



Antennas

Internal, External, and Surface Mount







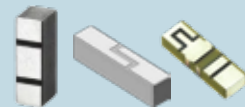

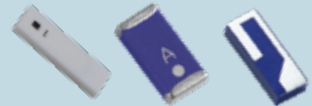
TTI has the Reception and Transmission Options Your Design Requires

Antennas are the key to seamless wireless communications, and in today's connected world there can be a wide variety of frequencies, protocols, form factors, and applications that affect your design. TTI offers a broad selection of antenna solution from the industry's premier suppliers.











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Chip Antennas – Surface Mount

Supplier	Component Images	Frequency (MHz)	Supported Technologies
Abracon		433, 698-960, 868, 824-894, 880-960, 915, 923, 1164-1610, 1606, 1710-1880, 1710-2655, 1850-1990, 920-2170, 1575, 2350, 2400-2500, 2450, 2470, 2510, 2640, 2660, 2710, 2780, 2800, 2860, 3010, 5150-5850	Bluetooth, WiFi, ISM(434), ISM(868), ISM(915) ZigBee, RFID, LORA, Sigfox, GSM-850, GSM-900, DCS-1800, PCS-1900, UMTS, 2G/3G, 4G/LTE, GPS, GNSS, GLONASS, WiMax
API Technologies		915, 1227, 1575, 1579, 1580, 1592, 1615, 1621, 2450	Globalstar, GPS, RFID, ISM, Iridium, Inmarsat
AVX - Ethertronics		850, 868, 900, 915, 1500, 1575, 1600, 1800, 1900, 2100, 2400, 5000	Bluetooth, WiFi, ISM(868), ISM(915), GSM-850, GSM-900, DCS-1800, PCS-1900, IMT-2100, GPS, GLONASS
Molex		698-2700, 1575, 2400-2500, 5150-5850	Bluetooth, WiFi, LTE Cellular, GPS
Pulse - Larsen		433, 698-960, 868, 824-894, 880-960, 915, 923, 1164-1610, 1606, 1710-1880, 1710-2655, 1850-1990, 920-2170, 1575, 2350, 2400-2500, 2450, 2470, 2510, 2640, 2660, 2710, 2780, 2800, 2860, 3010, 5150-5850	Bluetooth, WiFi, ISM(434), ISM(868), ISM(915) ZigBee, RFID, LORA, Sigfox, GSM-850, GSM-900, DCS-1800, PCS-1900, UMTS, 2G/3G, 4G/LTE, GPS, GNSS, GLONASS, WiMax
TDK - EPCOS		915, 1575, 2400, 2442, 2450, 3100-5200, 5500, 5550	Bluetooth, GNSS, WiFi, ZigBee
Yageo		169, 315, 433, 698-960, 824-960, 870, 880-960, 900, 915, 1570-1610, 1559-1610, 1575, 1602, 1710-2690, 1800, 1880, 2320-2345, 2400-2500, 4900-5950, 5150-5875	Bluetooth, WiFi, ISM(169), ISM(433), ISM(868), ISM(915) ZigBee, RFID, GSM-850, GSM-900, DCS-1800, PCS-1900, UMTS, 2G/3G, 4G/LTE, GPS, GNSS, GLONASS



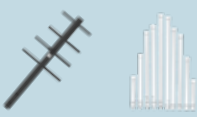

Internal Antennas – FPC, PCB, and Patch

Supplier	Component Images	Frequency (MHz)	Supported Technologies
Abracon		13.56, 865-868, 915, 902-928, 1575.42	Passive Tag NFC, GPS, GLONASS
API Technologies		868, 915, 1575, 1615, 1621	Globalstar, GPS, Inmarsat, RFID, ISM
AVX - Ethertronics		700, 750, 850, 900, 1800, 1900, 2100, 2400, 2700, 5000	Bluetooth, WiFi, Octaband, Pentaband LTE Cellular
Molex		13.56, 433, 868, 915, 2400, 5000	Bluetooth, WiFi, ISM, NFC
Murata		13.56, 856-918	NFC, RFID Tag
Pulse		698-960, 824-960, 860-930, 863-928, 1428-2170, 1561, 1575, 1602, 1710-1990, 1710-2170, 2300-3600, 2400-2500, 2400-2483.5, 4900-5850, 4900-5875	Bluetooth, ZigBee, WiFi, ISM, 3G, 4G(LTE), MIMO, GPS, GLONASS, BeiDou, Galileo
TE Connectivity		698-821, 824-894, 880-960, 902-926, 1565-1585, 1710-1880, 1850-1990, 1920-2170, 2300-2700, 2400-2483.5, 3100-6000, 4900-5875, 5150-5875	Bluetooth, WiFi, WiMax, LTE-700, GSM-850, GSM-900, ZigBee, ISM (915), GPS-1575, GSM-1800, GSM/CDMA 1900, UMTS
Yageo		824-960, 1575, 1602, 1710-2170, 2400, 5000	Bluetooth, WiFi, Pentaband Cellular, GPS, GLONASS

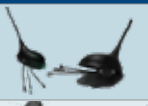


External Antennas

Supplier	Component Images	Frequency (MHz)	Supported Technologies
Abracon		699-960, 868, 915, 1559-1606, 1710-2690, 4800-5825	Bluetooth, Cellular GSM-900, GSM-1800, GSM-1900, UMTS, GPS, GLONASS, WiFi
API Technologies		868, 915, 1227, 1575, 1580, 1592, 1615, 1621, 2450	Globalstar, GPS, Inmarsat, Iridium, RFID, ISM
AVX - Ethertronics		1575	GPS
Phoenix Contact		900, 2400, 5000+D42	Bluetooth, 900MHz/2400MHz Radioline
Pulse - Larsen		698-960, 824-894, 868-928, 1447-1510, 1710-2170, 2400-2500, 1500-2700, 4900-5900, 5150-5850	ISM, WiFi, Dual WiFi, 2G, 3G, 4G
Pulse - Larsen		136-140, 136-512, 142-149, 150-160, 154-166, 160-174, 162-174, 220-225, 370-409, 403-437, 406-420, 406-960, 432-468, 450-469, 470-512, 795-870, 872-964, 1710-1850, 1850-1990, 2400-2500	Portable Radio Antennas, VHF, UHF, 800
TE Connectivity		698-960, 1710-2700, 2300-2700, 3300-3800, 4900-5875	Bluetooth, ZigBee, WiFi, WLAN, WiMax

Outdoor Antennas

Supplier	Component Images	Frequency (MHz)	Supported Technologies
API Technologies		868, 915, 1227, 1575, 1580, 1592, 1615, 1621, 2450	Globalstar, GPS, Inmarsat, Iridium, RFID, ISM
Phoenix Contact		900, 2400, 5000	Bluetooth, 900MHz/2400MHz Radioline
Pulse - Larsen		406-430, 450-470, 698-960, 740-806, 806-866, 824-896, 860-930, 890-960, 1710-2170, 2300-2700, 2400-2500, 2400-2700, 3280-3800, 5150-5875	ISM, WiFi, Dual WiFi, 2G, 3G, 4G, LTE
Pulse - Larsen		40-50, 118-121, 131-135, 136-230, 144-174, 200-225, 406-420, 440-460, 450-470, 740-806, 806-866, 824-896, 890-960, 2400-2485, 5350-5925	Base Station Antennas and Outdoor Infrastructure for all Cellular Frequencies, WLAN, MIMO and GPS

Vehicular Antennas

Supplier	Component Images	Frequency (MHz)	Supported Technologies
Abracon		380-500, 824-894, 880-960, 1710-1880, 1850-1990, 1920-2170, 2400-2497, 1572-1610	Bluetooth, Cellular GSM-900, GSM-1800, GSM-1900, UMTS, GPS, GLONASS, WiFi
Pulse - Larsen		698-960, 740-806, 806-866, 824-896, 890-960, 1710-2170, 1850-1990, 2400-2700, 4900-5900	All Cellular Frequencies, WiFi, GPS, GLONASS, Beidou, Compass, Galileo
TE Connectivity		698-960, 1710-2700, 2300-2700, 3300-3800, 4900-5875	All Cellular Frequencies, GPS, GNSS



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