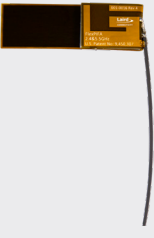
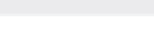
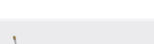


Internal Antenna Selection Tool

Laird Connectivity offers the most innovative portfolio of cost-effective internal antenna solutions that provide unmatched connectivity for your wireless IoT devices. Whether for Wi-Fi/Bluetooth or Multiband/Cellular IoT applications, the small size and form factor of Laird Connectivity antennas make them easily concealable within a product’s enclosure, eliminating any negative impact on product aesthetics.



RF Requirements									Mechanical Requirements							
Technology	Family Name, Antenna Type	Operating Frequency Range	Unique Advantage	Orderable Laird Connectivity Part Number	VSWR	Peak Gain	Average Gain	Efficiency, %	Antenna Dimensions, LxWxH mm (inch)	Cable Orientation	Cable Length	Connector Type	Availability	Comments and Additional Products in Family	Image	
Wi-Fi, (WLAN), Bluetooth Zigbee	D-Puck; Embedded	2400-2500, 5150-5875	Best average gain vs. ceramics	MAF94192	<2.5:1	3.9 / 5.0	3.6 / 4.4	70% / 80%	16.0 x 16.0 x 6.0 (0.63 x 0.63 x 0.24)	N/A	N/A	N/A	High	Surface Mt.; See Eval board p/n MAF94468		
	FlexPIFA, peel-and-stick PIFA	2400-2480	Less detuning than dipole Easier integration Fewer nulls	001-0014	< 2.0:1	2.0	> -1.5	--	40.1 x 11.0 x 2.5 (1.58 x 0.43 x 0.098)	Perp.	100 mm	U.FL	High	Additional Cable Lengths Available: 50mm, 75mm, 127mm, 130mm, 191mm, 216mm, 229mm, 250mm, 300mm, 342mm, 394mm		
				001-0022	< 2.0:1	2.0	> -1.5	--		Perp.	100 mm	MHF4L	High			
				001-0025	< 2.0:1	2.0	> -1.5	--		Perp.	100 mm	MHF4L	Contact Factory			
		2400-2480, 4900-5900		001-0016	<2.5:1, <3.0:1	2.5, 3.0	> -2.5, > -3.4	--	38.5 x 12.7 x 2.5 (1.52 x 0.5 x 0.098)	Perp.	100 mm	U.FL	High	Additional Cable Lengths Available: 63mm, 200mm, 220mm, 250mm, 300mm, 500mm		
				001-0021	<2.5:1, <3.0:1	2.5, 3.0	> -2.5, > -3.4	--		Perp.	100 mm	MHF4L	High			
				EFB2455A3S-16MHF1	<2.5:1, <3.0:1	2.5, 3.0	> -2.5, > -3.4	--		Perp.	160 mm	MHF1	Contact Factory			
	mFlexPIFA, peel-and-stick on metal	2400-2480	Direct placement on metal	001-0030	< 3.0:1	2.0	> -4.2 dBi	--	25.4 x 23.4 x 2.5 (1.0 x 0.92 x 0.098)	Perp.	100 mm	U.FL	High	Additional Cable Lengths Available: 203mm, 300mm, 381mm		
				EFA2400A3S-10MH4L	< 3.0:1	2.0	> -4.2 dBi	--		Perp.	100 mm	MHF4L	High			
		2400-2480, 4900-5900		001-0034	<2.5:1, < 3.0:1	2.0, 5.8	1.9 dBi, 5.2 dBi	--	26.5 x 29.5 x 2.6 (1.04 x 1.16 x 0.10)	Perp.	120 mm	MHF1	High	Additional Cable: 300mm		
	Mini NanoBlade (Flex)	2400-2500, 4900-5875	Excellent efficiency for size	MAF95310	(2:1)	--	2.8, 3.4	68, 59	36 x 12 x 0.1 (1.42 x 0.47 x 0.004)	Axial	185 mm	MHF1	High	Additional Cable Lengths Available: 60mm, 65mm, 80mm, 120mm,250mm, 300mm, 330mm, 390mm		
				EMF2449A1-10UFL	(2:1)	--	2.8, 3.4	68, 59		Axial	100 mm	U.FL	Contact Factory			
	NanoBlade, PCB Antenna	2400-2500, 5150-5350, 5600	Ease of integration, Premium performance	CAF94504	(2:1)	--	2, 3.9, 4	--	50.8 x 16.5 (2.0 x 0.65)	Axial	175 mm	RA-MMCX	High	Additional Cable Lengths Available: 120mm, 125mm, 127mm, 150mm, 200mm, 240mm, 250mm, 300mm, 400mm. Plus options with ferrite beads, alt. connectors, etc.		
				CAF94505	(2:1)	--	2, 3.9, 4	--		Axial	100 mm	IPEX MHF	High			
				MAF95056	(2:1)	--	2, 3.9, 4	--		Axial	100 mm	Flying Lead	High			
				MAF95090	(2:1)	--	2, 3.9, 4	--		Axial	175 mm	IPEX MHF	High			
	NanoBlue, PCB Antenna	2400-2500	MicroSphere Technology; integrated ground plane	MAF94045	<2.5:1	--	2	--	44.45 x 12.7 x 0.81 (1.75 x 0.5 x 0.032)	Perp.	100 mm	IPEX MHF	High	Additional Cable Lengths Available: 50mm, 124mm, 142mm, 165mm, 203mm, 230mm, 250mm, 400mm, 650mm		
				MAF94102	<2.5:1	--	2	--		Perp.	100 mm	Flying Lead	High			
				EBL2400A1-10MH4L	<2.5:1	--	2	--		Perp.	100 mm	MHF4	High			
	FlexNotch	2400-2480	Customer tuneable	001-0015	<2.5:1	2.0	> -1.6	--	32.0 x 21.08 (1.26 x 0.83)	Perp.	100 mm	U.FL	High	Additional Cable Lengths Available: 75mm		
				001-0023	<2.5:1	2.0	> -1.6	--		Perp.	100 mm	MHF4L	High			
	FlexMIMO	2400-2480, 4900-5900	Multi-In/Multi-Out; Optimized “paired” antennas	EFD2455A3S-10MHF1	<2.3:1	2.0 / 3.0	1.7 / 2.5	--	33.25 x 33.25 x 4.44 (1.309 x 1.309 x .170)	Perp. (2x)	100 mm	U.FL or IPEX MHF1	High	Additional Cable Lengths Available: 500mm		
ISM, 868/915 MHz 2G/3G	Revie Pro (Rigid PCB)	868, 880-960, 1710-1990	Dual Band ISM (ISM868/915); Perp cable.	MAF95256	2.5:1	--	--	--	80 x 30 x 1.5 (3.15 x 1.18 x 0.06)	Perp.	95 mm	U.FL	High	Extensive options with MMCX, SMA, RP-SMA, etc		
	Revie Prime (Rigid PCB)	824-960 1710-2170	Dual Band ISM; Axial cable.	EPR8221A1-13UFL	3.0:1, 2.5:1	--	2.2, 3.8	55, 69	70 x 20 x 0.8 (2.76 x 0.79 x 0.031)	Axial	127 mm	IPEX MHF	High	Additional Cable: 241mm, 247mm, 63.5mm, 457mm.		
				EPR8221A1-15UFL	3.0:1, 2.5:1	--	2.2, 3.8	55, 69		Axial	152 mm	IPEX MHF	High			
	Revie Plex (Rigid PCB)	824-960 1710-2170	Dual Band ISM; Axial cable.	EPL8221A1-10UFL	3.0:1, 2.5:1	--	2.2, 3.8	55, 69	70.0 x 20.0 x 0.2 (2.76 x 0.79 x 0.008)	Axial	100 mm	IPEX MHF	Contact Factory	Limited options in this family.		
				EPL8221A1-13UFL	3.0:1, 2.5:1	--	2.2, 3.8	55, 69		Axial	127 mm	IPEX MHF	High			
				EPL8221A1-15UFL	3.0:1, 2.5:1	--	2.2, 3.8	55, 69		Axial	152 mm	IPEX MHF	High			
LTE, Cat M1, NB-IoT, 5G (2G, 3G, 4G)	Revie Flex (Flex)	698-875, 1710-2500	Excellent M1 / NB-IoT	EFF6925A3S-15MHF1	2.5:1	1.9, 3.7	--	51, 80	90 x 20 x 0.16 (3.54 x 0.79 x 0.006)	Axial	153 mm	IPEX MHF	High	--		
	Revie 600 (Flex)	600-5925	Global LTE; Optimum Efficiency; TRP/TIS	EFF6060xx (Contact Factory)	2.5, 2.0, 2.0, 2.2	4.3, 3.4, 3.3, 6.0	--	62, 82, 85, 74	130 x 30 x 0.2 (5.12 x 1.2 x 0.01)	Perp.	100 mm	IPEX MHF	Contact Factory	Freq: 600-960 / 1350-1580/ 1690-2700/ 3300-4200/ 4900-5925; Available: 150mm, 200mm.		
	Revie 700 (Flex)	698-6000	Smallest LTE/5G	EFF70xx (Contact Factory)	2.5, 2.5, 2.0, 2.5	--	--	Contact Factory	96 x 21 x 0.2 (3.8 x 0.83 x 0.01)	Perp.	100 mm	IPEX MHF	Contact Factory	Freq: 698-960 / 1690-2700 / 3300-4200/ 4900-6000;		

To learn more visit lairdconnect.com/rf-antennas/internal-antennas or contact us at sales@lairdconnect.com