

# **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 though 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</li>
- 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





# 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</li>





# DirectLink<sup>™</sup> 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





# **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



SR2405135D

PART NUMBER	FREQUENCY	BANDWI	DTH (DEG)	GAIN	DIMEN	ISIONS (mn	n)
PARI NUMBER	(MHz)	EL	AZ	(dBi)	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 Yaqi

- 3. Log periodic antenna
- 4. Backhaul product

PART NUMBER	FREQUENCY	BANDWI	DTH (DEG)	GAIN	DIMEN	ISIONS (mn	n)
PARI NUMBER	(MHz)	EL	AZ	(dBi)	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
S8248P1	824-896	65	70	8.0	305	203	51
S888P1	880-960	65	70	8.0	305	203	51
S1718P1	1710-1880	65	65	8.0	152	152	32
S17112P1	1710-1880	25	65	12.0	330	152	25
S1711290P1	1710-1880	10	90	12.0	864	76	30
S1858P1	1850-1990	62	65	8.0	152	152	32
S18512P1	1850-1990	25	65	12.0	330	152	25
S1851290P1	1850-1990	10	90	12.0	864	76	30
ID1900 <sup>3,6</sup>	1850-1990	60	80	8.5	104	135	36
IDO1900 <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

PART NUMBER	FREQUENCY	BANDWI	DTH (DEG)	GAIN	DIMENSIONS (mm)		
FART NUMBER	(MHz)	EL	AZ	(dBi)	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
- 3. Antenna has option for articulating mount (e.g., S1718AMP)

PART NUMBER	FREQUENCY	ANTENNA	BANDWI	BANDWIDTH (DEG)		DIMENSIONS (mm)		
PART NUMBER	(MHz)	TYPE	EL	AZ	(dBi)	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



# 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 pigtails can be customized in length and connector for the app
- 25 watt power rating



A. C.
S9027PS

PART NUMBER	FREQUENCY	BANDWI	DTH (DEG)	GAIN	DIMENSIONS (mm		n)
PART NUIVIDER	(MHz)	EL	AZ	(dBi)	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
S1718PC4	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
- Circularly polarized antenna

PART NUMBER	FREQUENCY	BANDWII	OTH (DEG)	GAIN	DIMENSIONS (mm)			PATTERN TYPE	
PART NUMBER	(MHz)	EL	AZ	(dBi)	LENGTH	WIDTH	HT	IAITEMNIITE	
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

# Squint<sup>™</sup> 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 pigtails can be customized in length and connector for the app
- Vertically polarized design with VSWR < 2:1</li>



SO2405DD12NF

# Squint<sup>™</sup> 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 pigtails can be customized in length and connector for the app
- 50 watt power rating



# **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 pigtails can be customized in length and connector for the app



the cable leng	above are completed v th and connector (e.g. cable terminated in a	SL80173WP1	MZO

<sup>2.</sup> Connector/cable configurations can be customized to meet requirements

PART	FREQUENCY	BANDWI	DTH (DEG)	VSWR	GAIN	DIMEN	ISIONS (mr	n)
NUMBER	(MHz)	EL	AZ	VSWK	(dBi)	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-	55	360	2.0	3.0	257	257	38

BANDWIDTH (DEG)

360

360

360

360

360

360

360

360

EL

100

100

100

100

70/60/60

55/50/60

65

FREQUENCY

(MHz)

806-866

824-896

880-960

1850-1990

824-896/1850-

1990 880-960/1710-

880-960/1710-

806-960/1710-

2170/ 2400-2500

1710-1755/1850-1990 / 2110-2155

880/ 1920-2170

PART NUMBER

SI 8064P

SL8244P

SL8804P

SL1852P

SL82184P

SL88174P

SL80173WP

SL8025WP

SL17182P3

GAIN

(dBi)

4.0

4.0

4.0

2.0

4.0

4.0

3.0

2.0

DIMENSIONS (mm)

WIDTH HT

32

31.75

31.75

20.32

31.75

31.75

31.75

31.75

31.75

155

152.4

152.4

63.5

152.4

152.4

152.4

152.4

152.4

LENGTH

155

152.4

152.4

63.5

152.4

152.4

152.4

152.4

VSWR

2.0

2.0

2.0

1.7

2.0

2.0

2.0

<sup>3.</sup> Dual port antenna designs

<sup>1.</sup> Part numbers above are completed with the addition of the cable length and connector (e.g. SO8243P12NF implies 12" of cable terminated in a TypeN female connection

<sup>2.</sup> Connector/cable configurations can be customized to meet requirements

<sup>3.</sup> Vehicular application

# 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

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

	PART		DIMEN	ISIONS (mn	n)	
MODEL	NUMBER	FREQUENCY (MHz)	LENGTH	WIDTH	HT	CONNECTOR TYPES
10850	CAF94191	824-896	136	105	51	Type N(f), SMA (m)
10900	CAF94125	880-960	136	105	51	SMA (m)
IO1900	CAF94130	1850-1990	64	63	27	Type N(f), SMA (m)

BEAMWIDTH (DEG)

75

33

17

60/75

80/22/

20

110/90/

360

360

360

360

360

360

360



PART NUMBER

FG8063WP

FG8240

FG8243

FG8246

FG821/18503

FGT880/21703

MODEL

IF850-SF00

IF900-SF00

IF1800-SF00

IF1900-SF00

IF2100-SF00

IF8519-SF00

IF9018-SF00

IFMULT-SF002

IFUITRA-SEOO

CAF95952

CAF95956

CAF95954

CAF95955

CAF94358

CAF94135

CAF94126

CAF94362

CAF94895

FREQUENCY (MHz)

806-896

824-896

824-896

824-896

821-896/

1850-1990

870-960/1710-1880/

1900-2170

806-896/890-960/



IO850 Sphere

DIMENSIONS (mm)

WIDTH нт

86

79

35

35

36

136

156

138

80

DIMENSIONS (mm)

33

33

33

33

33

33

33

LENGTH

737

381

625

1651

356

349

356

2.5

2.5

2.5

2.5

25

2.5

2.5

2.5

1.7

LENGTH

114

109

56

56

55

159

129

112

179

GAIN

(dBi)

3.0

3.0

3.0

3.0

3.0

3.0

3.0

3.0

1.8/3.6/

3/2 9

GAIN (dBi)

5.0

2.0

5.0

8.0

2.0/5.0

0.8/2.9/3.9

2 0/1 0/3 3/ 2 0

VSWR

2.0

1.5

1.5

1.5

2.0

1.5

1.5

2.0

2.5

FREQUENCY (MHz)

806-960

880-960

1710-1880

1850-1990

1920-2170

806-896/1850-1990

880-960/1710-1880

806-960/1710-1990/

1920-2170

806-960/1710-1990

1920-2170/2400-2500

# $Sphere^{TM}$

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
- 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

•	FGSmallbestbracket_	LT	5(±

## 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





• FGMedbestbrackets\_LT

FG16397 1850-1990/ 2400-2500

0 2 0

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

	PART	FREQUENCY (MHz)	BEAMWII	OTH (DEG)	GAIN (dBi)	DIMENSIONS (mm)		
ı	NUMBER	FREQUENCT (IVITIZ)	EL	AZ	GAIN (UDI)	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	
	OD9-114	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	
	S1713B3	1710-1880	38	360	5.0	320	25	
	S1800B <sup>3</sup>	1850-1990	-	360	2.0	203	25	
	S1803B3	1850-1990	38	360	5.0	305	25	

- Vertically polarized collinear design Protective UV inhibiting coating

required. The products feature:

Omnidirectional Sticks

• Radiating elements are made from high efficiency copper and are carefully phased to provide maximum gain in the horizontal plane

Traditional antennas that provide a 360 degree transmission pattern, and are used when coverage in all directions is

- Type N(f) connector but other connectors available on selected models
- VSWR <2:1 with 100 watt power rating



- 1. Unless specified antennas are designed for outdoor use 2. Built-in Electrical down tilt of 1 degree
- 3. Indoor Ceiling Grid Mount

## 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: Antenna Vehicular

• 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 Elites ETRAB8063 ETRA8063P



	IKA17753	1/50-1825
	TRA18503 <sup>2,4</sup>	1850-1990
- Dhantana Tall Doot IT	TRA806/17103 <sup>2</sup>	806-960/1710-2500
<ul> <li>Phantom Tall Pmt LT</li> </ul>		

PART NUMBER

TRA82132,3,4

TRA80632,3,4

TRA89032,4

TRA90232,3,4

TRA16003<sup>2</sup>

TRA821/18503<sup>2</sup>

821-896/1850-1990 1. The above part numbers represent White sheaths, but, Black is also availble upon request

FREQUENCY (MHz)

821-896

890-960

890-960

902-928

1600-1850

BEAMWIDTH (DEG)

ΑZ

360

360

360

360

360

360

360

EL

130

130

130

130

130

130

130

130

Antenna Vehicular

GPST821 18503P

LENGTH

(mm)

69

69

69

69

69

69

69

69

69

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 becon	nes TRA8213NP

PART NUMBER	EDECHENCY (MILE)	DIMENSIC	NS (mm)	ANTENNA TYPE	
PART NUMBER	FREQUENCY (MHz)	LENGTH	DIA	ANTENNA ITPE	
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	

## 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.

# Telecom - Cellular Internal Antennas Revie Series





RoHS compliant

Ground plane independence

• Omnidirectional Vertically Polarized radiators

• Revie-Prime	Q
.1	Larred

# 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

Heptaband flying lead

- Available in black or gray
- Snap in or connectorized

## 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

WXR Large

•	Maximum	<b>VSWR</b>	of	1.5

MODEL PA	PART NUMBER	FREOUENCY (MHz)	VSWR	GAIN	DIMENSIONS (mm)			
	PART NUMBER	FREQUENCT (WITZ)	VOVN	(dBi)	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

MODEL	PART	DIMEN (m		CONNECTOR TYPE			
	NUMBER	LENG	WID				
HEPTA-FL04 <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
- Connector/cable configurations can be customized to meet requirements

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 environmen
- Maximum VSWR of 2.0
- Low profile ceiling mount designs

#### **ITF** 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.







ents.									
PART	FREQUENCY	ANTENNA	VSWR	GAIN	DIMENSIONS (mm)		CONNECTOR	POWER	
NUMBER	(MHz)	TYPE		(dBI)	LENG	WID	TYPE	RATING	
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	

2.5/2.0

PART NUMBER

SL6081PV

SL60144PF

FREQUENCY

(MHz)

608-614

608-614/ 1395-1432

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

DBS69273

698-960/

1710-5000

Desk Top



3.0/4.9

175 34





MmCX,

SMA(f)

DIMENSIONS (mm)

WID HT

155 32

38

LENG

155

216

CONNECTOR

SMA(m)

75 Ohm

Fixed F(f)

POLAR-

IZATION

Vertical

Vert-Horiz

(dBI)

2.0

2.0/3.0

• S2451DBT

• CMS69273

PART NUMBER FREQUENCY		ANTENNA TYPE	PATTERN TYPE	BEAM	WIDTH	VSWR GAIN		POLAR-	DIMEN	ISIONS (	mm)	CONNECTOR TYPES	MOUNT	POWER
PART NUMBER	(MHz)	ANTENNA ITE	PATTERNITE	EL	AZ	VOVIN	(dBI)	IZATION	LENG	WID	HT	CONNECTOR TIPES	STYLE	RATING
S7006PS1	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
													4.0	ckhaul product

1. Backhaul product

## **ITF 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.



PART NUMBER	FREQUEN- ANTENNA BEAMWIDTH (DEG)		VSWR	GAIN	POLAR-	DIM	ENSIONS (	mm)	POWER RATING			
PART NUMBER	CY (MHz)	TYPE	EL	AZ	VSWK	(dBi)	IZATION	LENGTH	WIDTH	HEIGHT	POWER RATING	
J71014V00-70N1	710-790	60 deg Sector	14	60	1.5	16	Vertical	1600	335	297	50W ave, 600W pk	
J23017V00-60N1	2300-2700	60 deg Sector	7	60	1.8	17.5	Vertical	1013	102	213	39W ave, 480W pk	
J23018D00-60N1	2300-2700	60 deg Sector	7	60	1.8	18	Dual H/V	1011	381	267	40W ave, 480W pk	
J23017S00-65N1	2300-2700	65 deg Sector	7	65	1.8	17	Slant +/- 45	1019	160	102	40W ave, 480W pk	
J23016V00-90N1	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	

<sup>1.</sup> See accessories for Tilt Mount kit, J-series sector antennas





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