Antennas Brochure

End-to-end IoT Development & Manufacturing

www.miotsolutions.com

MIOT ANTENNAS

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About MIOT

End-to-end antenna and RF design, tailored to specific applications.

MIOT is a one-stop IoT solution provider delivering end-to-end antenna solutions from concept design to mass production.
With deep expertise in antenna engineering, RF integration, and device manufacturing, we support customers throughout the entire product lifecycle—ensuring optimal RF performance, mechanical compatibility, and production reliability. Our antenna services cover feasibility analysis, antenna selection and placement, multi-antenna optimization, prototyping, and manufacturing support.

By combining antenna design with system-level IoT expertise, MIOT helps customers reduce development risks, shorten time-to-market, and achieve reliability, cost-effective wireless performance across diverse IoT applications.

1

Concept & Definition

- Antenna feasibility study and system-level RF architecture
- Performance target definition and risk analysis

2

Design & Optimization

- Antenna type selection (PCB / FPC / external / embedded)
- Antenna placement and enclosure integration
- Multi-antenna (MIMO / diversity) design and tuning

3

Validation & Prototyping

- PCB layout and Gerber file review
- Antenna prototyping and performance verification

4

Manufacturing & Delivery

- Tooling and molding support
- Assembly guidance and production RF testing
- Volume production readiness and delivery

Internal Antennas | 5G Antennas

L-5NA1

Muilti-band 5G / LTE Ultra-thin FPC Adhesive Antenna



Key Features

- Wide bands antenna
- High reliability / sensitivity
- Ultra-thin form factor
- Adhesive mounting flexible

Electrical Specifications

Frequency (MHz)	698~960, 1710~4000
Technology	5G, LTE, WCDMA & WIFI
Peak Gain	3.0 dBi
VSWR	≤ 2.5
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	U.FL
Dimensions (mm)	85×14.5×0.2
Cable length (mm)	100mm (standard)
IP rating	-

L-5MA1

Muilti-band 5G / LTE SMD Chip Antenna



Key Features

- Wide bands antenna
- Wide application
- Compact size & easy to intergrate

Electrical Specifications

Frequency (MHz)	700-960, 1710-2690, 3400-3800
Technology	5G, LTE, WCDMA & WIFI
Peak Gain	3.5 dBi
VSWR	2.1-2.8
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	SMD
Connector type	-
Dimensions (mm)	25×7×3
Cable length (mm)	-
IP rating	-

Internal Antennas | 4G(LTE) Antennas

L-2FA6

4G(LTE)/3G/2G ultra-thin FPC Adhesive Antenna



Key Features

- Multi-band antenna
- High reliability / sensitivity
- Ultra-thin form factor
- Adhesive mounting flexible

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2500-2690
Technology	LTE, LPWA/NB-IoT/Cat-X-Mx-NBx/3G/2G
Peak Gain	5 dBi
VSWR	1.1-2.1
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	U. FL (standard)
Dimensions (mm)	99×22
Cable length (mm)	150
IP rating	-

L-2FB7

4G(LTE)/3G/2G ultra-thin FPC Adhesive Antenna



Key Features

- Multi-band antenna
- High reliability / sensitivity
- Ultra-thin form factor
- Adhesive mounting flexible

Electrical Specifications

Frequency (MHz)	698-960, 1710-2690
Technology	LTE, LPWA/NB-IoT/Cat-X-Mx-NBx/3G/2G
Peak Gain	6.0 dBi
VSWR	1.1-2.3
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	U.FL (standard)
Dimensions (mm)	96×21
Cable length (mm)	100
IP rating	-

L-4MA9

LTE SMD Chip Antenna



Key Features

- Wide bands antenna
- Compact form factor
- Ground plane dependent

Electrical Specifications

Frequency (MHz)	700-960, 1710-2170, 2500-2690
Technology	LTE, GSM/GPRS/EDGE, CDMA2000, UMTS
Peak Gain	-1.4 dBi
VSWR	-
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	SMD
Connector type	-
Dimensions (mm)	40×8×3
Cable length (mm)	-
IP rating	-

L-5MA3

Compact LTE SMD Chip Antenna



Key Features

- Wide bands antenna
- High reliability / sensitivity
- Compact form factor
- RoHS & Reach compliant

Electrical Specifications

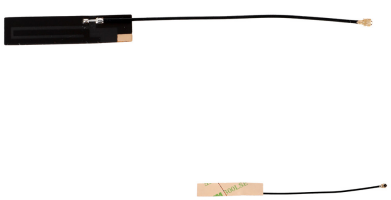
Frequency (MHz)	698-806, 824-960, 1710-2200, 2300-2690
Technology	LTE / WCDMA & WIFI
Peak Gain	3.9 dBi
VSWR	-
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	SMD
Connector type	-
Dimensions (mm)	42×10×3
Cable length (mm)	-
IP rating	-

M-2FA5

LoRa Ultra-thin FPC Antenna



Key Features

- Ultra-thin form factor
- Low VSWR
- IPEX connector with cable, or Solder direct

Electrical Specifications

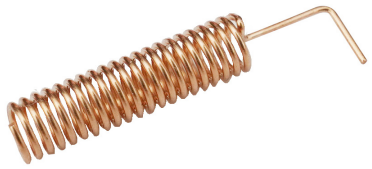
Frequency (MHz)	900-930
Technology	ISM (LoRa)
Peak Gain	2 dBi
VSWR	≤ 2.0
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	IPEX
Dimensions (mm)	45×10×0.2
Cable length (mm)	100
IP rating	-

S-2RA3

433 MHz Internal Helical Spring Antenna



Key Features

- Compact & sleek size
- Low VSWR
- Customization required

Electrical Specifications

Frequency (MHz)	433
Technology	ISM (LoRa)
Peak Gain	2.0 dBi
VSWR	1.0
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Soldering
Connector type	-
Dimensions (mm)	19×5 (OD)
Cable length (mm)	-
IP rating	-

S-4RA1

868 & 915 Dual Band LoRa Chip Antenna



Key Features

- Dual band antenna
- High performance
- Compact form factor

Electrical Specifications

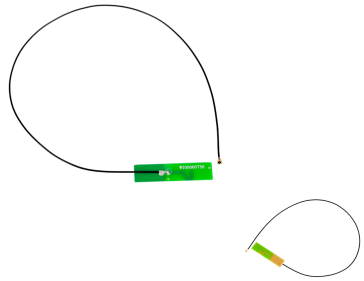
Frequency (MHz)	850~880, 902~928
Technology	ISM (LoRa)
Peak Gain	4.2 dBi
VSWR	< 2.0
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	SMD
Connector type	-
Dimensions (mm)	7×2×2
Cable length (mm)	-
IP rating	-

W-2FA1

Dual-band Wi-Fi Rigid PCB Antenna



Key Features

- Dual band Wi-Fi antenna
- High reliability / sensitivity
- Easy integration
- RoHS compliant

Electrical Specifications

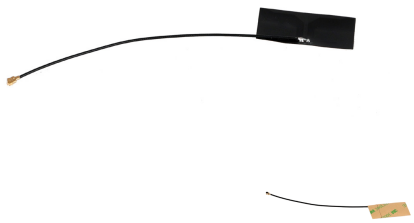
Frequency (MHz)	2410-2490, 5749-5900
Technology	2.4G / 5G Wi-Fi
Peak Gain	2 dBi
VSWR	1.5
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	IPEX I
Dimensions (mm)	51×13
Cable length (mm)	100
IP rating	-

W-2FA3

2.4GHz/5GHz Dual-band Wi-Fi FPC Antenna



Key Features

- Dual-band Wi-Fi antenna
- High performance
- Ultra-thin form factor
- Flexible mounting

Electrical Specifications

Frequency (MHz)	2410-2490, 5749-5900
Technology	2.4G / 5G Wi-Fi
Peak Gain	5.3 dBi
VSWR	1.6 (2.4 GHz) / 2.1 (5.8 GHz)
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	IPEX
Dimensions (mm)	40×18×0.2
Cable length (mm)	120
IP rating	-

W-2RD1

Tri-band 2.4G/5G/6E Wi-Fi FPC Antenna



Key Features

- Tri-band Wi-Fi antenna
- High reliability / sensitivity
- Compact size & easy to install
- Ideal for MIMO

Electrical Specifications

Frequency (MHz)	2410-2490, 5150-7125
Technology	Wi-Fi 2.4G / 5G/6E
Peak Gain	4.5 dBi
VSWR	1.6 (2.4 GHz) / 1.5 (5.8 GHz & 6E)
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	IPEX 4
Dimensions (mm)	41×13×0.2
Cable length (mm)	120
IP rating	-

G-2RE1

GNSS Ceramic 15×15×4mm Antenna



Key Features

- High performance
- Compact Size & easy to integrate
- Ceramic material
- Customization available

Electrical Specifications

Frequency (MHz)	1561, 1575, 1602
Technology	GPS/GLONASS/QZSS/Galileo
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specifications

Mounting type	DIP
Connector type	-
Dimensions (mm)	15×15×4
Cable length (mm)	-
IP rating	-

G-2RE3

GNSS Ceramic 25×25×4mm Antenna



Key Features

- High performance
- Compact Size & easy to integrate
- Ceramic material
- Ground plane dependent

Electrical Specifications

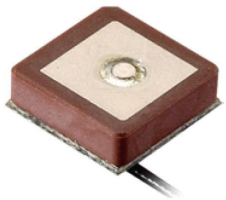
Frequency (MHz)	1561, 1575, 1602
Technology	GPS/GLONASS/QZSS/Galileo
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specifications

Mounting type	DIP
Connector type	-
Dimensions (mm)	25×25×4
Cable length (mm)	-
IP rating	-

G-2RE7

GNSS Ceramic Active Antenna with LNA



Key Features

- LNA with 22 ± 2 dB gain
- Compact Size & easy to integrate
- Ceramic material
- Customization available

Electrical Specifications

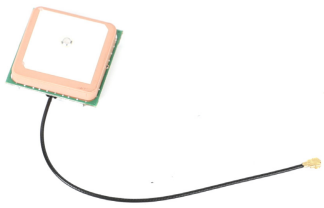
Frequency (MHz)	1575.42
Technology	GPS/GLONASS/QZSS/Galileo
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specifications

Mounting type	-
Connector type	IPEX I (default)
Dimensions (mm)	13×13×7
Cable length (mm)	100 (default)
IP rating	-

G-2RE8

GNSS Ceramic Active Antenna with LNA



Key Features

- LNA with 28 ± 2 dB gain
- Compact Size & easy to integrate
- Ceramic material
- Customization available

Electrical Specifications

Frequency (MHz)	1561, 1602
Technology	GPS/GLONASS/QZSS/Galileo
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specifications

Mounting type	-
Connector type	IPEX I (default)
Dimensions (mm)	25×25×9
Cable length (mm)	100 (default)
IP rating	-

G-2RF1

GPS/GLONASS/BeiDou/Galileo PCB Adhesive Antenna



Key Features

- High performance
- Compact Size & easy to integrate
- Slim PCB material

Electrical Specifications

Frequency (MHz)	1561, 1575, 1602
Technology	GPS/GLONASS/QZSS/Galileo
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specif ications

Mounting type	Adhesive
Connector type	IPEX I
Dimensions (mm)	38.5×6×1
Cable length (mm)	120
IP rating	-

G-2RW3

GPS/GLONASS/QZSS/Galileo SMD Chip Antenna



Key Features

- Ultra-compact & light (<2.5g)
- Easy to integrate
- Fiberglass material

Electrical Specifications

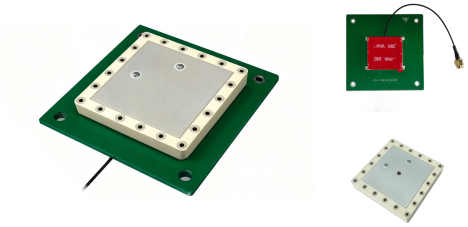
Frequency (MHz)	1561, 1575, 1602
Technology	GPS/GLONASS/QZSS/Galileo
Peak Gain	2.5 dBi
VSWR	1.2
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specifications

Mounting type	SMD
Connector type	-
Dimensions (mm)	12×4×3
Cable length (mm)	-
IP rating	-

G-2RK8

GNSS/Iridium/NTN Ceramic Patch Antenna



Key Features

- Support GNSS/Iridium/NTN
- High performance
- Easy to install

Electrical Specifications

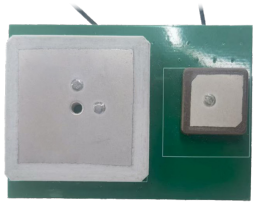
Frequency (MHz)	1525-1606, 1616.5-1660.5
Technology	GNSS, Iridium, NTN n255
Peak Gain	5.4 dBi
VSWR	1.1-2.0
Polarization	RHCP
Radiation pattern	Directional

Mechanical Specif ications

Mounting type	Welding
Connector type	RF 1
Dimensions (mm)	80×80×4
Cable length (mm)	149
IP rating	-

G-2LG1

GNSS/Iridium/NTN Ceramic Patch Antenna



Key Features

- Support GNSS/Iridium/NTN
- High performance
- Easy to install

Electrical Specifications

Frequency (MHz)	1518-1606, 1616.5-1660.5, 1668-1675
Technology	GNSS, Iridium, L-Band
Peak Gain	4.0 dBi
VSWR	1.5-1.7
Polarization	RHCP
Radiation pattern	Hemispherical

Mechanical Specifications

Mounting type	Welding
Connector type	IPEX I
Dimensions (mm)	40×40×4 & 18×18×4
Cable length (mm)	50
IP rating	-

L-5RA3

5G Multi-band Hinged Monopole Blade Antenna



Key Features

- Multi-band antenna
- High performance
- Hinged connector

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	6.0 dBi
VSWR	1.7-4.0
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	SMA male
Dimmensions (mm)	195×26×13
Cable length (mm)	-
IP rating	-

L-5RA4

5G Multi-band Pole-mounted Panel Antenna





Key Features

- Multi-band antenna
- High performance
- Easy to install
- Hinged connector

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	7.8 dBi
VSWR	1.6-3.7
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Pole mounting
Connector type	SMA male
Dimmensions (mm)	297×210×65
Cable length (mm)	-
IP rating	-

L-5RA5

5G Multi-band Peel-and-stick Base Antenna



Key Features

- High performance
- Easy to install
- Multi-band antenna
- Full directional radiation surface

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	7.0 dBi
VSWR	≤ 3.7
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Magnetic
Connector type	SMA male
Dimmensions (mm)	88 (H)×30 (Ø)
Cable length (mm)	1000
IP rating	-

L-5RS5

5G Multi-band Hinged Monopole Blade Antenna





Key Features

- High performance
- Easy to install
- Multi-band antenna

Electrical Specifications

Frequency (MHz)	700-960, 1710-2170, 2400-5000
Technology	5G, LTE, 3G, Wi-Fi
Peak Gain	3.5 dBi
VSWR	2.0-4.0
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	SMA Male
Dimensions (mm)	190×16×10
Cable length (mm)	-
IP rating	-

L-5RA6

5G Multi-band Hinged Monopole Blade Antenna



Key Features

- Multi-band antenna
- High performance
- Hinged connector

Electrical Specifications	
Frequency (MHz)	698-960, 1710-2170, 2400-5000
Technology	5G, LTE, 3G, Wi-Fi
Peak Gain	7.6 dBi
VSWR	1.6-5.0
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA
Dimensions (mm)	158×17.6
Cable length (mm)	-
IP rating	-

L-5RA7

5G Multi-band Fiberglass Antenna



Key Features

- Multi-band antenna
- IP rating: 66
- Fiber-Reinforced Plastic material
- Rugged enclosure

Electrical Specifications	
Frequency (MHz)	700-960, 1710-2170, 2300-2690, 3000-5000
Technology	5G, LTE, 3G, Wi-Fi
Peak Gain	2.0 dBi
VSWR	2.0-2.5
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	N Male
Dimmensions (mm)	320 (H)×20 (Ø)
Cable length (mm)	-
IP rating	66

L-5RA8

5G Multi-band Hinged Blade Antenna



Key Features

- Multi-band antenna
- High performance
- Hinged connector

Electrical Specifications	
Frequency (MHz)	698-960, 1710-2170, 2400-5000
Technologies	5G, LTE, 3G, Wi-Fi
Peak Gain	4.5 dBi
VSWR	1.3-4.6
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	170×42×13
Cable length (mm)	-
IP rating	-

L-1RA6

LTE/3G/2G/Wi-Fi Multi-band Hinged Monopole Whip Antenna



Key Features

- Multi-band antenna
- Easy to install
- Hinged connector

Electrical Specifications	
Frequency (MHz)	824-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	2.8 dBi
VSWR	1.3-5.4
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	208 (H)×14 (Ø)
Cable length (mm)	-
IP rating	55

L-1RA3

LTE/3G/2G/Wi-Fi Multi-band Hinged Monopole Blade Antenna



Key Features

- Multi-band antenna
- High performance
- Hinged connector

Electrical Specifications	
Frequency (MHz)	824-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	3.1 dBi
VSWR	≤ 2.0
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	Connector
Connector type	SMA Male
Dimmensions (mm)	221 × 27.5
Cable length (mm)	-
IP rating	-

L-1RA7

Multi-band Hinged Whip Antenna



Key Features

- Multi-band antenna
- High performance
- Easy to install
- Hinged connector

Electrical Specifications	
Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	5.2 dBi
VSWR	1.6-2.5
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	115 (H)×11 (Ø)
Cable length (mm)	-
IP rating	66

L-1RA8

Multi-band Hinged Whip Antenna



Key Features

- Multi-band antenna
- High performance
- Easy to install
- Hinged connector

Electrical Specifications	
Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	5.0 dBi
VSWR	1.5-3.2
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	154 (H)×13 (Ø)
Cable length (mm)	-
IP rating	55

L-1RA9

Multi-band Magnetic Base Antenna



Key Features

- Multi-band antenna
- Easy to install
- Longer cable

Electrical Specifications	
Frequency (MHz)	824-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	0.25 dBi
VSWR	1.7-2.2
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	Magnetic
Connector type	SMA Male
Dimmensions (mm)	176 (H)×30 (Ø)
Cable length (mm)	1500
IP rating	-

L-1RA10

Multi-band Whip Antenna



Key Features

- Multi-band antenna
- High performance
- Easy to install

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2500-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	5.9 dBi
VSWR	1.5-2.6
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	115 (H)×10 (Ø)
Cable length (mm)	-
IP rating	-

L-1RB4

Multi-band Waterproof Whip Antenna



Key Features

- Multi-band antenna
- High performance
- IP 67 waterproof

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	6.6 dBi
VSWR	1.4-1.8
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	88 (H)×10 (Ø)
Cable length (mm)	-
IP rating	67

L-1RB5

Multi-band Adhesive Antenna





Key Features

- Multi-band antenna
- High performance
- Easy to install
- Ground plane independent

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	4.0 dBi
VSWR	1.1-1.8
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Adhesive
Connector type	SMA Male
Dimmensions (mm)	116×22
Cable length (mm)	3000
IP rating	55

L-1RC4

Multi-band Magnetic Suction Antenna



Key Features

- High performance
- Easy to install
- Multi-band antenna
- Magnetic suction base

Electrical Specifications

Frequency (MHz)	698-960, 1710-2170, 2400-2690
Technologies	LTE, 3G, Wi-Fi
Peak Gain	6.0 dBi
VSWR	1.0-3.1
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Magnetic
Connector type	SMA Male
Dimmensions (mm)	233 (H)×16 (Ø)
Cable length (mm)	3000
IP rating	-

M-1RA1

Sigfox (915MHz) Hinged Whip Antenna



Key Features

- High performance
- Supports Sigfox (915MHz)
- Hinged connector

Electrical Specifications	
Frequency (MHz)	900-930
Technologies	ISM (Sigfox)
Peak Gain	2.5 dBi
VSWR	1.7
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	208×14
Cable length (mm)	-
IP rating	55

M-1RA2

GSM (2G) Quad-band Whip Antenna



Key Features

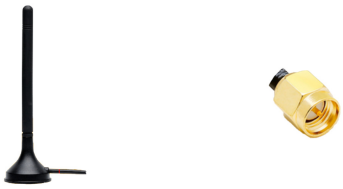
- Multi-band antenna
- High performance
- Easy to install

Electrical Specifications	
Frequency (MHz)	824-960, 1710-1990
Technologies	GSM
Peak Gain	2.8 dBi
VSWR	1.4-4.0
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	50 (H)×8 (Ø)
Cable length (mm)	-
IP rating	55

S-1RA2

LoRa (433 MHz) Magnetic Suction Antenna



Key Features

- High performance
- Easy to install
- Magenetic suction base

Electrical Specifications	
Frequency (MHz)	433
Technologies	ISM (LoRa)
Peak Gain	3.5 dBi
VSWR	1.7
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	Magnetic
Connector type	SMA Male
Dimmensions (mm)	110 (H)×30 (Ø)
Cable length (mm)	-
IP rating	-

S-1RW9

High Gain 915 MHz Outdoor Fiberglass Antenna



Key Features

- High gain of 10.0 dBi
- IP67 waterproof
- Fiberglass material

Electrical Specifications	
Frequency (MHz)	900-930
Technologies	ISM (Sigfox 915 MHz)
Peak Gain	10.0 dBi
VSWR	≤1.2
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	N Male
Dimmensions (mm)	1510 (H)×28.5 (Ø)
Cable length (mm)	-
IP rating	66

W-1RA1

Dual-band Dual-feed Whip Antenna



Key Features

- Multi-band antenna
- High performance
- Hinged connector

Electrical Specifications

Frequency (MHz)	2400-2500, 4920-5925
Technologies	2.4G / 5G Wi-Fi
Peak Gain	6.0 dBi
VSWR	1.1-1.8
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	IPEX I
Connector type	SMA Male
Dimmensions (mm)	172 (H)×13 (Ø)
Cable length (mm)	210
IP rating	55

W-1RA3

Dual-band Button Antenna



Key Features

- Multi-band antenna
- High performance
- Easy to install
- Hinged connector

Electrical Specifications

Frequency (MHz)	2400-2500, 5150-5850
Technologies	2.4G / 5G Wi-Fi
Peak Gain	6.1 dBi
VSWR	1.2-1.8
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Threaded stud
Connector type	SMA Male
Dimmensions (mm)	18 (H)×46.5 (Ø)
Cable length (mm)	1000
IP rating	66

W-1RA5

2.4GHz Hinged Whip Antenna



Key Features

- High performance
- Easy to install
- Hinged connector

Electrical Specifications

Frequency (MHz)	2400-2500
Technologies	2.4G Wi-Fi
Peak Gain	3.0 dBi
VSWR	≤1.8
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	88 (H)×10 (Ø)
Cable length (mm)	-
IP rating	55

W-1RA6

Dual-band Hinged Whip Antenna



Key Features

- High performance
- Dual-band antenna
- Easy to install

Electrical Specifications

Frequency (MHz)	2400-2500, 4920-5925
Technologies	2.4G / 5G Wi-Fi
Peak Gain	2.5 dBi
VSWR	1.2-1.9
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	168 (H)×13 (Ø)
Cable length (mm)	-
IP rating	55

External Antennas | Wi-Fi Antennas

W-1RB5

2.4GHz Hinged Whip Antenna



Key Features

- Hinged connector
- High performance
- Easy to install

Electrical Specifications	
Frequency (MHz)	2400-2500
Technologies	2.4G Wi-Fi
Peak Gain	1.3 dBi
VSWR	≤1.8
Polarization	Vertical
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	RP-SMA Male
Dimmensions (mm)	88 (H)×10 (Ø)
Cable length (mm)	-
IP rating	-

W-5RA8

Tri-band Hinged Blade Antenna



Key Features

- Tri-band antenna
- High performance
- Easy to install
- Hinged connector

Electrical Specifications	
Frequency (MHz)	2400-2500, 5150-5850, 5925-7125
Technologies	2.4 GHz / 5 GHz / 6 GHz Wi-Fi
Peak Gain	4.6 dBi
VSWR	≤1.8
Polarization	Linear
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	-
Connector type	SMA Male
Dimmensions (mm)	170×42×13
Cable length (mm)	-
IP rating	-

External Antennas | GNSS Antennas

G-1RK2

Active GNSS Button Antenna



Key Features

- LNA with 28 ± 2 dB gain
- High reliability & sensitivity
- Easy to install

Electrical Specifications	
Frequency (MHz)	1176, 1561, 1575.42, 1602
Technologies	GPS / Galileo / QZSS / GLONASS / BeiDou
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Omnidirectional

Mechanical Specifications	
Mounting type	Magnetic / Adhesive
Connector type	SMA or others
Dimmensions (mm)	48×48×19
Cable length (mm)	3000 (default) / Cusom
IP rating	67

G-1RK5

Active GNSS Button Antenna



Key Features

- LNA with 30 ± 3 dB gain
- High reliability & sensitivity
- Easy to install

Electrical Specifications

Frequency (MHz)	1176, 1561, 1575.42, 1602
Technologies	GPS / Galileo / QZSS / GLONASS / BeiDou
Peak Gain	2.0 dBi
VSWR	≤2.0
Polarization	RHCP
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Magnetic / Adhesive
Connector type	SMA or others
Dimmensions (mm)	67×67×21
Cable length (mm)	Custom
IP rating	67

G-1RW1

Active GNSS Button Antenna



Key Features

- LNA with 28 dB gain
- High reliability & sensitivity
- Easy to install

Electrical Specifications

Frequency (MHz)	1176, 1561, 1575.42, 1602
Technologies	2.4G Wi-Fi
Peak Gain	3.0 dBi
VSWR	1.6-1.8
Polarization	RHCP
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Magnetic / Adhesive
Connector type	SMA or others
Dimmensions (mm)	45×36×15
Cable length (mm)	1000 (default)
IP rating	66

G-1RE8

Active GNSS Button Antenna





Key Features

- LNA with 28 ± 2 dB gain
- High reliability & sensitivity
- Easy to install

Electrical Specifications

Frequency (MHz)	1575.42, 1602
Technologies	GPS / Galileo / QZSS / GLONASS / BeiDou
Peak Gain	3.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Magnetic
Connector type	SMA or others
Dimmensions (mm)	49×38×17
Cable length (mm)	1000 (default) / Custom
IP rating	67

G-1GA1

Active Iridium Antenna



Key Features

- LNA with 26 ± 1 dB gain
- High reliability & sensitivity
- Easy to install

Electrical Specifications

Frequency (MHz)	1616-1626.5
Technologies	Iridium L-band
Peak Gain	2.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	Omnidirectional

Mechanical Specifications

Mounting type	Magnetic / Adhesive
Connector type	SMA or others
Dimmensions (mm)	14 (H)×80 (Ø)
Cable length (mm)	Custom
IP rating	66

D-1RC3

Active GNSS/LTE Combo Antenna



Key Features

- GNSS/LTE combo antenna
- LNA with 26 ± 1 dB gain
- Wide-band LTE
- Dual-band GNSS
- Compact size, easy to install
- High reliability & sensitivity

Electrical Specifications (GNSS)	
Frequency (MHz)	1575.4 – 1576.44
Technology	GPS / Galileo / QZSS / GLONASS / BeiDou
Peak Gain	5.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	-
Electrical Specifications (LTE)	
Frequency (MHz)	698~960,1710~2170,2500~2700
Technology	LTE
Peak Gain	4.4 dBi
VSWR	1.5-2.1
Polarization	Vertical
Radiation pattern	Omnidirectional
Mechanical Specifications	
Mounting type	Threaded stud
Connector type	SMA or others
Dimensions (mm)	48.5 (H)×50 (Ø)
Cable length (mm)	1000 (default) / Custom
IP rating	66

D-1RC4

Active GNSS/LTE Combo Antenna



Key Features

- GNSS/LTE combo antenna
- LNA with 28 ± 2 dB gain
- Wide-band LTE
- Multi-constellation
- Compact size, easy to install
- High reliability & sensitivity

Electrical Specifications (GNSS)	
Frequency (MHz)	1575.42 – 1615.5
Technology	GPS / Galileo / QZSS / GLONASS / BeiDou
Peak Gain	2.0 dBi
VSWR	1.5
Polarization	RHCP
Radiation pattern	-
Electrical Specifications (LTE)	
Frequency (MHz)	698~960,1710~2170,2500~2700
Technology	LTE
Peak Gain	2.0 dBi
VSWR	<3.0
Polarization	Linear
Radiation pattern	Omnidirectional
Mechanical Specifications	
Mounting type	Adhesive
Connector type	SMA/FAKRA or others
Dimensions (mm)	16 (H)×84 (Ø)
Cable length (mm)	Custom
IP rating	66

D-1RS5U

Active GNSS/LTE Combo Antenna



Key Features

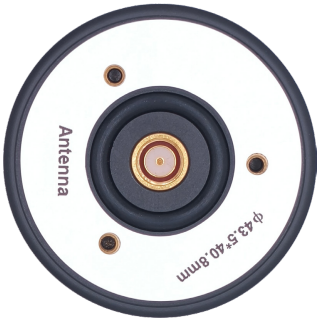
- GNSS/LTE combo antenna
- LNA with 20 ± 2 dB gain
- Wide-band LTE
- Multi-constellation GNSS
- Easy to install
- High reliability & sensitivity

Electrical Specifications (GNSS)	
Frequency (MHz)	1561-1575
Technology	GPS / Galileo / BeiDou
Peak Gain	2.0 dBi
VSWR	1.8
Polarization	RHCP
Radiation pattern	-
Electrical Specifications (LTE)	
Frequency (MHz)	700~960,1710~2170,2500~2700
Technology	LTE
Peak Gain	5.0 dBi
VSWR	2.0
Polarization	Linear
Radiation pattern	Omnidirectional
Mechanical Specifications	
Mounting type	Adhesive
Connector type	SMA or others
Dimensions (mm)	25 (H)×85 (Ø)
Cable length (mm)	500 (default) / Custom
IP rating	-

G-1RK6

Multi-Band GNSS & L-band Quadrifilar Helix Antenna





Key Features

- Multi-band GNSS & L-band
- Quadrifilar helix design
- High gain LNA
- Easy to install

Electrical Specifications

Frequency (MHz)	1164 – 1300, 1518 – 1675
Technology	GPS / BDS / GLONASS / Galileo, L-band
Peak Gain	-
VSWR	1.1-1.2
Polarization	Linear
Radiation pattern	Ominidirectional

Mechanical Specifications

Mounting type	Screw-mounted
Connector type	SMA
Dimensions (mm)	40.8 (H)×43.5 (Ø)
Cable length (mm)	-
IP rating	-

G-1N25

NTN L-Band Screw Mount Passive External Antenna





Key Features

- Low-tilt angle
- High Performance
- IP67-Rated Environmental Protection
- Easy to install

Electrical Specifications

Frequency (MHz)	TX: 1626.5–1660.5; RX: 1525–1559
Technology	NTN L-Band
Peak Gain	2.0
VSWR	≤2.0
Polarization	RHCP
Radiation pattern	Ominidirectional

Mechanical Specifications

Mounting type	Screw-mounted
Connector type	SMA Male
Dimensions (mm)	60.30 (Ø) × 45.00 (H)
Cable length (mm)	50.0±5
IP rating	67

Accessories

A-1RA3

SMA-KWE RF Connector, SMA Female



Brief Specifications	
Impedance	50 Ω
VSWR	≤1.3 (DC–3GHz), ≤1.5 (3–6GHz)
insulation Resistance	200 MΩ
Voltage Rating	60V AC
Withstand Voltage	200V AC
Insertion Loss	≤0.15dB
Housing	Brass gold plated

A-1RC7A

N Male to SMA Female RF Cable



Brief Specifications	
Cable Type	LMR200 Coaxial Cable
Length	10,000 ± 50 mm
Impedance	50 ± 3 Ω
Return Loss	≥ 20 dB
Shielding Effectiveness	≥ 90 dB
Operating Temperature	-40°C to +85°C
Compliance	RoHS / RoHS II Compliant

A-1RD1

IPEX MHF1 to SMA Female Bulkhead Straight Connector Cable



Brief Specifications	
Frequency Range	0–6 GHz
Impedance	50 Ω
Insertion Loss	≤1.5 dB (1M)
Cable Type	RG1.13 Coaxial Cable
Cable Length	100 / 120 / 150 / 200 mm
Operating Temperature	-40°C to +85°C

A-1RD4

IPEX MHF4 to SMA Female Bulkhead Straight Connector Cable

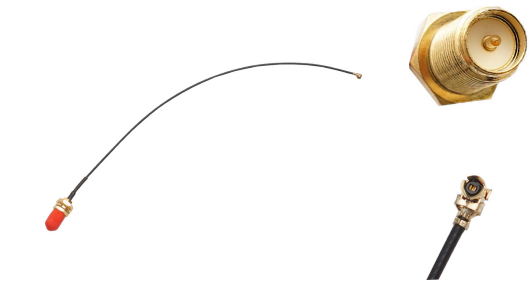


Brief Specifications	
Frequency Range	0–6 GHz
Impedance	50 Ω
Insertion Loss	≤1.5 dB (1M)
Cable Type	RG1.13 Coaxial Cable
Cable Length	Customizable
Operating Temperature	-40°C to +85°C

Accessory

A-1RE1

IPEX MHF1 to RP-SMA Female Bulkhead Straight Connector Cable



Brief Specifications	
Frequency Range	0–6 GHz
Impedance	50 Ω
Insertion Loss	≤1.5 dB (1M)
Cable Type	RG1.13 Coaxial Cable
Cable Length	Customizable
Operating Temperature	-40°C to +85°C

A-1RK1

TS5 to SMA Female Bulkhead Straight Connector Cable



Brief Specifications	
Frequency Range	0–6 GHz
Impedance	50 Ω
Insertion Loss	-
Cable Type	RG174 Coaxial Cable
Cable Length	Customizable
Operating Temperature	-10°C to +70°C

A-1RW1

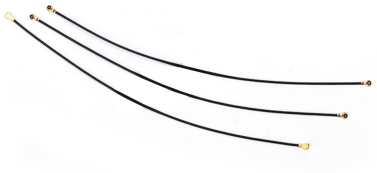
IPEX MHF1 to IPEX MHF1 Bulkhead RF Cable



Brief Specifications	
Frequency Range	0–6 GHz
Impedance	50 Ω
Insertion Loss	≤1.5 dB (1M)
Cable Type	RG1.13 Coaxial Cable
Cable Length	Customizable
Operating Temperature	-40°C to +85°C

A-1RW4

IPEX MHF4 to IPEX MHF4 Bulkhead Straight Connector Cable



Brief Specifications	
Frequency Range	0–6 GHz
Impedance	50 Ω
Insertion Loss	≤1.5 dB (1M)
Cable Type	RG0.81 Coaxial Cable
Cable Length	Customizable
Operating Temperature	-40°C to +85°C



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