wireless (IBW), and base station applications. The products cover:

- Broadband global solutions (698-2700 MHz)
- Localized solutions that operate in the 698-806 band.
- Localized solutions that cover the 2500-2695 band.



• SNC00373



• IN7-3RD-SMA

PART NUMBER	FREQUENCY (MHz)	ANTENNA TYPE	VSWR	GAIN (dBi)	DIMENSIONS (mm)		CONNECTOR TYPE	POWER RATING
					LENG	WID		
IN7-3RD	680-800	Dipole- Rubber Duck	2.0	3.0	158	15.2	RSMA, RTNC, SMA(m)	10W
DCS-50 (MAF95283)	698-787	Desk Top	2.0	2.5	175	34	MmCX, SMA(f)	-
ETRA(B)6983	698-806	Phantom-Elite	2.0	2.9	87.4	3.6	NMO	100W
ETRA(B)6983P	698-806	Phantom-Elite	2.0	2.9	87.4	3.6	P-mount	100W
DBA69273	698-960/ 1710-2700	Dipole- Blade	2.5	0.7/2.1	190	29.8	TNC(m)	10W
DBS69273	698-960/ 1710-5000	Desk Top	2.5/2.0	3.0/4.9	175	34	MmCX, SMA(f)	-

## LTE In Building Wireless

Antennas applicable for environments where aesthetics and wide angle coverage are necessary for successful wireless deployment. Their surprisingly small size allow the antennas to be hidden almost anywhere, providing an invisible solution for most applications. The products cover:

- Broadband global solutions (698-2700 MHz)
- Localized solutions that operate in the 698-806 band.
- Localized solutions that cover the 2500-2695 band.



• S2451DBT



• CMS69273

PART NUMBER	FREQUENCY (MHz)	ANTENNA TYPE	PATTERN TYPE	BEAMWIDTH		VSWR	GAIN (dBi)	POLARIZATION	DIMENSIONS (mm)			CONNECTOR TYPES	MOUNT STYLE	POWER RATING
				EL	AZ				LENG	WID	HT			
S7006PS <sup>1</sup>	710-750	Panel	Directional	80	80	1.7	6.0	H- or V-pol	178	178	33	76 Ohm Type F(f)	Wall	10W
R2T24W-15 <sup>1</sup>	2300-2700	RooTenna Panel	Directional	30	30	1.5	15	Vertical	267	267	89	RSMA, RPTNC, MC, MMCX, RMMCX, U.FL	Wall	20W
R2T24LW-15 <sup>1</sup>	2300-2700	RooTenna Low Profile Panel	Directional	30	30	1.5	15	Vertical	267	267	67	RSMA, RPTNC, MC, MMCX, RMMCX, U.FL	Wall	20W
R2T24-19 <sup>1</sup>	2400-2700	RooTenna Panel	Directional	19	16	1.5	19	Vertical	470	427	64	RSMA, RTNC, MMCX, RMMCX, MC, U.FL	Wall	50W
IN800/2700-5 <sup>1</sup>	806-860 / 1710-2700	Panel	Omnidirectional	90	360	1.5	3.0	Vertical	186	87	-	Type N(f)	Ceiling	50W
CMD69273	698-960 / 1710-2700	2-port MIMO Panel	Omnidirectional		360	2	3-4 / 5.0-5.6	Vertical	219	-	44	2-Type N(f)	Ceiling	10W
CMS69273	698-960 / 1575 / 1710-2700	Panel	Omnidirectional	90	360	2.0	1.0 / 3.0	Vertical	199	-	86	Type N(f)	Ceiling	3W
SL69273PT	Port1: 698-806/1710-2170 Port2: 824-894/1850-1990 Port3: 2500-2700	3-port Panel	Omnidirectional		360	2.0	3.0 / 2.0 / 2.0	Vertical	216	-	44	Type N(m)	Ceiling	5W

1. Backhaul product

## LTE Base Station

Antennas that deliver broadband service through a wireless connection, and utilize a cellular frequency that can be used in indoor and outdoor environments.



• J23017V00-60N

• J23016V00-90N

PART NUMBER	FREQUENCY (MHz)	ANTENNA TYPE	BEAMWIDTH (DEG)		VSWR	GAIN (dBi)	POLARIZATION	DIMENSIONS (mm)			POWER RATING
			EL	AZ				LENGTH	WIDTH	HEIGHT	
J71014V00-70N <sup>1</sup>	710-790	60 deg Sector	14	60	1.5	16	Vertical	1600	335	297	50W ave, 600W pk
J23017V00-60N <sup>1</sup>	2300-2700	60 deg Sector	7	60	1.8	17.5	Vertical	1013	102	213	39W ave, 480W pk
J23018D00-60N <sup>1</sup>	2300-2700	60 deg Sector	7	60	1.8	18	Dual H/V	1011	381	267	40W ave, 480W pk
J23017S00-65N <sup>1</sup>	2300-2700	65 deg Sector	7	65	1.8	17	Slant +/- 45	1019	160	102	40W ave, 480W pk
J23016V00-90N <sup>1</sup>	2300-2700	90 deg Sector	7	90	1.8	16.5	Vertical	1013	102	213	40W ave, 480W pk
SA24-45-20-WB <sup>2</sup>	2300-2700	45 deg Sector	7	45	1.5	20	Vertical	864	178	89	50W
SA24-60-17-WB <sup>2</sup>	2300-2700	60 deg Sector	8	60	1.5	17	Vertical	851	165	64	50W
SA24-90-17-WB <sup>2</sup>	2300-2700	90 deg Sector	7	90	1.5	17	Vertical	851	165	64	50W
SA24-120-16-WB <sup>2</sup>	2300-2700	120 deg Sector	9	120	1.5	16	Vertical	851	165	64	50W

1. See accessories for Tilt Mount kit, J-series sector antennas

2. Backhaul products



# Laird™

Smart Technology. Delivered.

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

Americas: +1.847.839.6907

Europe: +44.1628.858941

Asia: +86.21.5855.0827.127



IAS-BRO-Telecom-Cellular 1013

Any information furnished by Laird, Inc. and its agents is believed to be accurate and reliable. All specifications are subject to change without notice. Responsibility for the use and application of Laird materials rests with the end user. Laird makes no warranties as to the fitness, merchantability, suitability or non-infringement of any Laird materials or products for any specific or general uses. Laird shall not be liable for incidental or consequential damages of any kind. All Laird products are sold pursuant to the Laird' Terms and Conditions of sale in effect from time to time, a copy of which will be furnished upon request. © Copyright 2013 Laird, Inc. All Rights Reserved. Laird, Laird, the Laird Logo, and other marks are trade marks or registered trade marks of Laird, Inc. or an affiliate company thereof. Other product or service names may be the property of third parties. Nothing herein provides a license under any Laird or any third party intellectual property rights.

**ANTENNAS & RECEPTION | EMBEDDED WIRELESS | EMI | TELEMATICS | THERMAL | WIRELESS AUTOMATION & CONTROL**