Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Pulse Electronics

Intelligent Solutions

Pulse Product Catalog

Antennas | Automotive Products
Connectors | Ethernet Magnetics
Military/Aerospace Products
Power Magnetics | RF Components

Pulse Electronics is the electronic components partner that helps customers build the next great product by providing the needed technical solutions. Pulse has a long operating history of innovation in magnetics, antennas and connectors, as well as the ability to ramp quickly into high-quality, high-volume production. Pulse collaborates with customers to leverage its design and manufacturing expertise of innovative products to ensure products are delivered on time and on budget. Working closely with third-party manufacturers around the world, Pulse ensures the quality and performance of the latest technology used in its products.

Pulse supports a multinational customer base with local design centers in North America, Europe and Asia. Strategically located support centers enable Pulse's design, marketing, and sales teams to better understand and more readily serve customers' requirements. Product diversity and individual product line growth positions Pulse as one of the largest resources for catalog and custom components, subassembly design, and manufacturing for electronic OEMs, contract manufacturers, and ODMs.

The Company has multiple product lines, ranging from passive components that cover power and signal products used in computing, networking and communications, power conversion, defense, aerospace, automotive, and consumer electronics, home networking; and, antennas for wireless electronic devices, automobiles, and security equipment.

Other products include antennas for mobile devices, discrete connectors, couplers, delay lines, power transformers and inductors for automobiles, as well as for value-added custom assemblies. These products support an array of technical applications and platforms such as Ethernet to 10GBase-T, DSL/HPN/Cable, PoE, VoIP, RF, MIL-STD-1553, AC/DC and DC/DC Power Conversion, wireless telecommunications, Fibre Channel, T1, T3, ISDN, IPTV, CCTV and mobile TV. Pulse markets products through component distributors, regional sales representatives and direct sales managers.

Pulse actively participates in industry standards organizations and alliances such as IEEE, IFF, OIF, CommNexus, MoCA, HD BaseT, MGBase-T and NBase-T. Through ongoing research and development, Pulse continues to receive patents for new and innovative products as well as unique manufacturing processes.

This publication contains an overview of our extensive collection of various catalog products. Help with creating custom and semi-custom designs for all product lines is also available. To help you easily find the parts you need, Pulse offers a Parts Index Search feature and "Application Based Product Selection" on the home page. Access to catalog datasheets, product overviews, and selection guides are available by visiting the Pulse website: www.PulseElectronics.com.

Pulse Electronics

ANTENNAS

Pulse/Larsen is a leading global antenna and wireless solution supplier. As the demand for wireless connectivity flourishes Pulse/Larsen is here with the needed solutions. We offer a unique far-reaching understanding of antenna and RF technology and have become the partner of choice for leading industry innovators. Pulse offers excellent value and outstanding quality products delivered from our high-volume production facilities We offer a wide array of antennas covering 2G/3G/4G LTE , WLAN (WiFi), Zigbee, Bluetooth, GPS/Glonass/Compass, ISM, VHF/UHF, satellite radios, DECT, NFC and other custom applications.

You can rely on Pulse/Larsen to be your trusted antenna partner. We have been in the antenna business over 50 years and have exceeded over 2 Billion antennas shipped during that time. We supply consistent high-quality products by owning and fully controlling our own factories in both China and the United States. On the following pages you will find a sampling of our more popular antennas. For a complete view of our offering visit our website at www.pulseelectronics.com/products/antennas or contact us for a copy of our Antenna Sourcebook catalog.

ANTENNAS FOR EXTERNAL APPLICATIONS

- Radome included - cosmetics may matter.
- Not for outdoor weatherproof environments
- Technology: Dipoles, blades, external patches.
- Cable assemblies or connector options.
- Frequencies: WLAN, 3G/4G LTE, ISM, GPS, Multi-bands.
- Typical applications: Access points, industrial controls, utilities, Internet of Things, M2M, telemedicine, handheld devices, point-of-sale equipment, sensors, lighting, transportation and other devices.

Pulse's new line of wireless access point antennas offers flexible and economical solutions for wireless device OEMs. These antennas offer superior transmission and reception between wireless access points. They are compatible with IEEE 802.11a/b/g/n/ac, Bluetooth, 3G/4G LTE, ZigBee and ISM frequency band applications. All wireless access point antennas are RoHS compliant. For high-volume orders, Pulse can custom design antennas for OEMs. This includes alternative frequencies and a variety of cable and connector options for antenna assemblies. Pulse also manufactures build-to-print internal antennas that feature a variety of stamped metal and PCB configurations.

WiFi (WLAN) Antennas[1,2]				
Part Number	**Frequency**	**Max Gain (dBI)**	**Length (inches/mm)**	**Application/Standard**
W1063	900 MHz	3.0	6.65 /169	ISM 868 & 915 MHz
W1010[3]	2.4 GHz	2.0	3.3/83	802.11b/g/n, Bluetooth, ZigBee
W1030	2.4 GHz	2.0	3.25/82.5	802.11b/g/n, Bluetooth, ZigBee
W1037	2.4 GHz	3.2	6.65/169	802.11b/g/n, Bluetooth, ZigBee
W1038	2.4 GHz	4.9	6.65/169	802.11b/g/n, Bluetooth, ZigBee
W1027	2.4 GHz	3.2	4.88/124	802.11b/g/n, Bluetooth, ZigBee
SB24003	2.4 GHz	2.14	2.5/132	802.11b/g/n, Bluetooth, ZigBee
W1043	2.4 & 5.8 GHz	2.0	4.59/117	802.11b/g/n, Bluetooth, ZigBee
W1028B	5.15 & 5.85 GHz	2.0	4.88/124	802.11a/b/g/n/ac, ISM 5.8 GHz
SPDA17RP2400/5900	2.4 & 4.9 GHz	1.6/5	7/182	ISM 5.8 GHz, Public Safety, 4.9 GHz, 802.11a/b/g/n/ac

1. Antennas *come standard with R-SMA male connectors, unless otherwise specified.*
2. These *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
3. SMA *male connector*

**Antennas for External Applications table is continued on next page*

ANTENNAS

ANTENNAS FOR EXTERNAL APPLICATIONS *(continued)*

Single-Band External Antennas with I-PEX				
Part Number	**Frequency**	**Mechanical Length**	**Cable Length[2]**	**Application/Standard**
W1049B030	2.4GHz	3.25/82.5	3/76	802.11b/g/n, Bluetooth, ZigBee
W1049B050	2.4GHz	3.25/82.5	5/127	802.11b/g/n, Bluetooth, ZigBee
W1049B090	2.4GHz	3.25/82.5	9/229	802.11b/g/n, Bluetooth, ZigBee
W1049B120	2.4GHz	3.25/82.5	12/305	802.11b/g/n, Bluetooth, ZigBee

1. These *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
2. Inches*/millimeters*
3. Max *Gain (2dBi)*

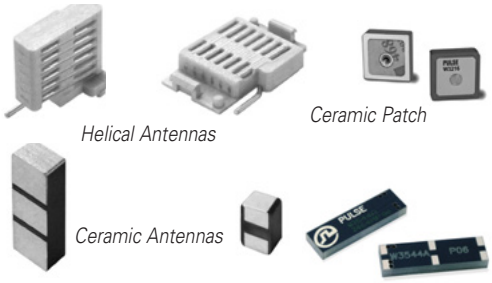
Pulse offers a wide variety of alternative wireless solutions for applications including machine-to-machine, public safety, hand-held radios, and telematics.

3G/4G LTE, ISM, UHF, VHF, GPS						
Part Number	**Frequency (MHz)**	**Gain (dBi)**	**Description**	**Length (in/mm)**	**Coax**	**Connector**
SPDA24918	863-973	0	Swivel Mount Dipole	8 / 202	N/A	SMA Male
W1900; W1902	824-960/ 1710-1990/ 1920-2170	1 / 2 / 2.5	Penta Rt Angle Stubby	2.1 / 49.5	N/A	SMA Male / RP-SMA Male
W1910; W1911	824-960/ 1710-1990 / 1920-2170	1 / 2 / 2.5	Penta Band Stubby	2 / 49	N/A	SMA Male / RP-SMA Male
W4000G197	1.574 GHz	1.5 dBic / 26dB LNA	GPS Ultra Thin	n/a	200 / 5meter	SMA Male
SPDA17RP2400/5900	2400-2500/4900-5900	1.6/5	Swivel Mount Dipole	7/182	N/A	RPTNC
SB450FME3	450-470	2.14	Stealth Blade	10/254	3' RG-174	FME
SB8003	806-896	2.14	Stealth Blade	2.5/132	3' RG-174	No Conn
SB9003	890-960	2.14	Stealth Blade	2.5/132	3' RG-174	No Conn
SPDA24850/1900	824-894/1850-1990	0/1.2	Swivel Mount Dipole	6.75/171	N/A	SMA
SPDA24700/2700	698-960 / 1710-2710 / 2500-2700	.6/1.5/3.4	LTE Swivel Mount Dipole	9 / 228	N/A	SMA Male
SPWB23150	136-174	-4.5	Wideband	6.75/171	N/A	SMA F T3
SPWH23832	782-882	0	Whip, Standard, ¼ Wave	3/76	N/A	SMA F T3
SPHS24832	800-864	0	Helical, Standard, ¼ Wave	3/76	N/A	SMA F T2
SPDA17806/2170LAR	806-960/1710-2170	.5/.5	Pentaband Swivel Mount Dipole	7.5/190.5	N/A	TNC Male
W1920G0915	806-960/1710-2170	1.5	Stealth Blade	4.3/110	3' RG-174	SMA Male
W1920G3658	806-960/1710-2170	1.5	Stealth Blade	4.3/110	9' RG-174	SMA Male

1. *UHF and VHF portable/terminal antennas also available. See full-line Antenna SourceBook Catalog.*

ANTENNAS

ANTENNAS FOR EMBEDDED SURFACE MOUNT APPLICATIONS



Embedded onto / soldered to PCB

- Antenna Technology: Ceramic monopoles, ceramic PIFA, ceramic patch, helical; stamped metal, composite.
- Frequencies: WLAN(Wi-Fi), Zigbee, Bluetooth, ISM, GPS, 3G/4G LTE, Multi bands.
- Applications: OEM equipment, medical devices, security systems, tracking and monitoring devices, handhelds, meter reading, smart devices, sensors, wearables, fitness, beacons, and more.

Pulse offers a wide range of surface mount antennas (SMD) for wireless device applications. Pulse ceramic technology results in robust antenna designs that have outstanding performance. These antennas have an inherent immunity to surrounding antenna signals and hand-effect, which makes them exceptionally suitable solutions for small hand-held or wall-mount devices with multiple antennas. Pulse helical antenna technology provides high-performance antennas in a small package that can be easily deployed. Our composite antennas offer the most frequency bands per embedded technology. These ceramic, helical, and composite antennas require minimal ground plane removal for operation, which means saved board space and economical implementation. The SMD compatibility of Pulse's antenna products makes them simple and easy to mount.

CERAMIC

Application	Part No.	Size[4] (mm)/ Type	Mount Type[3] (mm)	Frequency Range (MHz)	RHCP Gain[5] (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
Zigbee, ISM Monopole	**W3001[5]**	10x3.2x4mm Ceramic	SMD, GC 10.8x6.25	2400 and other	N/A	1.5 (peak)	75/-1.25	-6
WLAN Dualband	**W3006**	10.0x3.2x1.5 Ceramic	SMD, GC area 11.60x6.00	2400–2483.5 5150–5850	N/A	3,2 (peak) 4,2 (peak)	70/-1,55 (peak) 80/-0,95 (peak)	-8 -10
Bluetooth/ WLAN/WiFi	**W3008C**	3.2x1.6x1.1 Ceramic	SMD, GC area 4.00x6.25	2400–2483.5	N/A	2,2 (peak)	75/-1,3 (peak)	-11
GPS	**W3009**	10.0x3.2x4.0 Ceramic	SMD, GC area 10.80x6.25	1575.42 ±10	0.7 (peak) 0.3 (band edges)	3 (peak)	80/-1,25 (peak)	-10
ISM	**W3013**	10x3.2x4 / Ceramic	GC area 10.8x8.25	868-870	–	1.5	65	-11
WiFi & GPS	**W3056**	10x3.2x1.5 / Ceramic	GC area 10.8x6.25 (Notch)	2400-2483.5 / 1575.42	–	3.2 / 2.5	80 / 75	-8 / -10
WiFi & GPS	**W3064C**	10x3.2x1.5 / Ceramic	GC area 10.8x6.4 (Divided)	2400-2483.5 / 1575.42	–	-0.7 / -1	80 / 70	-11 / -15
GPS	**W3213**	13x13x4 / Patch	–	1575.42	-1.5	–	–	-13
GPS	**W3216**	13x13x5 / Patch	–	1575.42	-2	–	60	-7
GPS	**W3099**	25x25x4/ Patch	–	1575.42	3.5	–	–	-14

*1. **All** antennas are RoHS Compliant 2. **Impedance** 50 Ω, operating temperature -40°C to +85°C 3. **GC** = Ground Clearance, mm 4. **Millimeters** (mm)*
*5. **Monopole** antenna performance is linked to different tuning circuit recommendations for the variety of applications. Consult the data sheet for more information*

ANTENNAS

ANTENNAS FOR EMBEDDED SURFACE MOUNTING APPLICATIONS *(continued)*

CERAMIC *(continued)*

Application	Part No.	Size (mm)/ Type	Mount Type[3] (mm)	Frequency Range (MHz)	RHCP Gain (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
GPS/ Glonass & Beidou	W3062A	7X1.6X1.6 / Ceramic	GC area 7.8x5.25	1559-1591 & 1598-1610	0	2.5	80 / -1	-10
Dual Band (EU)	W3070	10x3.2x2/ Ceramic	GC area 40x10	880-960 / 1710-1880	--	1.2 / 2.5	65 / 60	-5.1 / -5.7
Dual WiFi	W3078	3.2x1.6x1.1 / ceramic	GC area 11.15x6.4	2400-2483.5 / 4950-5850	--	1.7 / 4.3	65 / 80	-10 / -6
WiFi & GPS	W3095	10x3.2x1.5 / Ceramic	GC area 17.8x6.45	2400-2483.5 / 4950-5850 / 1559-1610.5	--	2.7/3.7/1.7	85/53/62	-10/-6/-8
ISM, or GPS, or GPS/ Glonass/BD	W3000[5]	7x1.6x1.6 / tuneable monopole	See datasheet	868-870; 1559-1591 & 1598-1610; 1575.4	See datasheet	See datasheet	See datasheet	See datasheet
GPS	W3010	10.0x3.2x2.0 Ceramic	SMD, GC area 10.80x6.25	1575.42 ±10	-0,2 (peak)	2,8 (peak)	75/-1,25 (peak)	-18
GPS	W3011/A	3.2x1.6x1.1 Ceramic	SMD 4x4.25/6.25	1575.42 ±10	0.85 (peak)	3.4 (peak)	85/-0.7 (peak)	-12
ISM 900	W3012	10x3.2x4 Ceramic	SMD GC area 10.80x8.25	868-870	N/A	2 (peak)	70/- 1.55 (peak)	-6
ISM 900 Monopole	W3014[5]	10x3.2x1.5 Ceramic	SMD GC area 40x16	868-870	N/A	1.55 (peak)	45/- 4.5 (peak)	-6
Zigbee, ISM Monopole	W3043[5]	3.2x1.6x1.1 Ceramic	SMD GC area, 17x20	2400, 1575 and other	N/A	4 (peak)	70/-1.55 (peak)	-12

HELICAL

Application	Part No.	Size (mm)/ Type	Mount Type[3] (mm)	Frequency Range (MHz)	RHCP Gain (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
WiFi	W3108	5.0x2.5x5.5 Helical	SMD, GC area 7.50x5.50	2400–2483.5	N/A	1.5	50/-3	-8
GPS	W3110	5.0x2.5x5.5 Helical	SMD, GC area 7.50x5.50	1575.42 ±10	-2,1 (peak) -2,4 (band edges)	1,3 (peak) 0,7 (band edges)	47/-3,3 (peak) 43/-3,7 (band edges)	-16
ISM	W3112A	2.5x8.0x8.0 Helical	SMD, GC area 6.00x11.00	902–928	N/A	0.9 (peak) -0.3 (band edges)	67/-1.7 (peak) 50/-3 (band edges)	-10
ISM	W3113	12.4x8.0x2.5 Helical	SMD, GC area 8.00x40.00	902–928	N/A	0.8 (peak) -0.3 (band edges)	66 /-1.8 (peak) 51/-2.9(band edges)	-10
ISM (315)	W3126	35.35x9.90 / Helical	GC area 8x40	315	N/A	-5	--	-10
ISM (433)	W3127	35.35x9.90 / Helical	GC area 8x40	433-435	N/A	-2.9	--	-15

COMPOSITE

Application	Part No.	Size (mm)/ Type	Mount Type[3] (mm)	Frequency Range (MHz)	RHCP Gain (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
2G/3G	W3544A/B	26x7.65x3 Composite	SMD	824-960/1710-2170	N/A	-1	50%	-6 ave
2G/3G	W3073	10x3.2x4 Composite	SMD	824-894/1710-2170 or 880-960/1710-2170	N/A	2.9	50%	-6 ave
3G / 4G LTE	W3796	40 x 7 x 3	GC area 15 x 40	698 - 2700	N/A	1.5 / 2/ 5.5	55 / 70	-6

1. ***All*** *antennas are RoHS Compliant*
2. ***Impedance*** *50 Ω, operating temperature -40°C to +85°C*
3. ***GC*** *= Ground Clearance, mm*
4. ***Millimeters*** *(mm)*
5. ***Monopole*** *antenna performance is linked to different tuning circuit recommendations for the variety of applications. Consult the data sheet for more information*

ANTENNAS

ANTENNAS FOR INTERNAL APPLICATIONS

- Located inside the device.
- Often connected by a short cable assembly to customer PCB.
- Technology: Flexible printed circuit (FPC), PCB, patch.
- Frequencies: WLAN, Bluetooth, Zigbee, ISM, GPS, 3G/4G LTE, Multi bands.
- Typical applications: Access points, industrial controls, utilities, Internet of Things, M2M, telemedicine, handheld devices, point-of-sale equipment, sensors, lighting, transportation and other devices.

Printed Circuit Board Antenna Solutions

Application	Frequency	Part Number	Mechanical Dimensions (in/mm)	Cable Length (mm) /Connector Type	Gain (dBi)	Efficiency (%/B)
2G / 3G	850/900/1800/1900	W3501	0.98 x 3.43 x .008 25 x 87 x 0.2	56/ I-PEX Connector	1.5 / 1.5 / 3.5 / 3.5	50 to 55 %
2G / 3G	850/900/1800/1901	W3502	1.69 x 0.67 x 0.02 43 x 17 x 0.5	27.5/ I-PEX Connector	2 / 1 / 1 / 2	40 to 60 %
WiFi	2.4 GHz	W3525Bxxx	0.42 x 1.88 x .031 10.7 x 47.7 x 0.8	Various cable lengths/ I-PEX Connector	2	70%
WiFi	2.4 & 5 GHz	W3513	0.63 x 2.76 x 0.04 16 x 70 x 0.9	250/ I-PEXConnector	2	50 to 72 %
WiFi	2.4 & 5 GHz	W3315B0100	0.23 x 1.8in / 6x45 mm	100, IPEX, MHF Series	-3.5 / -2.5	70
3G 4G LTE	698-960 / 1710-2710 / 2300-2700	W3554B0140	120 x 30 x 0.2	143 / IPX	2.5	60%
5 GHz Dipole	4900-5850	W3593B0100	45 x 7 x 0.8	109mm / IPX	2	50%

Antennas for Near Field Communications

Frequency (MHz)*	Part Number	Impedance (Ω)*	Read Distance (mm)*	Size (mm)	SRF (MHz)**	Inductance (µH)**	Resistance (Ω)**	Q **	Matched Q ***
13.56	W3579	50 / 80	40	35 x 50 x 0.30	42	1.6	3.6	37.8	5-30
13.56	W7001	51 / 80	40	25 x 25 x 0.12	100	0.9	1.55	49	5-30
13.56	W7002	52 / 80	40	94.6 x 56.8 x 3.65	89	0.65	0.95	57	5-30
13.56	W7013	53 / 80	20	25 x 30 x 0.23	-	-	-	-	-

** With Matching Network*
*** Coil Without Matching Network*
**** With Matching Network (adjustable range)*

ANTENNAS

DAS PRODUCTS

PIMinator™ Product Family

Ultra-Thin Clear Ceiling Antennas	Pulse Part Number	Freq. (MHz)	PIM Rating, dBc	Connector / Cable
Clarity Family	DASUTCC500NF	608-960/1695-2200/2300-2700MHz, Antenna Only	-155	N Female / 500mm
Clarity Family	DASUTCCR500NF	608-960/1695-2200/2300-2700MHz, with Reflector	-155	N Female / 500mm
Clarity Family	DASUTCC500MD	608-960/1695-2200/2300-2700MHz, Antenna Only	-155	4.1-9.5 Mini-Din Female / 500mm
Clarity Family	DASUTCCR500MD	608-960/1695-2200/2300-2700MHz, with Reflector	-155	4.1-9.5 Mini-Din Female / 500mm
Clarity Family	DASUTCC5004310	608-960/1695-2200/2300-2700MHz, Antenna Only	-155	4.3 -10 Female / 500mm
Clarity Family	DASUTCCR5004310	608-960/1695-2200/2300-2700MHz, with Reflector	-155	4.3 -10 Female / 500mm
Clarity Family	DASUTCCACC1	Reflector	N/A	N/A

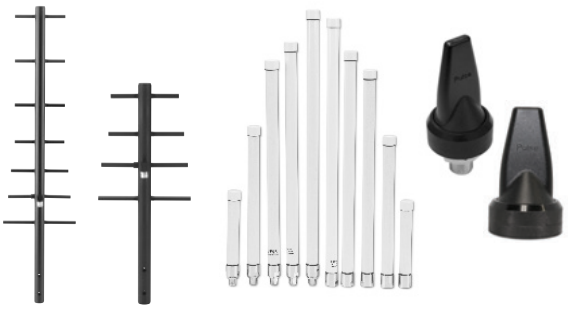
PIMinator™ Product Family

Antennas	Pulse Part Number	Freq. (MHz)	PIM Rating (dBc)	Connector / Cable
MIMO Ceiling Mount	DASLTE500NFMIMO	698-960/1710-2170/2300-2700/4900-5900	-155	N Female / 500mm (2x)
MIMO Ceiling Mount	DAS500MDMIMO	698-960/1710-2170/2300-2700/4900-5900	-155	4.1-9.5 Mini-Din Female / 500mm
SISO Ceiling Mount	DASLTE500NF	698-960/1710-2170/2300-2700/4900-5900	-155	N Female / 500mm
SISO Ceiling Mount	DASLTENF	698-960/1710-2170/2300-2700/4900-5900	-155	N Female / 500mm
SISO Ceiling Mount	DASLTEMINIDIN	698-960/1710-2170/2300-2700/4900-5900	-155	4.1-9.5 Mini-Din Female / 500mm
SISO Ceiling Mount	DASLTEDIN	698-960/1710-2170/2300-2700/4900-5900	-155	DIN 7-16

RF Splitters	Pulse Part Number	Freq. (MHz)	PIM Rating (dBc)	Connector
Power Splitter, 2-Way, 300W	DASSPLIT2WDIN	698-2700	-155	DIN
Power Splitter, 2-Way, 300W	DASSPLIT2WNF	698-2700	-155	N Female
Power Splitter, 3-Way, 300W	DASSPLIT3WNF	698-2700	-155	N Female
Power Splitter, 4-Way, 300W	DASSPLIT4WNF	698-2700	-155	N Female

ANTENNAS

ANTENNAS FOR OUTDOOR APPLICATIONS



- Weatherproof (IP65/67)
- Technology: radome omni, monopole, dipole, Yagi, base station, panel.
- Different mounting options.
- Optional cable assemblies.
- Frequencies: WLAN, ISM, GPS, 3G, 4G, LTE, UHF/VHF, Multi bands.
- Applications: Mesh networks, security smart devices, utilities, tracking, wireless communication, oil & gas exploration, transportation, railroad, and vending.

Pulse offers some of most reliable antennas on the market today. Pulse antennas combine premium materials with high-efficiency designs to deliver antennas with superior mechanical durability and electrical performance. UV, chemical and impact resistant plastic resins help ensure the highest performance for all your mobile applications. "Traditional-style" mobile antennas are available from 27 MHz to 5.9 GHz, as well as many "multi-band" designs. Whether you need communication interoperability, radio communication, data transmission, increased 3G / 4G LTE coverage or GPS tracking, these antennas are the solution.

Infrastructure Solutions

Application	Frequency (MHz)	Part Number	Gain (dBi)	Description	Length (in/mm)	Connector[1]
Cellular/ISM	890 - 960	YA6900W		Fully welded four element Yagi	17.5/444.5	N Female
WiFi	2400 - 2500	RO2408NM	8	Radome Omni	20/508	N Male
Public Safety	4940 - 4990	RO4910NF	10	Radome Omni	18/457	N Female
Upper WiFi ; Amateur Radio	5725 - 5875	RO5810NM	10	Radome Omni	16.5/419	N Male
Upper WiFi; Amateur Radio	5725 - 5875	RO5810NF	10	Radome Omni	16.5/419	N Female
Various	740-806	YA5740W	9 / 11	Fully welded seven element Yagi	32.75 / 831.85	N Female
Various	806-866	YA5800W	9 / 11	Fully welded seven element Yagi	32.75 / 831.85	N Female
2G / 3G	806-960 / 1710-2170	RO8063 / 21704NM	3/4.5	Radome Omni	16.5 / 419.1	Male
2G / 3G	2400-2500 / 4900-5900	SLPT2400 / 5900DMN	4.3 / 5.5	Direct Mount Antenna	3 / 76.2	N Female
2G/3G; WiFi	698-960 / 1710-2170/ 2400-2700	SLPT698 / 2170DMN	4.5 / 5.6 / 4	Mount Antenna	3 / 76.2	N Female
WiFi	2.4 GHz	W5001	1.5	IP65 , Fixed Right Angle Dipole	5.04 / 128	RP-SMA (male)
WiFi	2.4 GHz	W5010	1.5	IP65 , Straight Dipole	5.1 / 130	RP-SMA (male)
WiFi	2.4 GHz	W5011	1.5	IP65 , Straight Dipole	5.1 / 130	SMA (male)
WiFi	2.4 GHz, 5.x Ghz	W5028	2.7 / 3.0	IP65, Fixed Right Angle, Dipole	5.04 / 128	RP-SMA (male)
WiFi	2.4 GHz, 5.x Ghz	W5030	4 / 6	Radome Omni	6.8 / 173	N Male
ISM, 868/915, SRD860	868 - 928 MHz	W5012	2	IP65, Straight Dipole	7.0 / 179	RP-SMA (male)
ISM, 868/915, SRD860	868 - 928 MHz	W5017	2	IP65, Straight Dipole	7.0 / 179	SMA (male)

***1. Variety** of Coax available. Order separately.*

** Table for Infrastructure Solutions, continued on next page. ➔*

ANTENNAS

ANTENNAS FOR OUTDOOR APPLICATIONS *(continued)*

Infrastructure Solutions

Application	Frequency (MHz)	Part Number	Gain (dBi)	Description	Length (in/mm)	Connector[1]
ISM	433, 868-930 MHz	RO3ISMNM	2.0 / 2.5	Radome Omni	21 / 540	N Male
GPS	1.574 GHz	GPSDM02	5 dBic / 28dB LNA	GPS direct feed; 5/8 inch hole	200 / 5 meter	MCX
GPS (Magnet Mt)	1.574 GHz	GPS0010	5 dBic / 26dB LNA	GPS with Magnet Mount	200 / 5 meter	SMA
2G / 3G	1710 - 2170 MHz	RO17102NM	2	Radome Omni	4.5 / 115	N Male
GPS 2G/3G	806-960/1710-2170/1574	W4120GG3000	2.5 / 2.5 / 2	GPS 2G/3G Blade	118 / 3 meter	SMA Male

1. ***Variety*** *of Coax availble. Order separately.*

Vehicular Antenna Solutions[1]

Part Number	Frequency (MHz)	Gain (dBi)	Description	Length (in/mm)	Coax[2]	Connector[3]
NMOWB150C	135-174	2	NMO Wide Band	51.75 /1314	N/A	NMO
NMO450C	450-750	5.6	NMO UHF Field Tunable	33/838	N/A	NMO
LP800NMO	806-960	2	NMO Low Profile	1.25/32	N/A	NMO
GPSNMO	1575.4	5 dBic	GPS NMO Mount	2.9 dia/73.66	N/A	NMO
EF2405NMO	2400-2500	5	NMO Mount Elevated Feed	13/260.4	N/A	NMO
EF4905NMO	4900-5000	5	NMO Mount Elevated Feed	10/254	N/A	NMO
NMO5E2400B	2400-2500	5	NMO Whip	8.54/ 217	N/A	NMO
GPSGMSMA	1575.42	26	Active GPS Glass Mount Antenna	1.18/30	16' 4" RG-174	SMA Male
SLPT698/960NMO	698-960	4.5	LTE External Vehicle or Enclosure NMO Mounted Antenna	3/7.62	N/A	NMO
SLPT2400NMOHF	2400-2500	4.3	2.4 GHz LTE External Vehicle or Enclosure NMOHF Mount Antenna	3/7.62	N/A	NMO
SLPT2400DMN	2400-2500	4.3	2.4 GHz LTE External Vehicle or Enclosure Direct Mount Antenna	3/7.62	N/A	N - Female

1. ***Antennas*** *available in multiple frequencies and mounting options.*
2. ***Variety*** *of coax available. Order separately.*
3. ***Variety*** *of connectors available. Order separately.*
4. ***All*** *NMO antennas require an NMO mount for installation.*

ANTENNAS

ANTENNAS FOR OUTDOOR APPLICATIONS *(continued)*

Vehicular Antenna Solutions

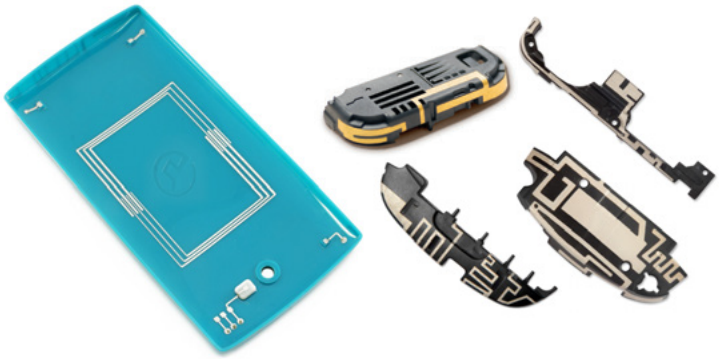
Part Number	Frequency (MHz)	Gain (dBi)	Description	Length (in/mm)	Coax [2]	Connector [3]
GPSDM700/5800SSS	698-960 / 1710-2170 / 2300-2700 / 1575	3 / 6	LTE Multi-band, WiFi, Active GPS	3.5 / 88	17 ft RG58; 17 ft RG58; 17 ft RG174	SMA, SMA, SMA
GPSMB501	Multi-band (See Datasheet)	5 / 5 / 1.5 (31dB LNA)	"MIMO LTE, MIMO WIFI, GPS/Glonass"	"6.0 x6.5 x 3 inch 152 x 165 x 76 mm"	RG58, RG58, RG174	SMA (see datasheet)
GPSMBMM	N/A	N/A	Mag Mount for GPSMB501	N/A	N/A	N/A
NMO150/450/800	50-165/450-470/806-940	-7/0/1	NMO Tri Band [4]	16.5/419	N/A	N/A
MMC/P3EFME	824-960/1850-1990	4/4	Dual Band Magnetic Mount	5/127	RG-58 Low Loss Dual Shield	FME
NMOC/P3E	824-960/1850-1990	4/4	Dual Band NMO Mount [4]	4.7/119	N/A	N/A
GPSCW1502	136-174/1575.4	2.14/5 dBic	Direct Feed Dual Band VHF/GPS Combi Whip	22/558.8	RG-174	SMA/SMB
GPSCW4501/GPWCW4502	406-512/1575.4	2.14/5 dBic	Direct Feed Dual Band UHF/GPS Combi Whip	6.5/165.1	RG-174	SMA/SMA SMA/SMB
GPSCW3E800	806-896/175.4	5/5 dBic	Direct Feed Dual Band GSM/GPS Combi Whip	11.5/292.1	RG-174	N/A
GPSCPXX	824-960/1710-2170/1575.42	2/2/5 dBic	Direct Feed GPS Tri Band	7.6/193	RG-174	Various
GPSCWCPXX	824-960/1710-2170/1575.42	2/2/5 dBic	Roof Mount GPS Tri Band	3.9/99	RG-174	Various
NMOHFGPSXXX	Any NMO mount antenna plus GPS	Dependent on antenna/5dBic	Direct Feed NMO Mount with GPS	202/5130.8	RG-58/RG-174 (GPS)	Various
GPSDM700/2500FFS	698-960/1710-2170/2300-2700/1575.72	3/6	LTE Multi Band/Active GPS Roof Mount Antenna	3.5/88.3	17'RG-58/17'RG-58 /17R-174	FME Female/ FME Female/SMA Male (GPS)
WA700/2700XXX	700-960/1710-1990/2110-2170/2500-2700	2.5/3.5	Omnidiectional Wireless LTE/MIMO Antenna	5.85/149	19.7'RG-174	Various
SLPT698/2170NMOHF	698-906/1710-2170/2400-2700	4.5/5.6/4	LTE Multi Band External Vehicle or Enclosure NMOHF Mount Antenna	3/76.2	N/A	N/A
SLPT2400/5900NMOHF	2400-2500/4900-5900	4.3/5.5	2.4/4.9 GHz Multi Ban External Vehicle or Enclosure NMOHF Mount Antenna	3/76.2	N/A	N/A
SLPT698/2170DMN	698-960/1710-2170/2400-2700	4.5/5.6/4	LTE Multi Band External Vehicle or Enclosure Direct Mount Antenna	3/76.2	N/A	N Female
SLPT2400/5900DMN	2400-2500/4900-5900	4.3/5.5	2.4/4.9 GHz Multi Band External Vehicle or Enclosure Direct Mount Antenna	3/76.2	N/A	N Female

1. ***Antennas*** *available in multiple frequencies and mounting options.*
2. ***Variety*** *of coax available. Order separately.*
3. ***Variety*** *of connectors available. Order separately.*
4. ***All*** *NMO antennas require an NMO mount for installation*

NMO Mounting

Part Number	Description	Cable Length	Coax Type	Connector
NMOKHFUD	NMO Low/High Frequency Mount	17/5.18	RG-58/U Dual Shield, Low Loss Cablew	NO CONN
NMOKHFUDTHK	NMO Low/High Frequency Thick Mount	17/5.18	RG-58/U Dual Shield, Low Loss Cable	NO CONN
NMOMMRNOCONN	NMO Low/High Frequency Magnetic Mount	12/3.66	RG-58 A/U cable	NO CONN
NMOHFGPSNOCONN	Any NMO mount antenna plus GPS	202/5130.8	RG-58 /RG-174(GPS)	NO CONN

1. ***All*** *NMO mounting kits are available with a variety of cables and connectors.*



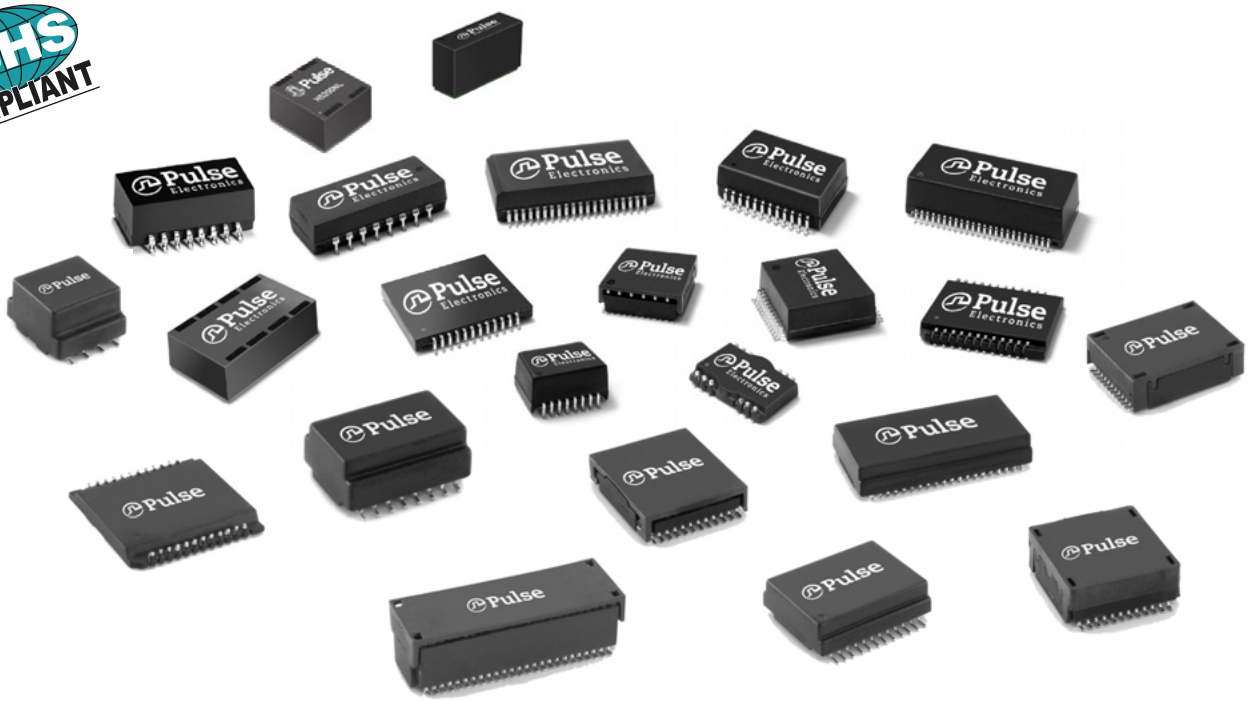
Pulse Mobile Device Antennas Delight End Users

Pulse Electronics boosts appealing mobile devices by providing intelligent antenna design and manufacturing solutions for handsets, tablets, laptops and wearable devices.

Our aim is to optimize antenna radiator and mechanics designs for complex multi-radio environments under all circumstances without limiting the industrial design. The carefully developed Pulse solutions truly delight end users.
Pulse has track-record of delivering antenna solutions to all mobile device segments and categories. Pulse understands fully customers' specific needs and is capable to offer the most suitable total solution to each customized design.
Our wide product range covers standalone antennas, standalone antenna modules and antenna integration to structural and visual mechanics. Pulse utitlizes manufacturing technologies such as Printing on 3D, LDS, Flex, Sheet Metal and Ceramics.

More information: http://www.pulseelectronics.com/products/mobile_device_antennas

ETHERNET MAGNETIC MODULES



Pulse Ethernet Magnetic Modules

Pulse offers comprehensive line of Ethernet Magnetic Modules. Pulse 100/1000/10GBASE-T Modules are optimized for all major LAN transceivers. All modules provide electrical circuit isolation that meets IEEE 802.3, while maintaining signal integrity needed for the most demanding applications. These products are qualified at major PHY suppliers. Pulse manufactures the broadest selection of packaging options, from through hole (THT) SIL devices to the smallest available surface mount (SMT) solution at .078" (1.98 mm). Pulse offers full line of RoHS compliant products.

NOTE: This catalog section serves as an overview to the LAN discrete modules. For detailed data sheets, IC Cross Reference and a complete list of LAN discrete modules, go to the Pulse website home page at www.pulseelectronics.com/product/lan

ETHERNET MAGNETIC MODULES

DISCRETE SMT TRANSFORMER MODULES

Number of Ports	Single				Dual			Quad		
Data Rate	**100Base-TX**	**1GBase-T**	**HDBaseT**	**10GBase-T**	**100Base-TX**	**1GBase-T**	**10GBase-T**	**100Base-TX**	**1GBase-T**	**10GBase-T**
	H0013NL (LP)	H5004NL	HD8004FNL (PoH 60W)	H7008NL (4C)	H1174NL	H5012NL	***	H1060NL	H5400NL (BGA)	***
	H0068ANL (LP)	H5007ENL	HD8005FNL (PoH 100W)	H7018NL (4C)	H1200NL	H5014NL		H1062NL	H5401NL (BGA)	
	H1012NL	H5007NL		H7019NL (4C)	H1270NL	H5020NL		H1164NL	H6400NL (PoE+, BGA)	
	H1081NL	H5008NL		H7028NL	H2009NL (PoE)	H5089NL		H1259NL	HX5400NL (X, BGA)	
	H1100NL	H5015NL		H7029NL (4C)	H2305NL (PoE)	H5200NL (PoE, BGA)		H1664NL	HX5401NL (X, BGA)	
	H1102NL	H5019EFNL (LP)		H7137NL (5C)	H6096NL (PoE+)	H5201NL (BGA)		HX1234NL (X)		
	H1112NL	H5062NL			H6600NL (PoE+, BGA)	H6080NL (PoE)		HX1259NL (X)		
	H1197NL	H5084NL			HX1294NL (X)	H6101FNL (PoE+)				
	H1260NL	H5120NL (LP)			HX1305NL (X)	HX5012NL (X)				
	H1302NL	H5143NL			HX2305NL (X, PoE)	HX5014NL (X)				
	H2019NL (PoE)	H5149NL			HX6096NL (X, PoE+)	HX5020NL (X)				
	H2260NL (PoE)	H5578NL			HX6098NL (X, PoE+)	HX5200NL (X, PoE, BGA)				
	HM1188NL (X, AE)	H5610NL (BGA)				HX5201NL (X, PoE)				
	HM1225NL (X, AE)	H6062NL (PoE)				HX6080NL (X, PoE)				
	HX0068ANL (LP)	H6096NL (PoE+)				HX6101NL (X, PoE+)				
	HX1098NL (X)	H6600NL (PoE+, BGA)								
	HX1148NL (X)	HX5004NL (X)								
	HX1188NL (X)	HX5008NL (X)								
	HX1198NL (X)	HX5009NL (X)								
	HX1217NL (X, IP)	HX5019FNL (X, LP)								
	HX1224NL (X, 4KV)	HX5062NL (X)								
	HX1260NL (X)	HX5084NL (X)								
	HX1302NL (X)	HX5120NL (X, LP)								
	HX1324NL (X)	HX5149NL (X)								
	HX2019NL (X, PoE)	HX5610NL (X, BGA)								
	HX2260NL (X, PoE)	HX6062NL (X, PoE)								
	HX2326NL (X,PoE+)	HX6096NL (X, PoE+)								
		HX5181NL (X)								
		HX5224NL (X,4KV)								

Abbreviations: LP = Low Profile, X = Extended Temperature, PoE = Power over Ethernet, PoE+ = Power over Ethernet Plus, 4C = 4Channel, 5C = 5Channel, BGA = Bump Grid Array
IP = Industrial Protocol, AE = AEC-Q200 Qualified, PoH = Power over HDBaseT, HD = HDBaseT
*** Contact Pulse for availability

RJ45 INTEGRATED CONNECTOR MODULES (ICM)

PulseJack® Integrated Connector Modules

Pulse offers a broad selection of PulseJack RJ45 filtered connectors that integrate ethernet magnetics into RJ45 connectors. In addition to connectivity, they provide signal conditioning, signal isolation, and EMI suppression. All ICM's are designed to meet IEEE 802.3 specification and are qualified at major PHY suppliers. The PulseJack connectors offer a complete family of single and multi-port solutions for high-speed applications, including 100/1000/10GBASE-T, PoE, PoE+ and 4P PoE. Pulse offers full line of RoHS compliant products.

NOTE: This catalog section serves as an overview to the PulseJack Integrated Connector Modules. For detailed data sheets, IC Cross Reference and a complete list of PulseJack ICM's, go to the Pulse website at www.pulseelectronics.com/product/lan.

RJ45 INTEGRATED CONNECTOR MODULES (ICM)

RJ45 Filtered Connectors								
Number of Ports	1x1							
Locking Taps (Up/Down)	Up				Down			
PCB Mounting Type	SMT	THT			SMT	THT		
Data Rate	100Base-TX	100Base-TX	1GBase-T	10GBase-T	100Base-TX	100Base-TX	1GBase-T	10GBase-T
Part Numbers	J3011G21DNL (LED, BST, EMI) J3026G01DNL (LED, BST,) J3026G21DNL (LED, BST, EMI) JX30-0005DNL (LED, BST, EMI)	J0G-0007NL (LED, BST, EMI) J1006F01PNL (LED) J1006F21NL (EMI) J1011F01PNL (LED) J1011F21PNL (LED, EMI) J1012F01CNL (LED) J1012F21CNL (LED, EMI) J1012F21KNL (LED, EMI) J1012F21RNL (LED, EMI) J1026F01NL (LED) J1026F01PNL (LED, EMI) J1026F21CNL (LED, EMI) JD1-0003NL (BST) JD1-0004NL (LED, BST, EMI) JK0-0120NL (LED, EMI) JK0-0125NL (LED, EMI, PoE) JK0-0144BNL (EMI, PoE) JK0-0144NL (LED, EMI, PoE) JX10-0045NL (X, LED, BST, EMI) JXD1-0005NL (X, BST, EMI, POE) JXR1-0001NL (EMI)* JXR1-0005NL* JXR1-0011NL (LED, EMI)* JXR1-0015NL (LED)*	J0G-0001NL (LED, BST, EMI) J0G-0003NL (LED, BST) J0G-0009NL (LED, BST, EMI) J1L-0103NL (0, LED, BST, EMI) JD1-0001NL (LED, BST, EMI) JD1-0002NL (LED, BST, EMI) JK0-0114NL (LED, EMI) JK0-0116NL (LED, EMI) JK0-0117NL (BST, EMI) JK0-0133NL (BST, EMI, PoE) JK0-0136NL (LED, BST, EMI) JK0-0145NL (LED, BST, EMI, PoE) JK0-0161NL (BST, EMI, PoE) JK0-0177NL (LED, BST, EMI, PoE+) JK0-0187NL (LED, BST, EMI,) JK0-0193NL (LED, BST, EMI, PoE) JXD1-0001NL (X, LED, BST, EMI) JXD1-0002NL (X, LED, BST, EMI) JXK0-0136NL (LED, BST, EMI) JXK0-0190NL (LED, BST, EMI, PoE+)	JT7-1104NL (5C, LED, BST, EMI, 4P PoE) JT7-1115NL (5C, LED, BST, EMI, 4P PoE)	J0C-0003NL J0C-0004NL (EMI) J0C-0005NL(BST) J0C-0006NL (BST,EMI) JV006I21NL (EMI) JV011I21NL (BST,EMI) JV026I21NL (BST,EMI)	J00-0014NL (BST) J00-0045NL (LED, BST) J00-0061NL (BST, EMI) J00-0065NL (LED, BST, EMI) J00-0213NL (LED, BST, EMI) JKM-0008NL (LED, BST, EMI) JKM-0009NL (LED, BST) JKM-0010NL (BST, EMI) JKM-0011NL (BST) JKM-0200NL (LED, BST, EMI, PoE+) JKM-0201NL (LED, BST, EMI, 4P PoE+) JX0011D21BNL (X, LED, BST, EMI) JX0011D21NL (X, BST, EMI) JX0026D21BNL (LED, BST, EMI) JX0026D21NL (X, BST, EMI) JXR0-0001NL (BST, EMI)* JXR0-0005NL (BST)* JXR0-0011NL (LED, BST, EMI)* JXR0-0015NL (LED, BST)*	JKM-0001NL (LED, BST, EMI) JKM-0003NL (BST, EMI) JKM-0004NL (LED, BST, EMI) JKM-0004NL (X, LED, BST, EMI) JKM-0013NL (LED, BST, EMI) JKM-0013NL (X, LED, BST, EMI) JT4-1121HL (LED, BST, EMI)	JT3-1101NL (5C, LED, BST, EMI) JT3-1125NL (5C, LED, BST, EMI) JT4-1108HL (5C, LED, BST, EMI) JT4-1109HL (5C, LED, BST, EMI) JT4-1120HL (4C, LED, BST, EMI) JT4-1121HL (4C, LED, BST, EMI) JT4-1173HL (4C, LED, BST, EMI) JTH-0020NL (LED, BST, EMI) JTH-0024NL (LED, BST, EMI)

Abbreviations: LED = Light-Emitting Diode, BST = Bob Smith Termination, EMI = Electromagnetic Interference Shield Tabs, X = Extended Termperature, PoE = Power over Ethernet, PoE+ = Power over Ethernet Plus, LP = Light-Pipe, 4C = 4Channel, 5C = 5Channel, 4P PoE = 4-Pair Power over Ethernet, 0 = offset, SC = Shield Collar

* Pin-in-Past Capable

RJ45 INTEGRATED CONNECTOR MODULES (ICM)

RJ45 Filtered Connectors		
Number of Ports	**1X1**	
PCB Mounting Angle	**Vertical Mount (Top Entry)**	
PCB Mounting Type	**THT**	
Data Rate	**100Base-TX**	**1GBase-T**
Part Numbers	JD2-0010NL (LED, BST) JD2-0011NL (LED, BST) JXD2-0010NL (X, LED, BST) JXD2-0011NL (X, LED, BST) JXD3-0003NL (X, BST, PoE) JXD3-0004NL (X, PoE)	JD3-0001NL JD3-0002NL (LED) JXD3-0001NL (X) JXD3-0002NL (X, LED)

RJ45 Filtered Connectors						
Number of Ports	**1xN (2, 4, 6, 8)**					
Locking Taps (Up/Down)	**Up**			**Down**		
PCB Mounting Type	**THT**			**THT**		
Data Rate	**100Base-TX**	**1GBase-T**	**10GBase-T**	**100Base-TX**	**1GBase-T**	**10GBase-T**
Part Numbers	J1N-0011NL (1x4, PoE, BST, EMI) J1N-0012NL (1x4, EMI) J1N-0013NL (1x4, LED, BST, EMI) JG0-0031NL (1x2, PoE, LED, BST, EMI) JG0-0032NL (1x4, PoE, LED, BST, EMI)	J1N-0003NL (1x4,PoE+,LED,BST,EMI) J1N-0004NL (1x4, PoE+, BST, EMI) J1N-0005NL (1x4, PoE+, BST, EMI) J1N-0006NL (1x4, BST, EMI) J1N-0007NL (1x4, PoE, BST, EMI) J1N-0008NL (1x4, PoE, LED, BST, EMI) JG0-0023NL (1x2, LED, EMI) JG0-0024NL (1x2, LED, EMI) JG0-0025NL (1x4, LED, EMI) JG0-0026NL (1x4, LED, EMI) JG0-0027NL (1x6, LED, EMI) JG0-0028NL (1x8, LED, EMI) JG0-0035NL (1x4, LED, BST, EMI) JG0-0098NL (1x4, LED, BST, EMI) JGL-0001NL (1x2, LED, BST, EMI) JGL-0004NL (1x2, LED, BST, EMI) JX1N-0033NL (1x4, X, PoE+, LED, BST, EMI) JXG0-0098NL (1x4, X, LED, BST, EMI) JXG0-0129NL (1x2, X, LED, BST, EMI)	JT6-1473NL (1x4, 4C, LED, BST, EMI) JT6-1480NL (1x4, 4C, 4P PoE, LED, BST, EMI)	J8064D628ANL (1x2, LED, BST, EMI) J8064D648ANL (1x4, LED, BST, EMI) J8064D668ANL (1x6, X, LED, BST, EMI) J8064D688ANL (1x8, LED, BST, EMI) J8064E62NL (1x2, BST, EMI) J8064E64NL (1x4, BST, EMI) J8064E66NL (1x6, BST, EMI) J8064E68NL (1x8, BST, EMI) JX80-0019NL (1x2, LED, BST, EMI) JX80-0022NL (1x4, X LED, BST, EMI) JX8064D668ANL (1x6, X, LED, BST, EMI) JX8064D688ANL (1x8, X, LED, BST, EMI)	J0N-0011NL (1x4, LED, EMI) J0N-0012NL (1x4, LED, PoE, EMI) J0N-0015NL (1x4, LED, PoE+, EMI)	Contact Pulse for availability

Abbreviations: LED = Light-Emitting Diode, BST = Bob Smith Termination, EMI = Electromagnetic Interference Shield Tabs, X = Extended Termperature, PoE = Power over Ethernet, PoE+ = Power over Ethernet Plus, LP = Light-Pipe, 4C = 4Channel, 5C = 5Channel, 4P PoE = 4-Pair Power over Ethernet, 0 = offset, SC = Shield Collar
* Pin-in-Past Capable

RJ45 INTEGRATED CONNECTOR MODULES (ICM)

RJ45 Filtered Connectors					
Number of Ports	**2xN (1, 2, 4, 6, 8)**				
Locking Taps (Up/Down)	**Up/Down**			**Up/Down**	
PCB Mounting Type	**THT**			**PF**	
Data Rate	**100Base-TX & BST**	**1GBase-T & BST**	**10GBase-T**	**1GBase-T**	**10GBase-T**
Part Numbers	J20-0013NL (2x2, LED, EMI) J20-0114NL (2x4, LED, EMI) J20-0115NL (2x6, LED, EMI) J20-0116NL (2x8, LED, EMI) J0B-0479NL (2x4, PoE, EMI) J0B-3561NL (2x2, PoE, EMI) JX20-0037NL (2x2, X, LED, EMI) JX20-0114NL (2x4, X, LED, EMI) JX20-0115NL (2x6, X, LED, EMI) JX20-0116NL (2x8, X, LED, EMI)	J0B-0364NL (2x4, PoE) J0B-0366NL (2x4, PoE) J0B-0368NL (2x4, PoE) J0B-0384NL (2x4, PoE+) J0B-0386NL (2x6, PoE+) J0B-0388NL (2x8, PoE+) JC0-0131NL (2x4) JC0-0132NL (2x6) JC0-0133NL (2x8) JC0-0351NL (2x2, LED) JC0-1011NL (2x1, LED) JC0-1015NL (2x1) JXB-3041NL (2x4, X, PoE+, LED, EMI) JXC0-0182NL (2x4, X, LED, EMI) JXC0-0351NL (2x2, X, LED, EMI) JXC0-1011NL (2x1, X, LED, EMI) JXC0-1015NL (2x1, X, EMI)	JT5-2270NL (2x2, 4c, LP, SC) JT5-2470NL (2x4, 4c, LP, SC) JT5-2670NL (2x6, 4c, LP, SC) JT5-2853NL (2x8, 5c, LP, SC) JT5-2870NL (2x8, 4c, LP, SC)	Contact Pulse for availability	JT5-2210NL (2x2, 4c, LP, SC) JT5-2410NL (2x4, 4c, LP, SC) JT5-2610CNL (2x6, 4c, LP, SC) JT5-2801NL (2x8, 5c, LP, SC) JT5-2810NL (2x8, 4c, LP, SC)

Abbreviations: LED = Light-Emitting Diode, BST = Bob Smith Termination, EMI = Electromagnetic Interference Shield Tabs, X = Extended Termperature, PoE = Power over Ethernet, PoE+ = Power over Ethernet Plus, LP = Light-Pipe, 4C = 4Channel, 5C = 5Channel, 4P PoE = 4-Pair Power over Ethernet, 0 = offset, SC = Shield Collar

* Pin-in-Past Capable

Pulse Connectors

Pulse is a leader in the design and manufacturing of RJ45, RJ11 and CAT5e connectors. Pulse offers an extensive range of connectors that support a wide variety of applications: networking (SFP+ and SFP cage and connector), server and PC (PCIe, USB, thunderbolt connectors).

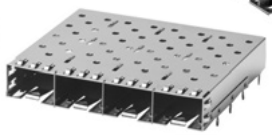
Pulse offers design support for OEM and ODM customers which reduces development time and ensures seamless integration of design, development, production, and time-to-market. With manufacturing sites throughout Asia and a global network of sales offices. Pulse understands the importance of performance and time-to-market and provides excellent worldwide logistics and technical support for local and international customers.

For more information and detailed product data sheets, go to the Pulse website at *http://www.pulseelectronics.com/connectors* or contact your local Pulse sales representative.



SFP+ Cage			
Part Number	SFPP-1130-L	SFPP-1110-L	SFPLP001-L
Number of Ports	1X1	1X1	1X1
Connector Type	SFP+ Cage	SFP+ Cage	Light Pipe for SFP+/SFP Cage
Package	Through Hole	Press Fit	—
For PCI (1° tilt) Option	For PCI	For PCI	Not for PCI



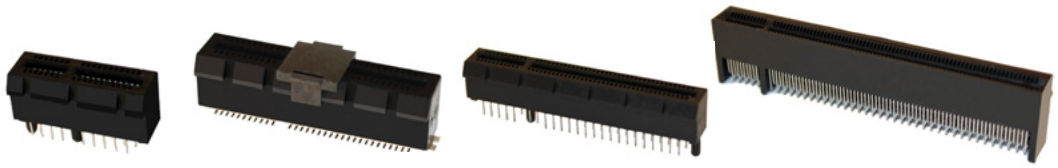

SFP Single and Ganged Cages and SFP Connector					
Part Number	SFPC-2000-L	SFP0-1000-L	SFP0-1010-L	E81M0-WCYJEB-L	SFPCAGE006-L
Number of Ports	1X1	1X1	1X1	1X4	1X10
Connector Type	SFP Connector	SFP Cage	SFP Cage	SFP Cage	SFP Cage
Package	SMT	Press Fit	THT	Press Fit	Press Fit
Solder Temperature	255°C to 265°C 5-10 Seconds	—	255°C to 265°C 5-10 Seconds	—	—
Contact Mating Area Plating	Gold 15 µ"	—	—	—	—

CONNECTOR PRODUCTS

SFP 2XN Stacked					
Part Number	SFP0-3047-L	SFP0-3033-L	SFP0-3020-L	SFP0-3013-L	SFP0-3000-L
Number of Ports	2X1	2X2	2X4	2X6	2X8
Connector Type	SFP Cage & Connector	SFP Cage & Connector	SFP Cage & Connector	SFP Cage & Connector	SFP Cage & Connector
Package	Press Fit	Press Fit	Press Fit	Press Fit	Press Fit
Light Pipe Option	Without Light Pipes	Without Light Pipes	With Light Pipes	Without Light Pipes	With Light Pipes

SFP+ 2XN Stacked					
Part Number	SFPP-3140-L	SFPP-3131-L	SFPP-3120-L	SFPP-3110-L	SFPP-3100-L
Number of Ports	2X1	2X2	2X4	2X6	2X8
Connector Type	SFP+ Cage & Connector	SFP+ Cage & Connector	SFP+ Cage & Connector	SFP+ Cage & Connector	SFP+ Cage & Connector
Package	Press Fit	Press Fit	Press Fit	Press Fit	Press Fit
Light Pipe Option	With Light Pipes	With Inner Light Pipes	With Light Pipes	With Light Pipes	With Light Pipes

CONNECTOR PRODUCTS



PCI Express				
Part Number	E9001-001-01	E9002-002-01	E9001-003-01	E9003-004-02
Number of Pins	36	64	98	164
Package	THT	SMT	THT	THT
PCB Mount Angle	Vertical	Vertical	Vertical	Right Angle

USB 3.0				
Part Number	E8199-002-01	E8199-030-01	E8110-001-01	E8110-032-01
Connector Type	A Type	B Type	Micro-AB	Micro-B
Package	THT	THT	SMT	SMT
PCB Mount Angle	Vertical	Right Angle	Right Angle	Vertical

USB 3.1 Type C Receptical				
Part Number	E8124-001-01	E8124-010-01	E8124-011-01	E8124-015-01
Data Rate	10G	5G	10G	10G
Mid or Top Mount	Mid-Mount	Mid-Mount	Mid-Mount	Top-Mount
Package	SMT	SMT + THT	SMT + THT	SMT + THT
PCB Mount Angle	Right-Angle	Right-Angle	Right-Angle	Right-Angle

RJ Connectors, Single Port, Top Entry, No Shield				
Part Number	E5266-000032-L	E5288-300042-L	E5288-P00B74-L	E5288-7007S2-L
Number of Positions	6	8	8	8
Number of Contacts	6	8	8	8
Package	THT	THT	SMT	SMT
Panel Stop	YES	NO	NO	YES
Contact Mating Area Plating	Gold 6 µ"	Gold 6 µ"	Gold 30 µ"	Gold 6 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds



RJ Connectors, Shielded, Top Entry			
Part Number	E5288-320044-L	E5288-32G145-L	E5288-YCCB01-L
Number of Positions	8	8	8
Number of Contacts	8	8	8
Number of Ports	1X1	1X8	2X4
Package	THT	THT	THT
Contact Mating Area Plating	Gold 30 µ"	Gold 50 µ"	Gold 3 µ"
Solder Temperatue	230˚ C to 240˚ C 5-10 Seconds	230˚ C to 240˚ C 5-10 Seconds	230˚ C to 240˚ C 5-10 Seconds



RJ Connectors, Single Port, Side Entry, Surface Mount (SMT)			
Part Number	E5344-002-03-L	E5366-FH05Y4-L	E5388-EH05Y2-L
Number of Positions	4	6	8
Number of Contacts	4	6	8
Tab	Down	Down	Down
Shield Option	No Shield	No Shield	No Shield
Contact Mating Area Plating	Gold 30 µ"	Gold 30 µ"	Gold 6 µ"
Solder Temperature	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Second	255°C to 265°C 5-10 Seconds



RJ Connectors, Multi-Port, 1XN, Side Entry, Through Hole (THT)			
Part Number	E5608-00C062-L	E5608-25C345-L	E5908-15A2J4-L
Number of Positions	10	10	10
Number of Contacts	8	8	8
Number of Ports	1X4	1X4	1X2
Tab	Down	Down	Down
Shield Option	No Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 6 µ"	Gold 50 µ"	Gold 30 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

CONNECTOR PRODUCTS

RJ Connectors, Multi-Port, 2XN, Side Entry, Through Hole (THT)			
Part Number	E5908-0T0343-L	E5908-1VA143-L	E5908-0TG3U4-L
Number of Positions	10	10	10
Number of Contacts	8	8	8
Number of Ports	2X1	2X2	2X8
Shield Option	No Shield	Nickel Shield	No Shield
Contact Mating Area Plating	Gold 15 µ"	Gold 15 µ"	Gold 30 µ"
Solder Temperature	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds

RJ Connectors, Side Entry with LEDs, Through Hole (THT)					
Part Number	E5J88-34L022-L	E5J88-44AJ22-L	E5J88-14CJD2-L	E5J88-A4LJB4-L	E5J88-C4C2B2-L
Number of Positions	8	8	8	8	8
Number of Contacts	8	8	8	8	8
Number of Ports	1X1	1X2	1X4	2X1	2X1
LED Option	Green & Yellow	Green/Yellow & Green/Yellow	Yellow & Green	Green & Green	Green & Yellow
Tab	Up	Up	Up	—	—
Shield Option	Nickel Shield	Nickel Shield	Nickel Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"	Gold 30 µ"	Gold 6 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

RJ Connectors, CAT. 5, Through Hole (THT)					
Part Number	E6588-200124-L	E6588-600P22-L	E6588-WA0B44-L	E6588-G5P124-L	E6588-A79124-L
Number of Positions	8	8	8	8	8
Number of Contacts	8	8	8	8	8
Number of Ports	1X1	1X1	1X1	2X2	2X4
LED Option	No LEDs	Green & Yellow	Green/Yellow & Green	No LEDs	No LEDs
Shield Option	No Shield	No Shield	Nickel Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 30 µ"	Gold 6 µ"	Gold 30 µ"	Gold 30 µ"	Gold 30 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-1 0 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds

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