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Antenna Products Selection Guide















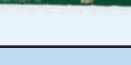
Group		Frequency Bands	Antenna PNs	Category
LTE	Broadband LTE (OCTA-BAND), LTE CAT-M, NB-IoT, SigFox, LoRa, Cellular LPWA, RPMA	670-960MHz/1710-2700MHz	P822601/P822602	FR4 - SMT
		670-960MHz/1710-2700MHz	1002289	FPC – Off board
		670-960MHz/1710-2700MHz	1002436	FR4 – On board
		670-960MHz/1710-2700MHz	1002292	FPC – Off board
		670-960MHz/1710-2700MHz	1004239	External - Indoor
		670-960MHz/1710-2700MHz	1003657	FR4 – Off board
		670-960MHz/1710-2700MHz	1004112	External - Indoor
Wi-Fi	Bluetooth, Zigbee, WLAN, 6LoWPAN, ISM, In Car entertainment	2.4GHz	1001013	FR4 - SMT
		2.4GHz/5GHz	1000146	Stamped metal - SMT
		2.4GHz	1002295	Stamped metal - SMT
		2.4GHz/5GHz	1002298	Stamped metal - SMT
		5GHz	1001388/1001430	Stamped metal - SMT
		2.4GHz	1001312	Ceramic - SMT
		2.4GHz	M310220	Ceramic - SMT
		2.4GHz/5GHz	M830520	Ceramic - SMT
		2.4GHz	1002427	Stamped metal - SMT
		2.4GHz/5GHz	1001932PT	FR4 – Off board
		2.4GHz/5GHz	1001932FT	FPC – Off board
		5GHz	1001929	FPC – Off board
		2.4GHz/5GHz	1001435	Stamped metal – Off board
		2.4GHz/5GHz	1000418	Stamped metal – Off board
		2.4GHz/5GHz	1000423	Stamped metal – Off board
		858MHz/915MHz	M620720	Ceramic - SMT
		ISM	LoRa, Z-Wave, Sigfox	858MHz/915MHz
720MHz/858MHz/915MHz	1003885PT			FR4 – Off board
1560-1606 MHz	M830120			Ceramic - SMT
GNSS	GPS, GLONASS, Beidou, Galileo, L-Band	1575 MHz	1001011	FR4 - SMT
		1560-1606 MHz	1002427	Stamped metal - SMT
		1575 MHz	1002857 - EtherHelix	External - Outdoor
		1560-1606 MHz	1002649	Ceramic Patch – On board
		1575 MHz	1001039	Ceramic Patch – On board
		1.606GHz	1002429	Ceramic Patch – On board
		1575 MHz Active	1004138	Ceramic Patch – Off board
CELLULAR/3G		824-960MHz/1710-2170MHz	P522304	FR4 - SMT
UWB		3.10 - 10.60GHz	1003656	External - Outdoor









LTE Antennas for IoT Wireless Solutions Standard Passive Antennas

Part Number		Frequency	Efficiency	Dimensions	Antenna Material & Mounting Configuration	Special Features
P822601 P822602		700 - 960 MHz Low band 1710 - 2700 MHz High band	64% low band 60% high band	50x8x3.2 mm (L x W x T)	FR4 antenna SMD to board	Low profile, full LTE support
1002289 Family		700 - 960 MHz Low band 1710 - 2700 MHz High band	74% low band 58% high band	53.6x25x0.2 mm (L x W x T)	FPC antenna 25mm cable MHF connector	Wide band Small Form factor
1002436		700 - 960 MHz Low band 1710 - 2700 MHz High band	67% low band 61% high band	50.6x19.6x1.6 mm (L x W x T)	FR4 antenna soldered to the board	Vertical mounting
1002292		700 - 960 MHz Low band 1710 - 2700 MHz High band	51% low band 67% high band	85.2x42.1x0.2 mm (L x W x T)	FPC antenna 28.5mm cable MHF connector	Balanced design
1004239		700 - 960 MHz Low band 1710 - 2700 MHz High band	55% low band 60% high band	167x90x17.5 mm (L x W x T)	Screw / Adhesive 2 meter cables SMA Connector	MIMO Antenna
1003657		698 - 960 MHz 1.710 – 2.700 GHz	48% / 1.3 dBi 70% / 3.3 dBi	104 x 22 x 2.2 mm (L x W x T)	FR4 antenna with heat shrink cover 220 mm long 1.80 mm diameter cable MMCX 90° connector	Semi-External Thermal Shrink Tube Cover
1004112 Family		698 - 960 MHz 1.710 – 2.200 GHz 2.500 – 2.700 GHz	65% / 1.18 dBi 60% / 4.5 dBi 78% / 4.0 dBi	218.3 x 27.0 x 13.4 mm (L x W x T)	Hinged 90° SMA or TNC (Male) connector	LTE Low Profile thin design


ISM Antennas Solutions Standard Passive Antennas

Part Number		Frequency	Efficiency	Dimensions	Antenna Material & Mounting Configuration	Special Features
M620720		868/915 MHz	58% average	6.00x2.00x1.1mm (L x W x T)	Ceramic chip SMD to the board	Small form factor
1002427		865-920 MHz 2.4 GHz	60% low band 70% high band	31.2x3.2x1.8 mm (L x W x T)	Stamped metal SMD to the board	Multiband support
1003885PT Family		740MHz, 868MHz, 915MHz	77% average	31.2x3.2x1.8 mm (L x W x T)	FR4 with tunable pads and customizable cable	Tunable design


Part Number		Frequency	Efficiency	Dimensions	Antenna Material & Mounting Configuration	Special Features
1001013		2,390-2,490 MHz	75%	15.0x3.2x3.3 mm (L x W x T)	FR4 antenna, SMD	Works even on metal ground
1000146		2,390 – 2,490 MHz 4,900 – 5,900 MHz	81% 75%	17.9x6.9x4.3 mm (L x W x T)	Stamped metal, SMD	High performances low profile
1002295		2,390 – 2,490 MHz	70%	15.6x16.1x 9.7 mm (L x W x T)	Stamped metal, SMD	Vertical polarization improvement
1002298		2,390 – 2,490 MHz 4,900 – 5,900 MHz	62% 60%	18x16.1x 9.7 mm (L x W x T)	Stamped metal, SMD	Vertical polarization improvement
1001388 1001430		4,900 – 5,900 MHz	60%	9.80x4.2x2.2 mm (L x W x T)	Stamped metal, SMD	Small form factor
1001312		2,390-2,490 MHz	60%	2.00x1.2x0.55 mm (L x W x T)	Ceramic chip, SMD	Tiny 0402 size
M310220		2,390-2,490 MHz	72%	3.0)x1.50x1.08mm (L x W x T)	Ceramic chip, SMD	Small form factor
M830520		2,390 – 2,490 MHz 4,900 – 5,900 MHz	54% 69%	8.0x3.0x1.3 mm (L x W x T)	Ceramic chip, SMD	Small form factor, wide-band
1002427		2,390-2,490 MHz	61%	31.2x3.2x1.8 mm (L x W x T)	Stamped metal SMD to the board	Small Size
1001932PT Family		2,390 – 2,490 MHz 4,900 – 5,900 MHz	63% 77%	35.2x8.5x0.4mm (L x W x T)	FR4 with 3M adhesive Cable and connector customizable	Tunable design
1001932FT Family		2,390 – 2,490 MHz 4,900 – 5,900 MHz	63% 77%	35.2x8.5x0.25mm (L x W x T)	FPC with 3M adhesive Cable and connector customizable	Tunable design, flexible
1001929		4,900 – 5,900 MHz	65%	15.9x7.6x0.4mm (L x W x T)	FR4 with 3M adhesive 50mm cable and u.fl compatible connector	Easy to implement
1001435		2,390 – 2,490 MHz 4,900 – 5,900 MHz	70% 67%	41.1x13.44x9.5mm (L x W x T)	Stamped metal with 70mm long coax cable And connector	High Performances, works even over metal ground
1000418		2,390 – 2,490 MHz 4,900 – 5,900 MHz	65% 68%	45.0x11.3x0.8mm PCB board 17.9x6.9x4.3mm Antenna element (L x W x T)	PCB + Stamped Metal u.fl compatible receptacle and mounting screw holes	Easy integration
1000423		2,390 – 2,490 MHz 4,900 – 5,900 MHz	65% 70%	40.0x15.0x1.2mm PCB board 26.7x5.0x7.1 mm Antenna element (L x W x T)	PCB + Stamped Metal and carrier u.fl compatible receptacle and mounting screw holes	Easy integration

Part Number		Frequency	Efficiency/Peak Gain	Dimensions	Antenna Material & Mounting Configuration	Special Features
M830120		1560-1606 MHz	72% average Efficiency	8.0x3.0x1.3 mm (L x W x T)	Ceramic chip SMD to the board	Small form factor
1001011		1575 MHz	26% on ground Efficiency 70% with ground clearance	22x3.2x3.3 mm (L x W x T)	FR4 antenna SMD to the board	No ground clearance needed
1002427		1560-1606 MHz	75% average Efficiency	31.2x3.2x1.8 mm (L x W x T)	Stamped metal SMD to the board	Small Size
1002857 Etherhelix		1575 MHz RHCP	- 5 dBic Gain at Zenith Axial Ratio <1.5dB at Zenith	34mm height 15mm diameter	Plastic with epoxy housing, SMA male connector	External Ruggedized IP68
1002649		1560-1606 MHz RHCP	5 dBic Gain at Zenith Axial Ratio <2dB at Zenith	25x25x6 mm (L x W x T)	Ceramic patch Adhesive and Solder to the board	2 Feed design
1001039		1575 MHz RHCP	5 dBic Gain at Zenith Axial Ratio <2dB at Zenith	25x25x4 mm (L x W x T)	Ceramic patch Adhesive and Solder to the board	Circular polarization
1002429		1606 MHz RHCP	6.5 dBic Gain at Zenith Axial Ratio <3dB at Zenith	25x25x4 mm (L x W x T)	Ceramic patch Adhesive and Solder to the board	Circular polarization
1004138		1575 MHz RHCP	21 dB Active Gain Operating Voltage 3V DC	13x13 x6.95 mm (L x W x T)	Ceramic patch with 125mm cable with u.fl compatible connector	Circular polarization Active with Filter/LNA

Cellular/3G

Part Number		Frequency	Efficiency/ Peak Gain	Dimensions	Antenna Material & Mounting Configuration	Special Features
P522304 Family		824-960MHz 1710-2170MHz	62% 55%	35.0x9.0x3.2 mm (L x W x T)	FR4 antenna SMD to the board	Small Clearance, Low profile

UWB

Part Number		Frequency	Efficiency/ Peak Gain	Dimensions	Antenna Material & Mounting Configuration	Special Features
1003656		3.10 – 10.60 GHz	2.0 dBi	85.0 mm Length 10 mm Diameter	Hinged 90° connector SMA (Male)	UWB Industrial Communication



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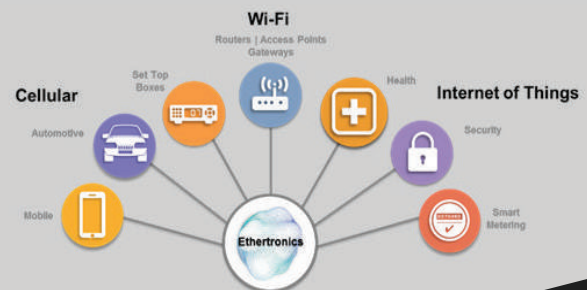
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Ethertronics has developed more than 3,000 standard and custom antennas and can support end to end solutions from design to manufacturing.



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