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**LAMBDOID WIRELESS COMMUNICATIONS**

**Address:** 647/2, 11<sup>th</sup> Main, 5<sup>th</sup> Block, Jayanagar, Bengaluru 560 041. INDIA.

**Tel:** +91 80 2659 5337; **Email:** info@lambdoid.net; **Website:** www.lambdoid.net

Technical Specification		Photograph / Drawing
Model Number	LWC-GSM-CHIP-03 (V1.0)	
Frequency (MHz)	824-960MHz & 1710-1980MHz	
Gain	~1.2/ 2 dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 2.0	
Polarization	Linear	
Power Handling (W)	10	
HPBW	H: 360 <sup>0</sup> ; V: 30 <sup>0</sup> / 40 <sup>0</sup>	
Cable	1.13mm or 0.81mm RF Mini Coaxial	
Connector	MHF1 or MHF4 or as required	
Mechanical Specification		Salient Features
Dimension (mm)	42 x 9 x 0.8 mm	<ul style="list-style-type: none"> <li>- Compact Size</li> <li>- Low Cost</li> <li>- Masking for corrosion-free</li> </ul>
Mounting	3M Adhesive Tape	
Weight	1g	
Environmental Specification		Applications
Operational Temperature	-30 <sup>0</sup> to 60 <sup>0</sup> C	<ul style="list-style-type: none"> <li>- GSM</li> <li>- GPRS</li> </ul>
Humidity	5 – 75%	

# Sticker Antennas

## GSM Applications



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Technical Specification		Photograph / Drawing
Model Number	LWC-GSM-STICKER-03	
Frequency (MHz)	824 - 960 MHz & 1710 - 1980 MHz	
Gain	2 / 3 dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 1.5	
Polarization	Linear	
Power Handling (W)	10	
HPBW	H: $360^{\circ}$ ; V: $30^{\circ} / 40^{\circ}$	
Connector	SMA Plug	
Mechanical Specification		
Dimension (mm)	116 x 22 x 5.2 mm	<ul style="list-style-type: none"> <li>- Compact Size</li> <li>- Low Cost</li> <li>- Connector of your choice</li> <li>- Any cable length (suggested &lt;5m)</li> </ul>
Housing	ABS	
Mounting	3M Adhesive Tape	
Weight	50 g	
Environmental Specification		Applications
Operational Temperature	$-30^{\circ}$ to $60^{\circ}$ C	<ul style="list-style-type: none"> <li>- GSM</li> </ul>
Humidity	5 – 75%	

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# Helix Antenna

## 2G / 3G / 4G Applications




**LAMBDOID**  
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Technical Specification		Photograph / Drawing
Model Number	LWC-4G-PCB-03 (V2.0)	
Frequency (MHz)	698-960MHz & 1710-2700MHz	
Gain	~ 1/2dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 3	
Polarization	Linear	
Power Handling (W)	5	
HPBW	H: $360^{\circ}$ ; V: $30^{\circ} / 40^{\circ}$	
Connector	MHF1 /MHF4/ SMA/ MCX/ MMCX	
Cable	RG178 / RG316	
Mechanical Specification		Salient Features
Dimension (mm)	128 x 18 x 1 mm (with adhesive and cable)	<ul style="list-style-type: none"> <li>- Compact size</li> <li>- High quality, low cost</li> <li>- Masking for corrosion-free.</li> </ul>
Mounting	3M Adhesive Tape	
Weight	5g	
Environmental Specification		Applications
Operational Temperature	$-30^{\circ}$ to $60^{\circ}$ C	<ul style="list-style-type: none"> <li>- 2G</li> <li>- 3G</li> <li>- 4G</li> <li>- ISM</li> </ul>
Humidity	5 – 75%	

# Internal Active Antennas

## GPS Applications

Technical Specification		Photograph / Drawing
Model Number	LWC-GPS-CHIP-28	
Frequency (MHz)	1575 +/- 5 MHz	
Gain	> 28 dBi (with LNA)	
Impedance ( $\Omega$ )	50 $\Omega$	
VSWR	< 1.5	
Polarization	RHCP	
Power Handling (W)	50 watts	
HPBW	V: 65° / H: 65°	
Connector	MHF1/ U.FL	
Mechanical Specification		
Dimension (mm)	25 x 25 x 10 (including RF shield)	<ul style="list-style-type: none"> <li>- Compact Size</li> <li>- Low Cost</li> <li>- 4 stage LNA</li> </ul>
Housing	Tin Plated	
Weight	50g	
Environmental Specification		Applications
Operational Temperature	25 x 25 x 5	<ul style="list-style-type: none"> <li>- GPS</li> </ul>
Mounting	Adhesive Type, if required	

# Internal Passive Antennas

## GPS/ GLONASS Applications



**LAMBDOID**  
WIRELESS

Technical Specification		Photograph / Drawing
Model Number	LWC-GPS-PASSIVE-CP-03 (V1.0)	
Frequency (MHz)	1575 +/- 3MHz	
Gain	> 2.5dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 2.0	
Polarization	Right Hand Circular Polarized	
Power Handling (W)	2 W	
HPBW	H: 65 <sup>0</sup> ; V: 65 <sup>0</sup>	
Axial Ratio (dB)	< 3.0	
Cable	-	
Connector	-	
Mechanical Specification		Salient Features
Dimension (mm)	25 x 25 x 5 mm	<ul style="list-style-type: none"> <li>- High Quality Ceramic</li> <li>- Low Cost</li> <li>- Passive</li> </ul>
Material	Ceramic	
Weight including Mounting Brackets	15 g	
Environmental Specification		Applications
Operational Temperature	-40 <sup>0</sup> to 85 <sup>0</sup> C	<ul style="list-style-type: none"> <li>- GPS</li> </ul>
Humidity	15 – 75%	

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# Internal Passive Antennas

## GPS/ GLONASS Applications




**LAMBDOID**  
WIRELESS

Technical Specification		Photograph / Drawing
Model Number	LWC-GPS-PASSIVE-LP-03 (V1.0)	
Frequency (MHz)	1575 +/- 20MHz	
Gain	> 2.5dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 1.5	
Polarization	Linear	
Power Handling (W)	2 W	
HPBW	H: 360 <sup>0</sup> ; V: 60 <sup>0</sup>	
Cable	As required	
Connector	As required	
Mechanical Specification		Salient Features
Dimension (mm)	47 x 20 x 0.8 mm	<ul style="list-style-type: none"> <li>- Low Cost</li> <li>- Passive</li> </ul>
Material	FR4	
Weight including Mounting Brackets	< 10 g	
Environmental Specification		Applications
Operational Temperature	-40 <sup>0</sup> to 85 <sup>0</sup> C	<ul style="list-style-type: none"> <li>- GPS</li> </ul>
Humidity	15 – 75%	

# Internal PCB Antennas


## 2.4GHz Applications

Technical Specification		Photograph / Drawing
Model Number	LWC-2400-CHIP-03 (V1.0)	
Frequency (MHz)	2400–2483 MHz	
Gain	~1.8 dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 2.0	
Polarization	Linear	
Power Handling (W)	10	
HPBW	H: 360 <sup>0</sup> / V: 30 <sup>0</sup>	
Cable	0.81 or 1.13mm Mini Coaxial	
Connector	MHF1 or MHF4 or open end	
Mechanical Specification		Salient Features
Dimension (mm)	27 x 8 x 0.5 mm	<ul style="list-style-type: none"> <li>- Compact Size</li> <li>- Low Cost</li> <li>- Cable length of your choice</li> <li>- Connector of your choice</li> </ul>
Mounting	3M Adhesive Tape	
Weight	< 5g	
Environmental Specification		Applications
Operational Temperature	-30 <sup>0</sup> to 60 <sup>0</sup> C	<ul style="list-style-type: none"> <li>- WiFi</li> <li>- Bluetooth</li> <li>- Zigbee</li> <li>- ISM</li> </ul>
Humidity	5 – 95%	



# Internal PCB Antennas

## 2.4GHz Applications

Technical Specification		Photograph / Drawing
Model Number	LWC-2400-CHIP-03 (V2.0)	
Frequency (MHz)	2400–2500 MHz	
Gain	~3 dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 2.0	
Polarization	Linear	
Power Handling (W)	10	
HPBW	H: 360 <sup>0</sup> ; V: 30 <sup>0</sup>	
Connector	MHF1 or MHF4	
Mechanical Specification		
Dimension (mm)	47 x 8 x 0.5 mm	<ul style="list-style-type: none"> <li>- Compact Size</li> <li>- High quality, low cost</li> <li>- 3M high quality adhesive</li> <li>- Masking for corrosion-free</li> </ul>
Housing	3M Adhesive Tape	
Weight	<5g	
Environmental Specification		Applications
Operational Temperature	-30 <sup>0</sup> to 60 <sup>0</sup> C	<ul style="list-style-type: none"> <li>- WiFi</li> <li>- Bluetooth</li> <li>- ISM (Industrial, Scientific, Medical)</li> </ul>
Humidity	5 – 75%	

# Internal PCB Antennas

## 2G / 3G / 4G / 5G / WiFi Applications



**LAMBDOID**  
WIRELESS

Technical Specification		Photograph / Drawing
Model Number	LWC-MB-PCB-03 (V1.0)	
Frequency (MHz)	698-960MHz, 1710-2690MHz & 3400 – 3800MHz	
Gain	~ 2/ 2.5/ 3.5 dBi	
Impedance ( $\Omega$ )	50	
VSWR	< 3.0	
Polarization	Linear	
Power Handling (W)	05	
HPBW (degree)	H: 360 <sup>0</sup> ; V: 30 <sup>0</sup> /40 <sup>0</sup> /45 <sup>0</sup>	
Cable	Mini Coax 1.13mm/ 0.81mm/ RG178/ RG316	
Cable Length	As required (suggested upto 20cm)	
Connector	MHF1 / MHF4 / SMA / MCX / MMCX	
Mechanical Specification		Salient Features
Dimension (mm)	100 x 21 x 0.4 mm	<ul style="list-style-type: none"> <li>- Compact Size</li> <li>- High quality, low Cost</li> <li>- Masking for corrosion resistance.</li> </ul>
Mounting	3M Adhesive Tape	
Weight	< 5 g	
Environmental Specification		Applications
Operational Temperature	-30 <sup>0</sup> to 60 <sup>0</sup> C	<ul style="list-style-type: none"> <li>- 2G</li> <li>- 3G</li> <li>- 4G</li> <li>- 5G</li> <li>- Wi-Fi</li> </ul>
Humidity	5 – 75%	

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