Laird
TECHNOLOGIES®

global **solutions** :
            local **support**™

Wireless Device
Antennas

Laird
TECHNOLOGIES®

Laird Technologies is the world-leader in the design and supply of customized performance-critical products for wireless and other advanced electronic applications. Laird Technologies partners with its customers to help find solutions for applications in various industries such as:

Aerospace

Automotive Electronics

Computers

Consumer Electronics

Data Communications

Medical Equipment

Military

Network Equipment

Telecommunications

Laird Technologies offers its customers unique product solutions, dedication to research and development and a seamless network of manufacturing and customer support facilities located all across the globe.

global solutions :
        local support™

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Wireless device antennas provide high performance and flexibility to internal and external applications

Laird Technologies will design, develop and manufacture the optimal antenna to meet customer specifications, on schedule, without compromise. This large selection of antennas are utilized in all types of wireless devices, from industrial portable terminals to consumer grade WLAN access points. With integrated research, design, tooling, molding, assembly and accelerated life testing facilities around the world, Laird Technologies engineers will quickly and efficiently create solutions to a multitude of wireless challenges.

Model #	Reference #	Antenna Description	Gain	Size (L x W x H)	Cable	Connectors
BlackChip						
WIC2452-A	MAF95029	Tri-Band BlackChip w/ lead free solder (Tape+Reel, 2K/Reel)	4 dBi	8 x 6 x 2.5 mm	N/A	N/A
WIC2452-A-SM	MAF95032	Tri-Band BlackChip on Evaluation Board	4 dBi	8 x 6 x 2.5 mm	N/A	SMA-female edge-mount
D-Puck						
WID2452	MAF94192	Tri-Band D-Puck Internal SMT PIFA (Tape+Reel, 400/Reel, 8 Reels/Carton)	3 dBi	16 x 66 x 6 mm	N/A	N/A
WID2452-SM	CAF94377	Tri-Band D-Puck Internal SMT PIFA on Evaluation Board	3 dBi	16 x 66 x 6 mm	N/A	SMA-female Panel
Revie						
AAF95003		900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	12" Brown RG-178	MMCX
AAF95004		900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	Call	Murata GSC
Revie Pro						
AAF95035		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	12" Brown RG-178	MMCX
AAF95013		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	2.625" Brown RG-178	MMCX
AAF95004		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	10" Brown RG-178	
MAF95017		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	8" 1.13 dia coax	MHF
MAF95021		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	32" RG-174 coax	RP-SMA
MAF95022		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	4" Brown RG-178	MMS RA Plug
MAF95050		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	1.85" Brown RG-178	MMCX
MAF95004		868/900/1800/1900 MHz Internal Multi-band	1.0 dBi	80 x 30 x 1.5 mm	10" Brown RG-178	SSMB

BlackChip™
- For Bluetooth & IEEE 802.11 devices
- Wide bandwidth, ultra-wide band capable
- Tape & reel packaging

Tri-band Dpuck
- For Bluetooth & IEEE 802.11 devices
- Tape & reel packaging for high volume pick-and-place manufacturing processes

Revie
- Compliments GSM module offerings
- Designed for hand-held data devices or access points

NanoBlade

- For Bluetooth & IEEE 802.11 devices
- Covers 2.4 to 2.5 GHz for 802.11b, and 4.9 to 6 GHz for 802.11a, and all US, European, and Japanese WLAN applications

NanoBlue

- For Bluetooth & IEEE 802.11 devices
- Designed for easy connection to radio cards
- Patented PCB MicroSphere technology
- Ground plane incorporated into the resonator structure
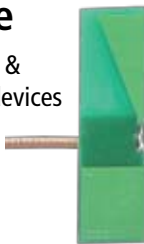
NanoAnt

- Low cost, small size
- Bluetooth, 802.11, 2.4 – 2.5 GHz, 3.4 - 3.8 GHz, and 5.725 - 5.85 GHz frequency range
- Available on tape and reel

NEW

GPS Receiver Module

- 20 channel GPS receiver
- 200,000 effective correlators for fast TTFF
- Built-in WAAS/EGNOS Demodulator
- Support NMEA-0183 v2.2 data protocol and SiRF binary code

Model #	Reference #	Antenna Description	Gain	Size (L x W x H)	Cable	Connectors
NanoBlade						
MMCX4	CAF94504	Tri-Band 2.4/4.9-6 GHz Internal Embedded Antenna	2.8-4 dBi	2" x 0.65"	100mm, RG-178	R.A. MMCX Plug
IP04	CAF94505	Tri-Band 2.4/4.9-6 GHz Internal Embedded Antenna	2.8-4 dBi	2" x 0.65"	100mm, 1.13 mm dia coax	MHF
IP04FB	MAF95025	Tri-Band 2.4/4.9-6 GHz Internal Embedded Antenna with Ferrite bead	2.8-4 dBi	2" x 0.65"	100mm, 1.13 mm dia coax	MHF
FL04	MAF95096	Tri-Band 2.4/4.9-6 GHz Internal Embedded Antenna	2.8-4 dBi	2" x 0.65"	100mm, 1.13 mm dia coax	MHF
IP07	MAF95061	Tri-Band 2.4/4.9-6 GHz Internal Embedded Antenna with Ferrite bead	2.8-4 dBi	2" x 0.65"	100mm, 1.13 mm dia coax	MHF
NanoBlue						
IP04	MAF94045	2.4 GHz Internal Embedded Antenna	2 dBi	1.88" x .5" x .032"	100mm, 1.13 mm dia coax	MHF
IP08	MAF95060	2.4 GHz Internal Embedded Antenna	2 dBi	1.88" x .5" x .032"	203mm, 1.13 mm dia coax	MHF
IP02	MAF94148	2.4 GHz Internal Embedded Antenna	2 dBi	1.88" x .5" x .032"	47mm, 1.13 mm dia coax	MHF
IP05	MAF95098	2.4 GHz Internal Embedded Antenna	2 dBi	1.88" x .5" x .032"	203mm, 1.13 mm dia coax	MHF

Model #	Reference #	Antenna Description	Size (L x W x H)	Connectors
NanoAnt				
BT 1.0	CAF93512	Bluetooth, 802.11, 2.4 GHz Embedded Antenna - Tape and Reel	2.5 x 2.0 x 2.0 mm	SMT
BT 1.0	CAF94890	Bluetooth, 802.11, 2.4 GHz Embedded Antenna - Evaluation Board	2.5 x 2.0 x 2.0 mm	SMA Female
BT 2.0	CAF96136	WLAN 802.11b/g and 802.11 - MIMO Embedded Antenna - Tape and Reel	10 x 3.0 x 4.0 mm	SMT
BT 2.0	CAF94890	WLAN 802.11b/g and 802.11- MIMO Embedded Antenna - Evaluation Board	10 x 3.0 x 4.0 mm	SMA Female
GPS 1.0	CAF96136	GPS - 1575 MHz Embedded Antenna - Tape and Reel	10 x 3.0 x 4.0 mm	SMT
GPS 1.0	CAF94890	GPS - 1575 MHz Embedded Antenna - Evaluation Board	10 x 3.0 x 4.0 mm	SMA Female
ISM5G 1.0	CAF96136	5 GHz ISM band 3/5.725 GHz Embedded Antenna - Tape and Reel	10 x 3.0 x 4.0 mm	SMT
ISM5G 1.0	CAF94890	5 GHz ISM band 3/5.725 GHz - Evaluation Board	10 x 3.0 x 4.0 mm	SMA Female
WLAN5G 1.0	CAF96136	Public Safety/WLAN 802.11a 4.9/5.35 GHz Embedded Antenna Tape and Reel	10 x 3.0 x 4.0 mm	SMT
WLAN5G 1.0	CAF94890	Public Safety/WLAN 802.11a 4.9/5.35 GHz - Evaluation Board	10 x 3.0 x 4.0 mm	SMA Female

Model	Description	Center Freq	Gain	Overall Height	Connector Type	Coax Type
GPS Receiver Module						
63745	GPS Receiver Module	1575.42 MHz	2.0 dBi	.3"	USB &PS2	Mult. options

Model #	Reference #	Antenna Description	Gain	Size (L)	Cable	Connectors
EXR Series						
EXR2400-BNRP-G	CAF28915	2.4 GHz Half-Wave Dipole, Knuckle Elbow, 5.5", Gray (G)	3.0 dBi	14 cm	N/A	RP-BNC
EXR2400-BNRP-B	CAF28896	2.4 GHz Half-Wave Dipole, Knuckle Elbow, 5.5", Black (B)	3.0 dBi	14 cm	N/A	RP-BNC
Heptaband Series						
HEPTA-SM	MAF94300	824-894, 880-960, 1575, 1710-1880, 1850-1990, 1920-2170, 2400-2500 MHz Knuckle Elbow Black	1-3 dBi	6.3"	N/A	SMA Male
HEPTA-RSM	MAF94301	Same as above Knuckle Elbow Black	1-3 dBi	6.3"	N/A	RP-SMA
HEPTA-TN-G	MAF94302	Same as above Knuckle Elbow Gray	1-3 dBi	6.3"	N/A	TNC
HEPTA-RTN	MAF94303	Same as above Knuckle Elbow Black	1-3 dBi	6.3"	N/A	RP-TNC.
HEPTA-IP04	MAF94304	Same as above Straight/Captive, Black	1-3 dBi	6.3"	RG-178	IPEX MHF.
HEPTA-MMCX04	MAF94305	Same as above Straight/Captive, Black	1-3 dBi	6.3"	RG-178	MMCX
HEPTA-FL04	MAF94306	Same as above Straight/Captive, Black	1-3 dBi	6.3"	RG-178	Flying lead
HEPTA-TN	MAF94307	Same as above Knuckle Elbow, Black	1-3 dBi	6.3"	N/A	TNC
HEPTA90-TN	MAF94309	Same as above Straight/Captive, Black, Blade Angle - 90 degree	1-3 dBi	6.3"	N/A	TNC
WCP Series						
WCP2400-MMCX2	CAF28841	2.4 GHz ComAer Dipole w/ Pigtail, Straight/Captive, 7 cm	2.5 dBi	7 cm	2" RG-178	MMCX jack R.A.
WCP2400-MMCX4	CAF28841	2.4 GHz ComAer Dipole w/ Pigtail, Straight/Captive, 7 cm	2.5 dBi	7 cm	4" RG-178	MMCX jack R.A.
WCP2400-MMCX6	CAF28841	2.4 GHz ComAer Dipole w/ Pigtail, Straight/Captive, 7 cm	2.0 dBi	7 cm	6" RG-178	MMCX jack R.A.
WCP2400-MMCX8	CAF28841	2.4 GHz ComAer Dipole w/ Pigtail, Straight/Captive, 7 cm	1.5 dBi	7 cm	8" RG-178	MMCX jack R.A.
WCP2400-MMCX12	CAF28841	2.4 GHz ComAer Dipole w/ Pigtail, Straight/Captive, 7 cm	1.0 dBi	7 cm	12" RG-178	MMCX jack R.A.
WCR Series						
WCR2400-SMA	WCR2400SMA	2.4 GHz ComAer Dipole, Knuckle Elbow, 10 cm	2.0 dBi	8 cm	N/A	SMA-Male
WCR2400-SMRP	WCR2400SMRP	2.4 GHz ComAer Dipole, Knuckle Elbow, 10 cm	1.0 dBi	8 cm	N/A	RP-SMA-Male
WCR2400-FL04	MAF94015	2.4 GHz ComAer Dipole, Snap-in, Knuckle Elbow	2.0 dBi	7.6 cm (90° bent), 10.8 cm (straight)	100 mm	RG-178 Flying Lead
WCR2400-IP04	MAF94017	2.4 GHz ComAer Dipole, Snap-in, Knuckle Elbow	2.0 dBi	7.6 cm (90° bent), 10.8 cm (straight)	100 mm, 1.13mm	MHF

EXR
Connector Mount
- For Bluetooth & IEEE 802.11 devices
- Injection molded high performance flexible cable antenna

NEW
Heptaband
Snap-in, captive
- Operates simultaneously in more than seven frequency bands supporting Cellular, Quadband GSM+UMTS/3G, GPS, AWS, WIFI, WLAN and WISP
- Available in knuckle swivel snap or SMA/TNC/RPTNC connector options.

Dipole ComAer 2.4: WCP
Snap-in / Captive 802.11b/g, Bluetooth
- Fits in .25" case up to .070" thick
- Alignment notches to prevent rotation

Dipole ComAer 2.4: WCR
Snap-in 802.11b/g, Bluetooth
- 1/2 wave coaxial dipole
- Clutch allows 360° rotation
- Flexible element

WRR
Connector Mount
802.11b/g, Bluetooth
- Covers 802.11b for all US and Japanese WLAN applications

WTBP WLAN Tri-Band Blade
Snap-in / Captive
802.11a/b/g, Bluetooth
- Covers 2.4 to 2.5 GHz for 802.11b, and 4.9 to 6 GHz for 802.11a and all US, European, and Japanese WLAN applications

WTBR WLAN Tri-Band Blade
Snap-in / Captive
802.11a/b/g, Bluetooth
- Covers 2.4 to 2.5 GHz for 802.11b, and 4.9 to 6 GHz for 802.11a and all US, European, and Japanese WLAN applications

Model #	Reference #	Antenna Description	Gain	Size (L)	Cable	Connectors
WRR Series						
WRR2400-RPSMA-B	MAF94028	2.4 GHz Dipole, Knuckle Elbow, Black (B)	1.3 dBi (2.45 GHz)	8.8 cm (90° bent), 10.9 cm (straight)	N/A	RP-SMA
WRR2400-RPSMA-G	MAF94046	2.4 GHz Dipole, Knuckle Elbow, Gray (G)	1.3 dBi (2.45 GHz)	8.8 cm (90° bent), 10.9 cm (straight)	N/A	RP-SMA
WRR2400-IP04-B	MAF94019	2.4 GHz Dipole, Snap-in, Knuckle Elbow, Black (B)	1.3 dBi (2.45 GHz)	8.8 cm (90° bent), 10.9 cm (straight)	100 mm, 1.13mm	MHF
WRR2400-IP04-G	MAF94048	2.4 GHz Dipole, Snap-in, Knuckle Elbow, Gray (G)	1.3 dBi (2.45 GHz)	8.8 cm (90° bent), 10.9 cm (straight)	100 mm, 1.13mm	MHF
WRR2400-FL04-B	MAF94027	2.4 GHz Dipole, Snap-in, Knuckle Elbow, Black (B)	1.3 dBi (2.45 GHz)	8.8 cm (90° bent), 10.9 cm (straight)	100 mm RG-178	Flying Lead
WRR2400-FL04-G	MAF94047	2.4 GHz Dipole, Snap-in, Knuckle Elbow, Gary (G)	1.3 dBi (2.45 GHz)	8.8 cm (90° bent), 10.9 cm (straight)	100 mm RG-178	Flying Lead
WRR2400-RPTN	MAF94260	2.4 GHz Half-Wave Dipole, Knuckle Elbow, 5.5", Black	2.5 dBi	14 cm	N/A	RP-TNC
WTBP						
(Blade parallel to Rotation)						
WTBP2450-IP04-F	MAF94003	Tri-Band 2.4/4.9-6 GHz Blade - Fixed elbow (F)	2.0 dBi- 2.45 GHz, 3.0 dBi - 4.9 GHz, 3.7 dBi - 5.25 GHz, 3.6 dBi - 5.875 GHz	4" (90° bent), 4.6" (straight)	100 mm, 1.13mm	MHF
WTBP2450-IP04-K	MAF94009	Tri-Band 2.4/4.9-6 GHz Blade - Knuckle elbow (K)	Same as above	4" (90° bent), 4.6" (straight)	100 mm, 1.13mm	MHF
WTBP2450-FL04-F	MAF94023	Tri-B and 2.4/4.9-6 GHz Blade - Fixed elbow (F)	Same as above	4" (90° bent), 4.6" (straight)	100 mm RG-178	Flying Lead
WTBP2450-FL04-K	MAF94025	Tri-Band 2.4/4.9-6 GHz Blade - Knuckle elbow (K)	Same as above	4" (90° bent), 4.6" (straight)	100 mm RG-178	Flying Lead
WTBR Series						
(Edge parallel to Rotation)						
WTBR2450-IP04-K	MAF94007	Tri-Band 2.4/4.9-6 GHz Blade - Knuckle elbow (K)	2.0 dBi- 2.45 GHz, 3.0 dBi - 4.9 GHz, 3.7 dBi - 5.25 GHz, 3.6 dBi - 5.875 GHz	4" (90° bent), 4.6" (straight)	100 mm, 1.13mm	MHF
WTBR2450-IP04-F	MAF94010	Tri-Band 2.4/4.9-6 GHz Blade - Fixed elbow (F)	Same as above	4" (90° bent), 4.6" (straight)	100 mm, 1.13mm	MHF
WTBR2450-FL04-K	MAF94024	Tri-Band 2.4/4.9-6 GHz Blade - Knuckle elbow (K)	Same as above	4" (90° bent), 4.6" (straight)	100 mm RG-178	Flying Lead
WTBR2450-FL04-F	MAF94026	Tri-Band 2.4/4.9-6 GHz Blade - Fixed elbow (F)	Same as above	4" (90° bent), 4.6" (straight)	100 mm RG-178	Flying Lead

More Info: 800.323.3757

Model #	Reference #	Antenna Description	Gain	Size (L)	Cable	Connectors
WTC Series						
WTC2450-IP04-F	MAF94005	Tri-Band 2.4/4.9-6 GHz Cylindrical - Fixed elbow (F)	2.5 dBi- 2.45 GHz, 3.8 dBi - 4.9 GHz, 4.6 dBi - 5.25 GHz. 5.2 dBi - 5.875 GHz	4.25" (90° bent), 4.9" (straight), 6" diam.	100 mm, 1.13mm	MHF
WTC2450-IP04-K	MAF94006	Tri-Band 2.4/4.9-6 GHz Cylindrical - Knuckle elbow (K)	Same as above	Same as above	100 mm, 1.13mm	MHF
WTC2450-FL04-F	MAF94022	Tri-Band 2.4/4.9-6 GHz Cylindrical - Fixed elbow (F)	Same as above	Same as above	100 mm RG-178	Flying Lead
WTC2450-FL04-K	MAF94021	Tri-Band 2.4/4.9-6 GHz Cylindrical - Knuckle elbow (K)	Same as above	Same as above	100 mm RG-178	Flying Lead
WTS Series						
WTS2450-RPSMA	MAF94051	Tri-Band 2.4/4.9-6 GHz Small Diameter - Knuckle elbow	2.5 dBi - 2.45 GHz, 3.6 dBi - 4.9 GHz, 3.0 dBi - 5.25 GHz, 3.4 dBi - 5.875 GHz	75.4mm (90° bent), 95.9mm (straight), 9.3mm diam.	N/A	RP-SMA
WTS2450-IP04	MAF94016	Tri-Band 2.4/4.9-6 GHz, Snap-in, Small Diameter Knuckle elbow	Same as above	Same as above	100 mm, 1.13mm	MHF
WTS2450-FL04	MAF94035	Tri-Band 2.4/4.9-6 GHz, Snap-in, Small Diameter	Same as above	Same as above	100 mm RG-178 Knuckle elbow	Flying Lead
WXE Series						
WXE2400-SM	CAF29155	2.4 GHz Half-Wave Dipole, Straight, 5.5"	3.0 dBi	5.5"	N/A	SMA-Male Flush
WXE2400-SMLH	CAF28832	2.4 GHz Half-Wave Dipole, Straight, 5.5"	3.0 dBi	5.5"	N/A	SMLH-MaleFlush
WXR Series						
WXR1850-TN	CAF28793	1850 MHz Half-Wave Dipole, Knuckle Elbow, 7"	1.0 dBi	7"	N/A	TNC-Male
WXR2400-TN	CAF28778	2.4 GHz Half-Wave Dipole, Knuckle Elbow, 7"	1.0 dBi	7"	N/A	TNC-Male

Model #	Reference #	Antenna Description	Gain	Size (L W x H)	Cable	Connectors
Nanobox						
Nanobox-IP24	MAF94106	Tri-Band 2.4/4.9-6 GHz, desktop	1.0-4.0 dBi	24 x 6.0 x 6.0 mm	610 mm, 1.37 mm dia coax	MHF
Accessory						
Ferrite Bead (B)	for Std. Dipole external antennas		N/A	4x25x1.5 mm	100 mm, 1.13mm	MHF
Ferrite Bead (S)	for Std. Dipole external antennas		N/A	4x10x2 mm	100 mm, 1.13mm	MHF

WTC WLAN Tri-Band
Snap-in / Captive
802.11a/b/g, Bluetooth
• Covers 2.4 to 2.5 GHz for 802.11b, and 4.9 to 6 GHz for 802.11a and all US, European, and Japanese WLAN applications

WTS WLAN Tri-Band Small
Connector Mount
802.11a/b/g, Bluetooth
• Covers 2.4 to 2.5 GHz for 802.11b, and 4.9 to 6 GHz for 802.11a and all US, European, and Japanese WLAN applications

WXE
Connector Mount
802.11b/g, Bluetooth
• Injection molded high performance flexible cable antenna
• 1/2 wave coaxial dipole design for improved performance

WXR
Connector Mount
802.11b/g, Bluetooth
• Injection molded high performance flexible cable antenna
• 1/2 wave coaxial dipole design for improved performance

global solutions :
local support™

Laird Technologies is the world-leader in the design and supply of customized performance-critical products for wireless and other advanced electronic applications. Laird Technologies partners with its customers to help find solutions for applications in various industries such as Aerospace, Automotive Electronics, Computer, Consumer Electronics, Data Communications, Medical Equipment, Military, Network Equipment, and Telecommunications industries.

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