

GSM Antennas Series

KLS1-GSM-01

Specification:

Frequency : 800/900/1800/1900 MHz

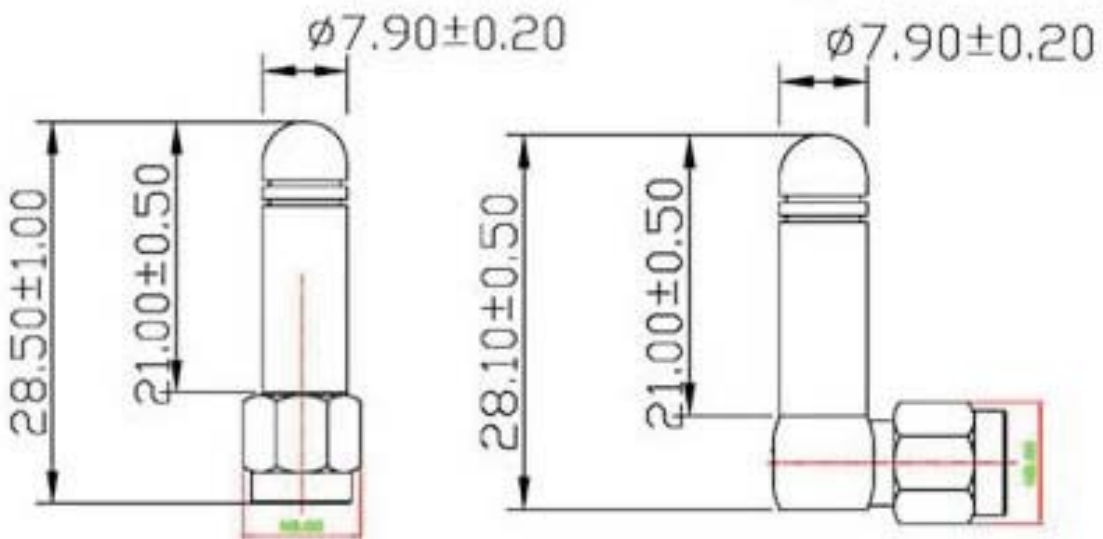
Gain : 1.5dBi

VSWR ≤2.0:1

Impedance : 50 ohm

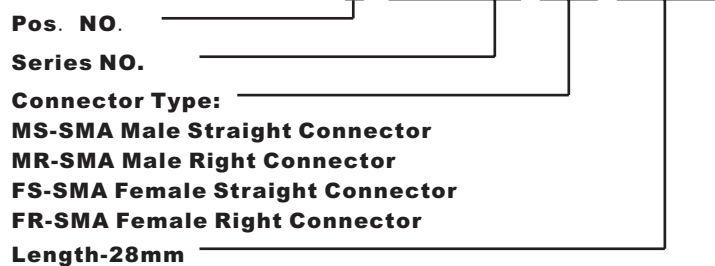
Standard Connector : SMA

Operating Temperature : -40°C to +80°C



ORDER INFORMATION

Product No. : KLS1-GSM-01-MS-28MM



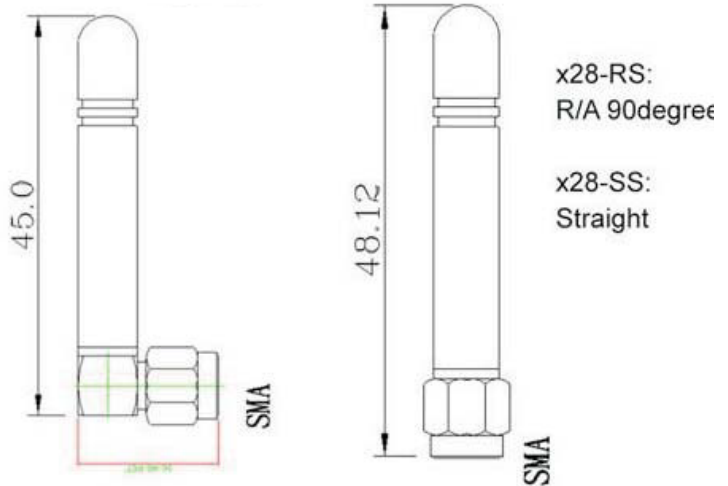


GSM Antennas Series

KLS1-GSM-02

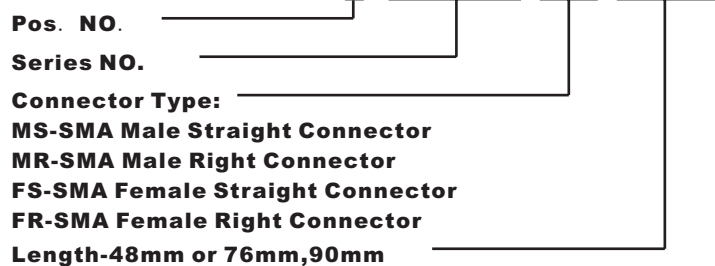
Specification:

Frequency : 800/900/1800/1900 MHz
 Gain : 2.15-3dBi
 VSWR ≤2.0:1
 Impedance : 50 ohm
 Standard Connector : SMA
 Operating Temperature : -40 C to +80 C



ORDER INFORMATION

Product No. : KLS1-GSM-02-MS-48MM





GSM Antennas Series

KLS1-GSM-04

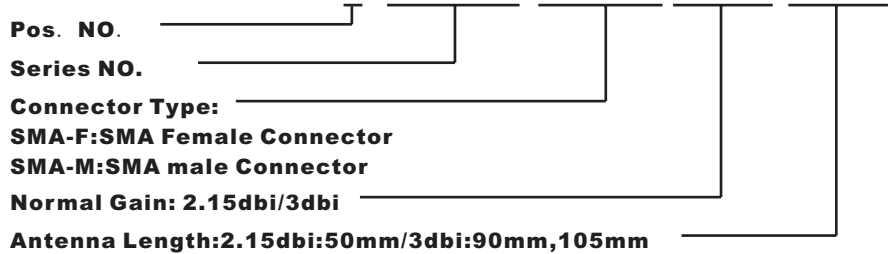
Specification:

Frequency : 800/900/1800/1900MHz
Gain : 2.15-3dBi
VSWR \leq 2.0:1
Impedance : 50 ohm
Standard Connector : SMA
Operating Temperature : -40 C to +80 C



ORDER INFORMATION

Product No. : KLS1-GSM-04-SMA-F-3DBI-90MM





GSM Antennas Series

KLS1-GSM-05

Specification:

Frequency : 800/900/1800/1900MHz

Gain : 3.5dBi

VSWR \leq 1.5:1

Impedance : 50 ohm

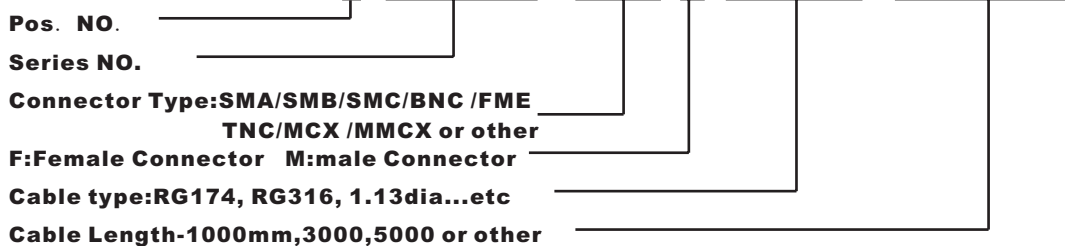
Standard Connector : SMA

Operating Temperature : -40 C to +80 C



ORDER INFORMATION

Product No. : KLS1-GSM-05-SMA-F-RG174-1000MM





GSM Antennas Series

KLS1-GSM-06

Specification:

Frequency : 800/900/1800/1900MHz

Gain : 3.0dBi

VSWR \leq 1.5:1

Impedance : 50 ohm

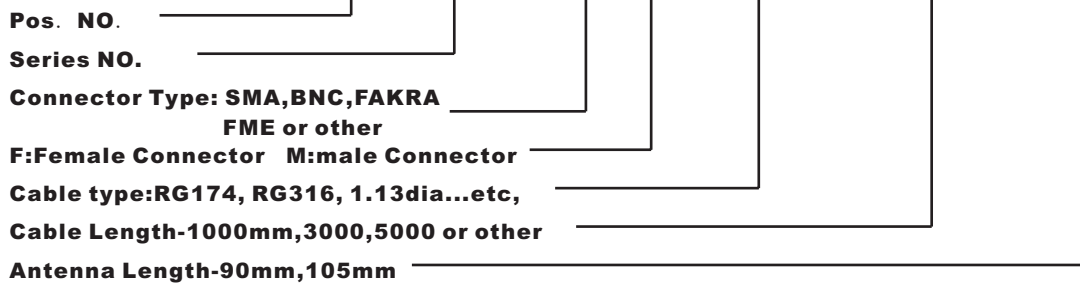
Standard Connector : SMA

Operating Temperature : -40 C to +80 C



ORDER INFORMATION

Product No. : KLS1-GSM-06-SMA-F-RG174-1000MM-90MM





GSM Antennas Series

KLS1-GSM-07

Specification:

Frequency : 800/900/1800/1900MHz

Gain : 3.0dBi

VSWR \leq 1.5:1

Impedance : 50 ohm

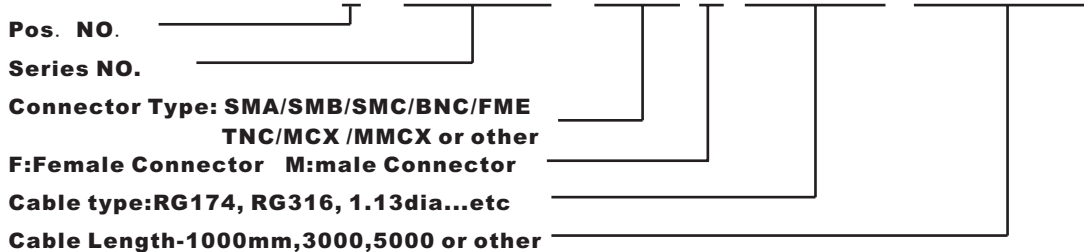
Standard Connector : SMA

Operating Temperature : -40 C to +80 C



ORDER INFORMATION

Product No. : KLS1-GSM-07-SMA-F-RG174-1000MM





Wifi Antenna 2.4/5.2/5.8GHz Series

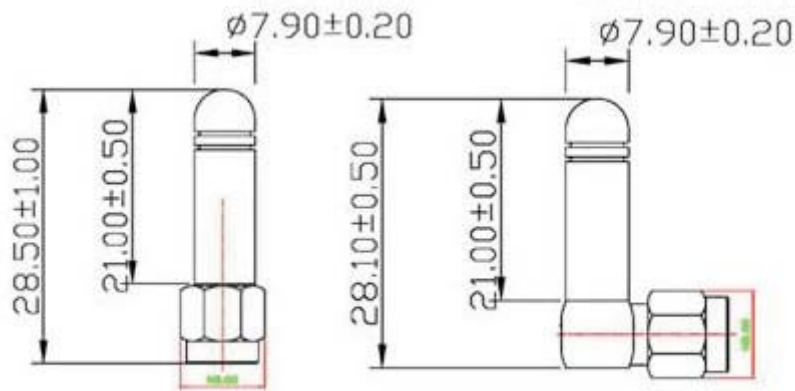
KLS1-WIFI-2.4G-01 WIFI 2.4GHz Dipole Antenna Series

ELECTRICAL SPECIFICATION:

- Antenna Type: Monopole Antenna
- Frequency Range: 2.4GHz
- VSWR: ≤1.5:1
- Impedance: 50ohm nominal
- Normal Gain: 2-3dBi
- Return Loss: 17 dB
- Max. Power: 50W
- Electrical Wave: 1/4

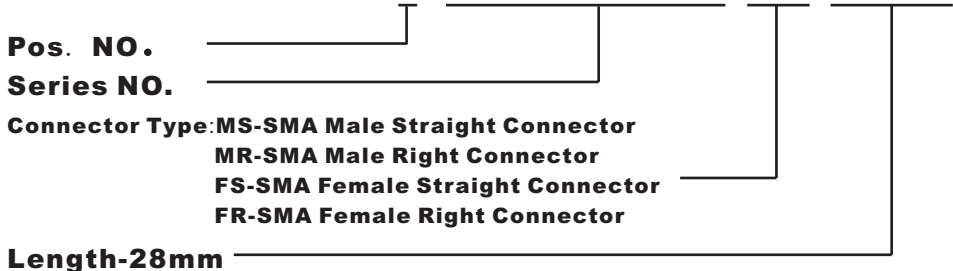
MECHANICAL SPECIFICATION:

- Antenna Cover: PU
- Color: Black
- Operation Temperature: -40°C~+80°C



ORDER INFORMATION

Product No. : KLS1-WIFI-2.4G-02-MS-28MM





Wifi Antenna 2.4/5.2/5.8GHz Series

KLS1-WIFI-2.4G-02 WIFI 2.4GHz Dipole Antenna Series

ELECTRICAL SPECIFICATION:

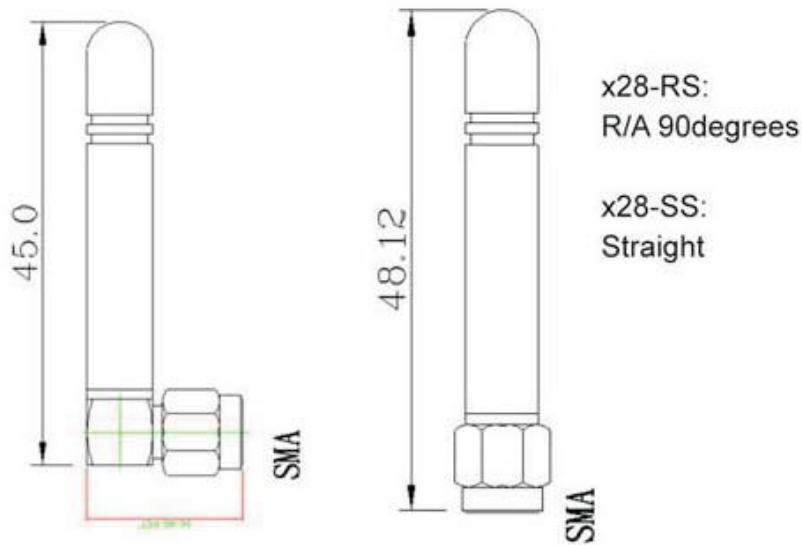
- Antenna Type: Dipole Antenna
- Frequency Range: 2.4GHz
- VSWR: $\leq 1.5:1$
- Impedance: 50ohm nominal
- Normal Gain: 2-3dBi
- Return Loss: 17 dB
- Max. Power: 50W
- Electrical Wave: 1/4

MECHANICAL SPECIFICATION:

- Antenna Cover: PU
- Color: Black
- Operation Temperature: -40°C~+80°C

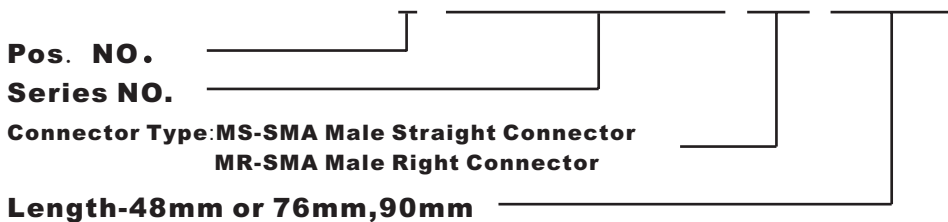
Other available Frequency:

- 2.4/5GHz
- 900/1800MHz
- 800/1900MHz
- Quad Bands 850/900/1800/1900MHz
- 318MHz
- 433MHz
- Can adjust to other frequency for OEM projects



ORDER INFORMATION

Product No. : KLS1-WIFI-2.4G-02-MS-48MM





Wifi Antenna 2.4/5.2/5.8GHz Series

KLS1-WIFI-2.4G-03 WIFI 2.4GHz Dipole Antenna Series

ELECTRICAL SPECIFICATION:

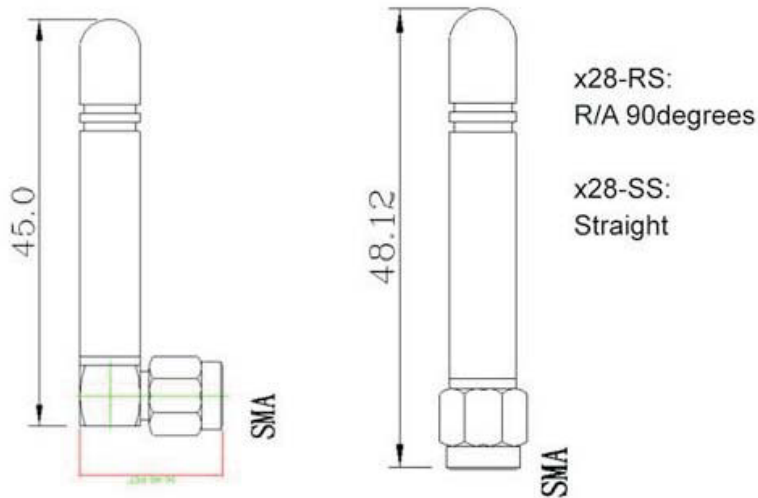
- Antenna Type: Dipole Antenna
- Frequency Range: 2.4GHz
- VSWR: $\leq 1.5:1$
- Impedance: 50ohm nominal
- Normal Gain: 2-3dBi
- Return Loss: 17 dB
- Max. Power: 50W
- Electrical Wave: 1/4

MECHANICAL SPECIFICATION:

- Antenna Cover: PU
- Color: Black
- Operation Temperature: -40°C~+80°C

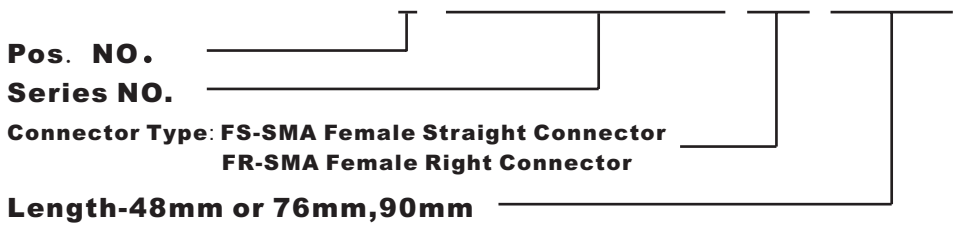
Other available Frequency:

- 2.4/5GHz
- 900/1800MHz
- 800/1900MHz
- Quad Bands 850/900/1800/1900MHz
- 318MHz
- 433MHz
- Can adjust to other frequency for OEM projects



ORDER INFORMATION

Product No. : KLS1-WIFI-2.4G-02-MS-48MM





Wifi Antenna 2.4/5.2/5.8GHz Series

KLS1-WIFI-2.4G-04 WIFI 2.4GHz Dipole Antenna Series

ELECTRICAL SPECIFICATION:

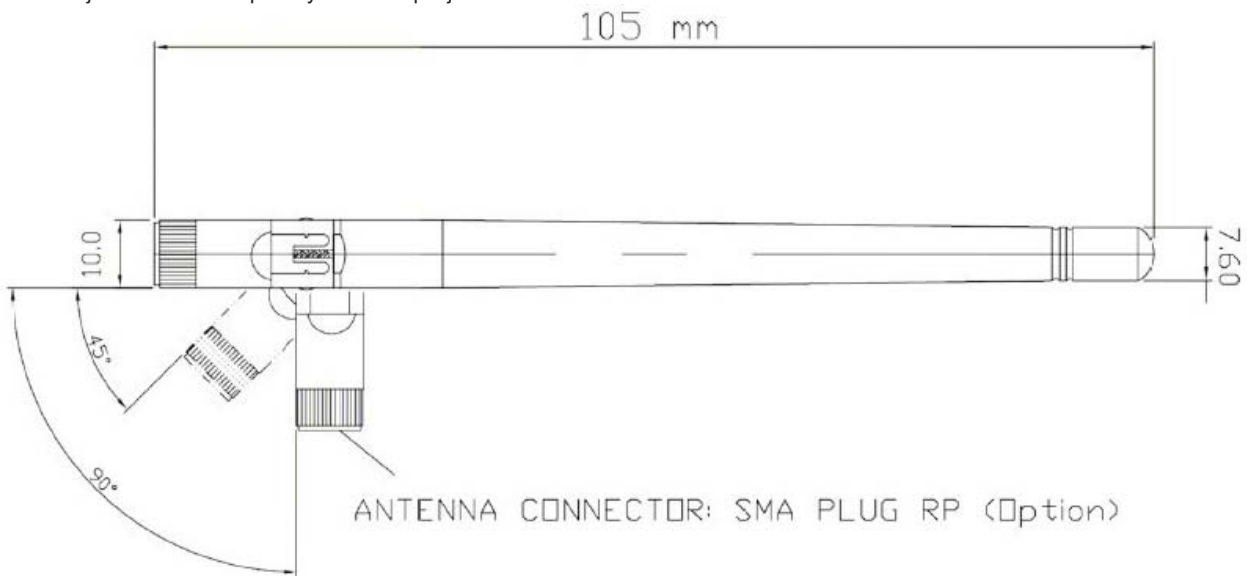
- Antenna Type: Dipole Antenna
- Frequency Range: 2.4GHz
- VSWR: $\leq 1.5:1$
- Impedance: 50ohm nominal
- Normal Gain: 2-3dBi
- Return Loss: 17 dB
- Max. Power: 50W
- Electrical Wave: 1/4

MECHANICAL SPECIFICATION:

- Antenna Cover: PU
- Color: Black
- Operation Temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$

Other available Frequency:

- Tri-Band: 2.4/5.2/5.8GHz (2.4~2.5GHz & 4.9~5.825GHz)
- 5.2GHz
- 900/1800MHz
- 800/1900MHz
- Single Band in 800MHz, 900MHz, 1800MHz or 1900MHz
- 433MHz
- Can adjust to other frequency for OEM projects



ORDER INFORMATION

Product No. : KLS1-WIFI-2.4G-04-SMA-F-3DBI-90MM

Pos. NO.				
Series NO.				
Connector Type:	SMA-F:SMA Female Connector			
	SMA-M:SMA male Connector			
Normal Gain:	3dbi,5dBi,7dBi,9dBi			
Antenna Length:	3dbi:90mm,105mm/5dBi:195mm,235mm			
	7dBi:260mm/9dBi:295mm,433mm			

All specification & dimensions are subject to change, Please call your nearest KLS sales representative for update information



Wifi Antenna 2.4/5.2/5.8GHz Series

KLS1-WIFI-2.4G-05 WIFI 2.4GHz PCB Antenna

ELECTRICAL SPECIFICATION

- Antenna Type: PCB Antenna
- Frequency Range: 2.4-2.5GHz
- VSWR: $\leq 1.5:1$
- Impedance: 50ohm nominal
- Normal Gain: 3.5 dBi
- Type of Radiation: Omni
- Electrical Wave: 1/4
- Connector: SMA,BNC,TNC,FME,MMCX, MCX,IPEX...etc, and custom by customer demands
- Cable Length:RG174, RG316, 1.13dia...etc, and custom by customer demands
- OEM/ODM Spec is welcome!

MECHANICAL SPECIFICATION:

- Antenna Cover: PU
- Color: Black
- Operation Temperature: $-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$

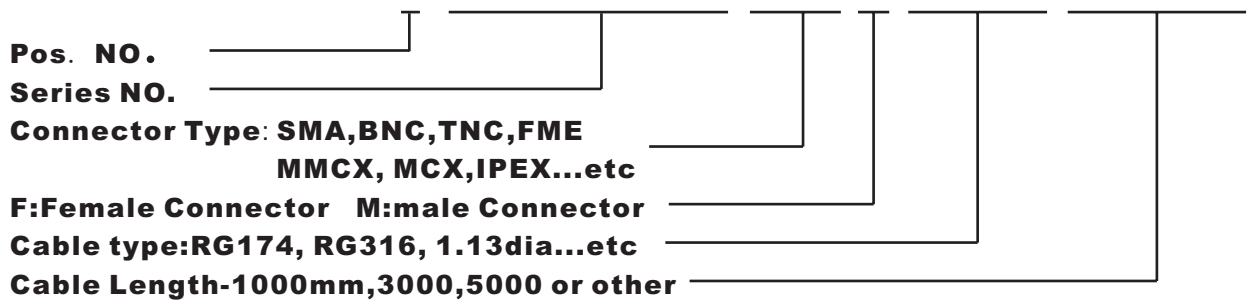
Other available Frequency:

- GSM/CDMA Quad bands
- 2.4/5GHz
- Can adjust to other frequency for OEM projects



ORDER INFORMATION

Product No. : KLS1-WIFI-2.4G-05-SMA-F-RG174-1000MM





Wifi Antenna 2.4/5.2/5.8GHz Series

KLS1-WIFI-2.4G-06 WIFI 2.4GHz Diopole Antenna

ELECTRICAL SPECIFICATION

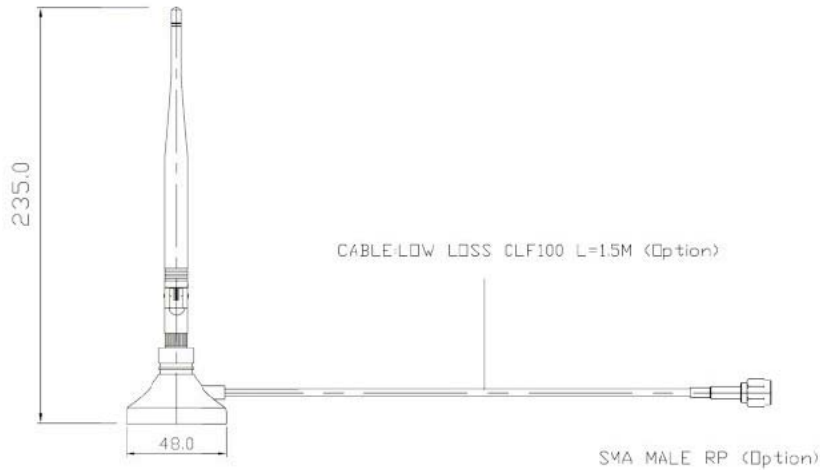
- Antenna Type: PCB Antenna
- Frequency Range: 2.4-2.5GHz
- VSWR: $\leq 1.5:1$
- Impedance: 50ohm nominal
- Normal Gain: 3.5 dBi
- Type of Radiation: Omni
- Electrical Wave: 1/4
- Connector: SMA,SMB,BNC,TNC,FME,MMCX,.....etc, and custom by customer demands
- Cable Length:RG178, RG174,RG58 and custom by customer demands
- OEM/ODM Spec is welcome!

MECHANICAL SPECIFICATION:

- Antenna Cover: PU
- Color: Black
- Operation Temperature: -40°C~+80°C

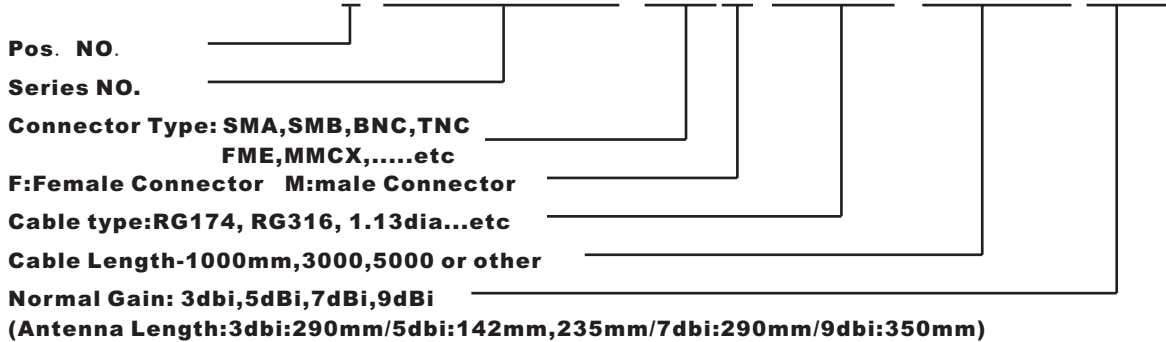
Other available Frequency:

- Tri-Band: 2.4/5.2/5.8GHz
- Can adjust to other frequency for OEM projects



ORDER INFORMATION

Product No. : KLS1-WIFI-2.4G-06-SMA-F-RG174-1000MM-5DBI



GPS Antennas Series

KLS1-GPS-01-BNC (Active Antenna)

Features :

- Compatible with GPS receivers/systems with a BNC connector for external antennas
- Built-in GPS signal amplifier to enhance and improve GPS signal reception
- Optional mounting: removable magnetic mount or fixed adhesive mount (Default: magnetic mount)
- Optional straight or right angle connector type (Default: straight type)

Specifications:

Dielectric Antenna:

- Center Frequency: 1575.42MHz±3 MHz
- V.S.W.R 1.5:1
- Band Width: ±5 MHz
- Impedence: 50 ohm
- Peak Gain >3dBic Based on 7 x 7cm ground plane
- Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
- Polarization: RHCP

LNA/Filter :

- LNA Gain (without cable): 28dB typical
- Noise Figure 1.5dB
- Filter Out Band Attenuation: (f0=1575.42 MHz)
- 7dB in f0+/-20MHZ
- 20dB in f0+/-50MHZ
- 30dB in f0+/-100MHZ
- V.S.W.R < 2.0
- DC Voltage 2.2V to 5.0V
- DC Current < 5mA

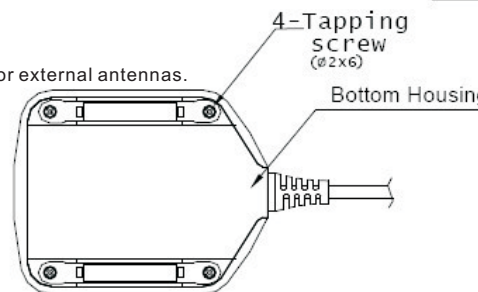
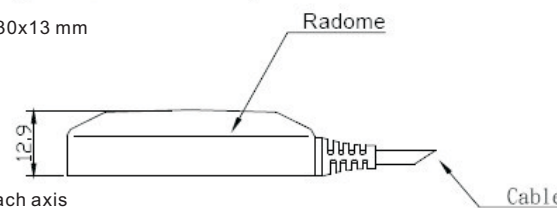
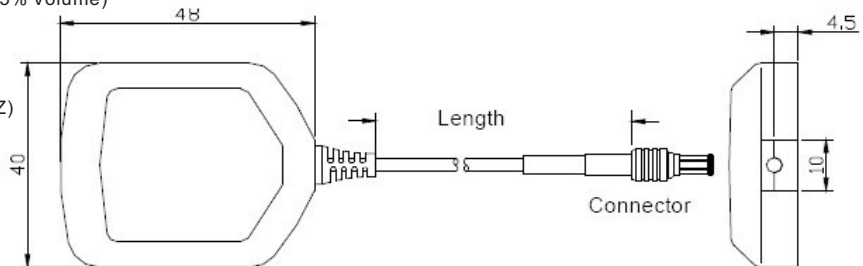
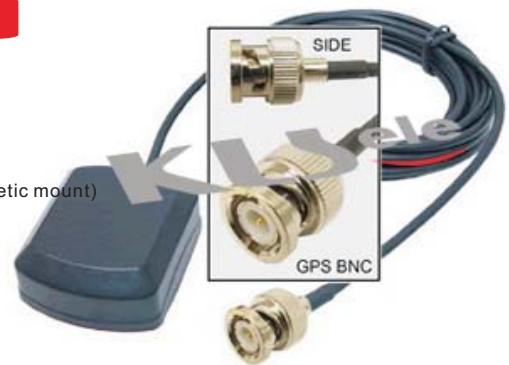
Mechanical:

- Weight: <110gram
- Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
- Cable: RG174 5 meter or other
- Connector: BNC male straight or right angle
- Mounting: magnetic base or adhesive
- Housing color: Black

Environmental:

- Working Temp: -40oC~+85oC
- Storage Temp: -45oC~+100oC
- Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
- Humidity Humidity: 95%~100% RH
- Weatherproof: 100% Waterproof
- Compatible GPS Devices:

All GPS receivers/systems with a BNC connector for external antennas.



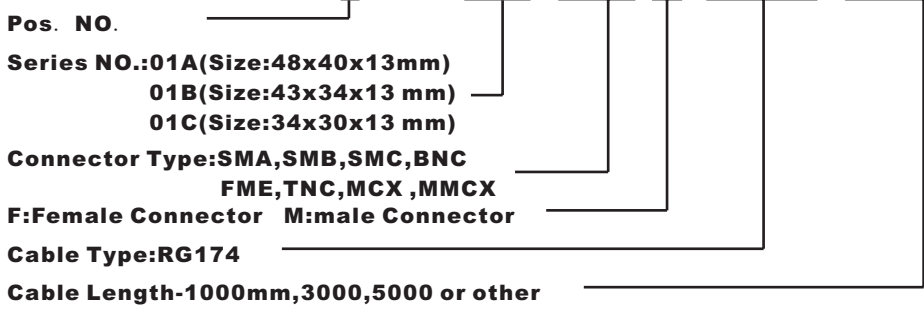
M Series

- Radome: ABS+PC
- Bottom Housing: Aluminum
- Unit: mm

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:		
ANGLE		± 1°
1 PLACE DECIMALS		±0.2
2 PLACE DECIMALS		±0.15
3 PLACE DECIMALS		±0.05

ORDER INFORMATION

Product No. : KLS1-GPS-01A-BNC-M-RG174-1000MM



GPS Antennas Series

KLS1-GPS-01-MCX (Active Antenna)

Features :

Compatible with GPS devices (PDA/PNA/PPC/Navigator etc.) with a MCX connector for external antennas
Built-in GPS signal amplifier to enhance and improve GPS signal reception
Optional mounting: removable magnetic mount or fixed adhesive mount (Default: magnetic mount)
Optional straight or right angle connector type (Default: straight type)

Specifications:

Dielectric Antenna:

Center Frequency: 1575.42MHz±3 MHz
V.S.W.R 1.5:1
Band Width: ±5 MHz
Impedence: 50 ohm
Peak Gain >3dBic Based on 7 x 7cm ground plane
Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
Polarization: RHCP

LNA/Filter :

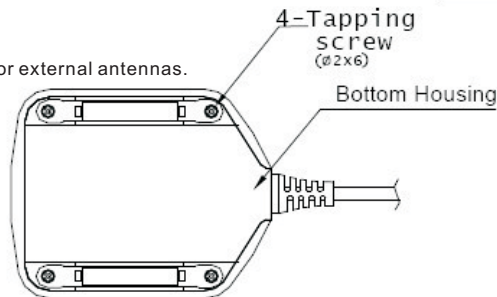
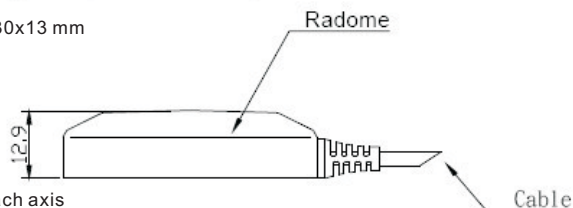
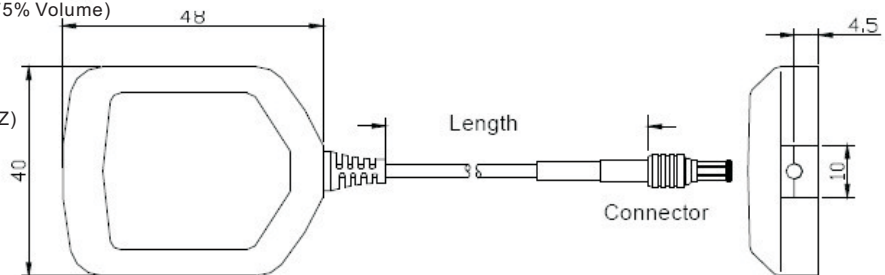
LNA Gain (without cable): 28dB typical
Noise Figure 1.5dB
Filter Out Band Attenuation: (f0=1575.42 MHz)
7dB in f0+/-20MHZ
20dB in f0+/-50MHZ
30dB in f0+/-100MHZ
V.S.W.R < 2.0
DC Voltage 2.2V to 5.0V
DC Current < 15mA

Mechanical:

Weight: <110gram
Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
Cable: RG174 5 meter or other
Connector: MCX male straight or right angle
Mounting: magnetic or adhesive base
Housing color: Black

Environmental:

Working Temp: -40oC~+85oC
Storage Temp: -45oC~+100oC
Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
Humidity Humidity: 95%~100% RH
Weatherproof: 100% Waterproof
Compatible GPS Devices:
All GPS receivers/systems with a MCX connector for external antennas.



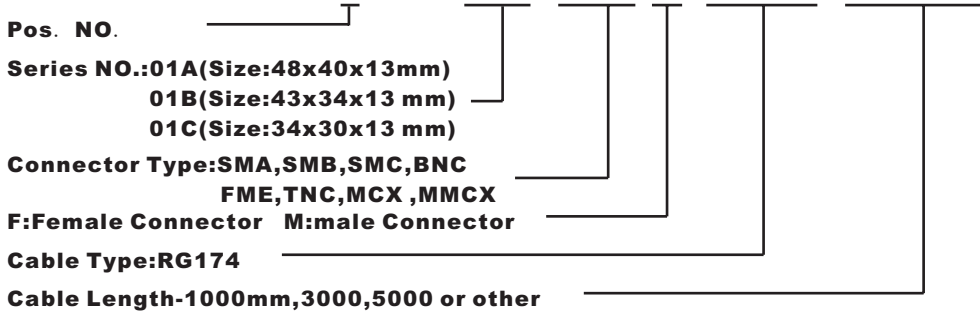
M Series

Radome: ABS+PC
Bottom Housing: Aluminum
Unit mm

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:		
ANGLE		± 1°
1 PLACE DECIMALS		±0.2
2 PLACE DECIMALS		±0.15
3 PLACE DECIMALS		±0.05

ORDER INFORMATION

Product No. : KLS1-GPS-01A-MCX-M-RG174-1000MM



GPS Antennas Series

KLS1-GPS-01-MMCX (Active Antenna)

Features :

Compatible with GPS devices (PDA/PNA/PPC/Navigator etc.) with a MMCX connector for external antennas
Built-in GPS signal amplifier to enhance and improve GPS signal reception
Optional mounting: removable magnetic mount or adhesive mount (Default: magnetic mount)
Optional straight or right angle connector type (Default: straight type)

Specifications:

Dielectric Antenna:

Center Frequency: 1575.42MHz±3 MHz
V.S.W.R 1.5:1
Band Width: ±5 MHz
Impedence: 50 ohm
Peak Gain >3dBic Based on 7 x 7cm ground plane
Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
Polarization: RHCP

LNA/Filter :

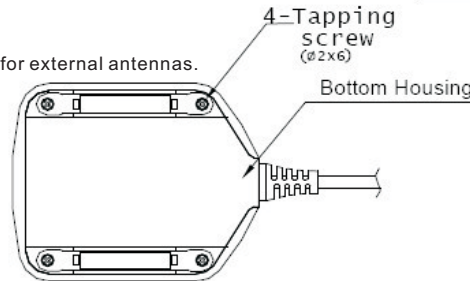
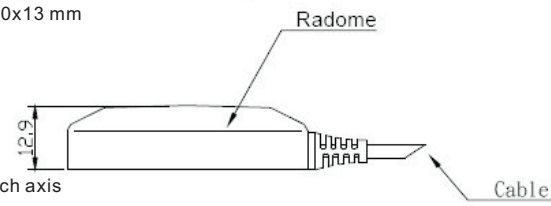
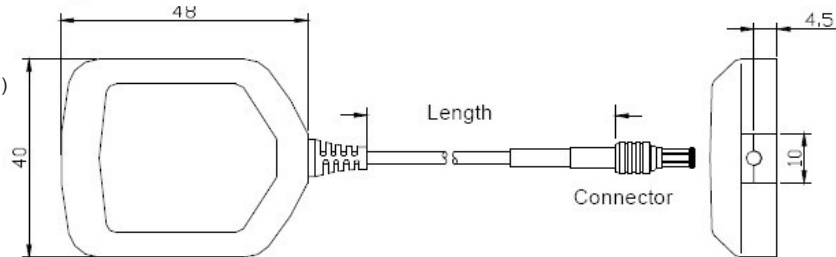
LNA Gain (without cable): 28dB typical
Noise Figure 1.5dB
Filter Out Band Attenuation: (f0=1575.42 MHz)
7dB in f0+/-20MHZ
20dB in f0+/-50MHZ
30dB in f0+/-100MHZ
V.S.W.R < 2.0
DC Voltage 2.2V to 5.0V
DC Current < 15mA

Mechanical:

Weight: <110gram
Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
Cable: RG174 5 meter or other
Connector: MMCX male straight or right angle
Mounting: magnetic or adhesive base
Housing color: Black

Environmental:

Working Temp: -40oC~+85oC
Storage Temp: -45oC~+100oC
Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
Humidity Humidity: 95%~100% RH
Weatherproof: 100% Waterproof
Compatible GPS Devices:
All GPS receivers/systems with a MMCX connector for external antennas.

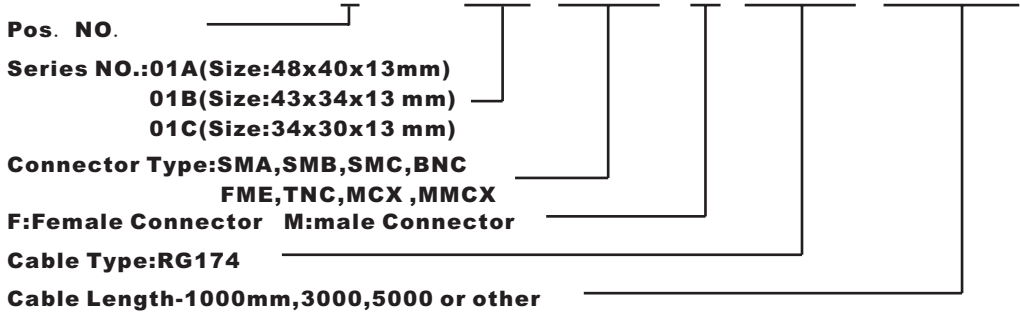


M Series
Radome: ABS+PC
Bottom Housing: Aluminum
Unit: mm

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:	
ANGLE	± 1°
1 PLACE DECIMALS	±0.2
2 PLACE DECIMALS	±0.15
3 PLACE DECIMALS	±0.05

ORDER INFORMATION

Product No. : KLS1-GPS-01A-MMCX-M-RG174-1000MM





GPS Antennas Series

KLS1-GPS-01-SMA (Active Antenna)

Features :

- Compatible with GPS receivers/systems with a SMA connector for external antennas
- Built-in GPS signal amplifier to enhance and improve GPS signal reception
- Optional mounting: removable magnetic mount or adhesive mount (Default: magnetic mount)
- Optional straight or right angle connector type (Default: straight type)

Specifications:

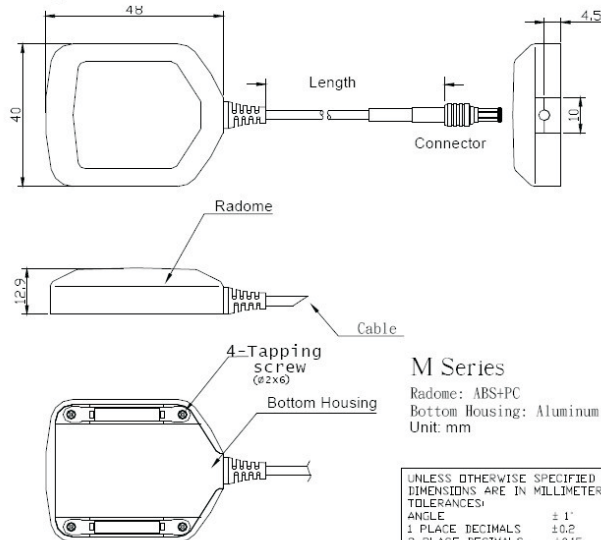
- Dielectric Antenna :
- Center Frequency: 1575.42MHz 3 M Hz
- V.S.W.R 1.5:1
- Band Width: 5 M Hz
- Impedence: 50 ohm
- Peak Gain >3dBic Based on 7 x 7cm ground plane
- Gain Coverage >-4dBic at -90 to +90 (over 75% Volume)
- Polarization: RHCP
- LNA/Filter :
- LNA Gain (without cable): 28dB typical
- Noise Figure 1.5dB
- Filter Out Band Attenuation: (f0=1575.42 MHz)
- 7dB in f0+/-20MHZ
- 20dB in f0+/-50MHZ
- 30dB in f0+/-100MHZ
- V.S.W.R < 2.0
- DC Voltage 2.2V to 5.0V
- DC Current < 15mA

Mechanical:

- Weight: <110gram
- Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
- Cable: RG174 5 meter or other
- Connector: SMA or SMA/SMB/SMC/BNC/FME/TNC/MCX /MMCX
- Mounting: magnetic base or adhesive
- Housing color: Black

Environmental:

- Working Temp: -40oC~+85oC
- Storage Temp: -45oC~+100oC
- Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
- Humidity Humidity: 95%~100% RH
- Weatherproof: 100% Waterproof
- Compatible GPS Devices:
- All GPS receivers/systems with a SMA connector for external antennas

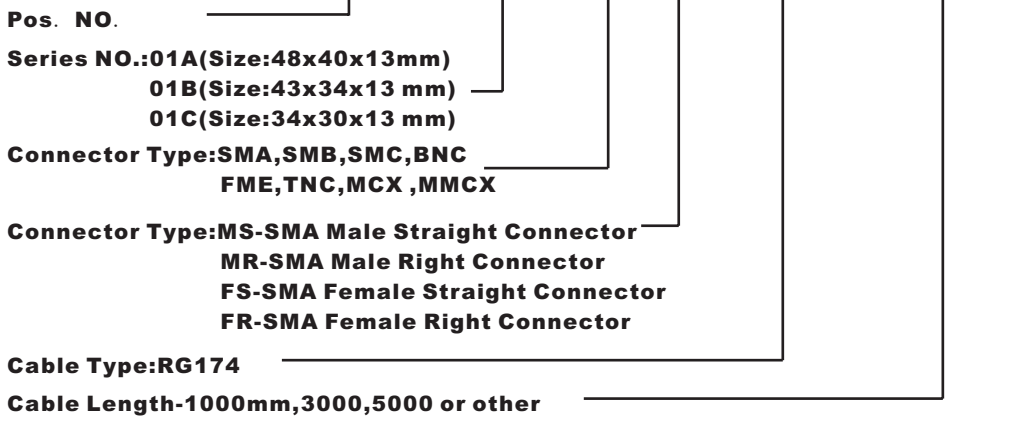


M Series
Radome: ABS+PC
Bottom Housing: Aluminum
Unit: mm

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:	
ANGLE	± 1°
1 PLACE DECIMALS	± 0.2
2 PLACE DECIMALS	± 0.15
3 PLACE DECIMALS	± 0.05

ORDER INFORMATION

Product No. : KLS1-GPS-01A-SMA-MS-RG174-1000MM





GPS Antennas Series

KLS1-GPS-01-SMB (Active Antenna)

Features :

- Compatible with GPS devices with a SMB male connector for external antennas
- Built-in GPS signal amplifier to enhance and improve GPS signal reception
- Optional mounting: removable magnetic mount or adhesive mount (Default: magnetic mount)
- Optional straight or right angle connector type (Default: straight type)

Specifications:

Dielectric Antenna:

- Center Frequency: 1575.42MHz±3 MHz
- V.S.W.R 1.5:1
- Band Width: ±5 MHz
- Impedence: 50 ohm
- Peak Gain >3dBic Based on 7 x 7cm ground plane
- Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
- Polarization: RHCP

LNA/Filter :

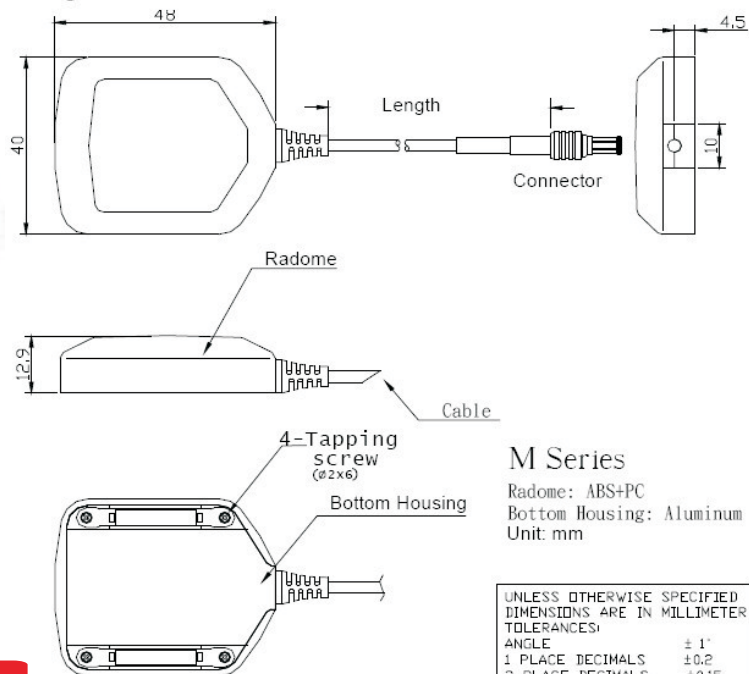
- LNA Gain (without cable): 28dB typical
- Noise Figure 1.5dB
- Filter Out Band Attenuation: (f0=1575.42 MHz)
- 7dB in f0+/-20MHZ
- 20dB in f0+/-50MHZ
- 30dB in f0+/-100MHZ
- V.S.W.R < 2.0
- DC Voltage 2.2V to 5.0V
- DC Current < 15mA

Mechanical:

- Weight: <110gram
- Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
- Cable: RG174 5 meter or other
- Connector: SMB male straight or right angle
- Mounting: magnetic base or adhesive
- Housing color: Black

Environmental:

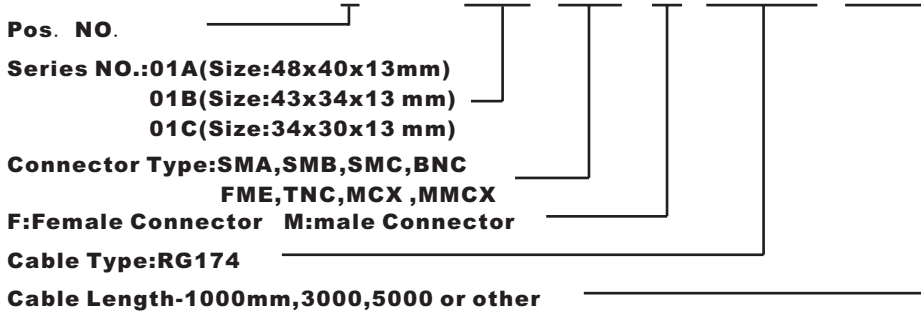
- Working Temp: -40oC~+85oC
- Storage Temp: -45oC~+100oC
- Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
- Humidity Humidity: 95%~100% RH
- Weatherproof: 100% Waterproof
- Compatible GPS Devices:
- All GPS receivers/systems with a SMB male connector for external antennas.



M Series
Radome: ABS+PC
Bottom Housing: Aluminum
Unit: mm

ORDER INFORMATION

Product No. : KLS1-GPS-01A-SMB-M-RG174-1000MM



GPS Antennas Series

KLS1-GPS-01-SMC (Active Antenna)

Features :

Compatible with GPS receivers/systems with a SMC connector for external antennas
Built-in GPS signal amplifier to enhance and improve GPS signal reception
Optional mounting: removable magnetic mount or fixed adhesive mount (Default: magnetic mount)

Specifications:

Dielectric Antenna:

Center Frequency: 1575.42MHz±3 MHz
V.S.W.R 1.5:1
Band Width: ±5 MHz
Impedance: 50 ohm
Peak Gain >3dBic Based on 7 x 7cm ground plane
Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
Polarization: RHCP

LNA/Filter :

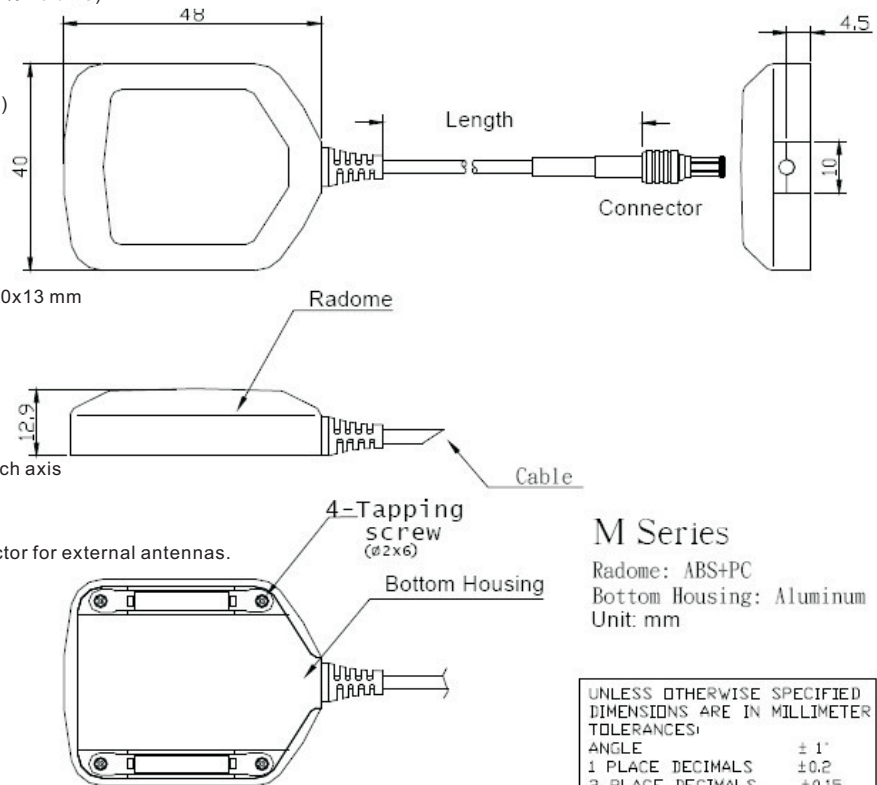
LNA Gain (without cable): 28dB typical
Noise Figure 1.5dB
Filter Out Band Attenuation: (f0=1575.42 MHz)
7dB in f0+/-20MHZ
20dB in f0+/-50MHZ
30dB in f0+/-100MHZ
V.S.W.R < 2.0
DC Voltage 2.2V to 5.0V
DC Current < 5mA

Mechanical:

Weight: <110gram
Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
Cable: RG174 5 meter or other
Connector: SMC male straight or right angle
Mounting: magnetic base or adhesive
Housing color: Black

Environmental:

Working Temp: -40oC~+85oC
Storage Temp: -45oC~+100oC
Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
Humidity Humidity: 95%~100% RH
Weatherproof: 100% Waterproof
Compatible GPS Devices:
All GPS receivers/systems with a SMC connector for external antennas.

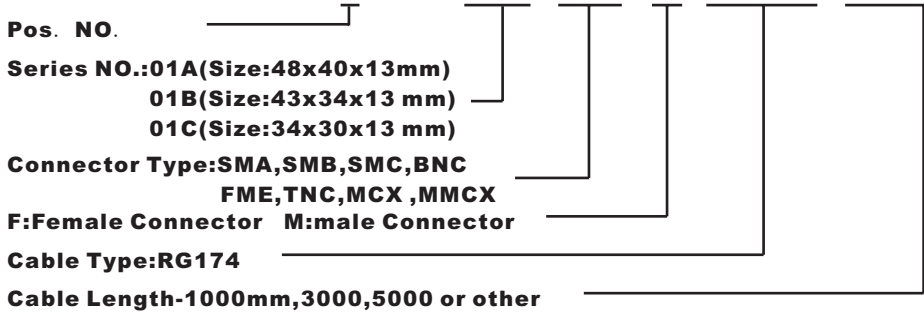


M Series
Radome: ABS+PC
Bottom Housing: Aluminum
Unit: mm

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:	
ANGLE	± 1°
1 PLACE DECIMALS	±0.2
2 PLACE DECIMALS	±0.15
3 PLACE DECIMALS	±0.05

ORDER INFORMATION

Product No. : KLS1-GPS-01A-SMC-M-RG174-1000MM



GPS Antennas Series

KLS1-GPS-01-TNC (Active Antenna)

Features :

Compatible with GPS receivers/systems with a TNC connector for external antennas
Built-in GPS signal amplifier to enhance and improve GPS signal reception
Optional mounting: removable magnetic mount or fixed adhesive mount (Default: magnetic mount)

Specifications:

Dielectric Antenna:

Center Frequency: 1575.42MHz±3 MHz
V.S.W.R 1.5:1
Band Width: ±5 MHz
Impedence: 50 ohm
Peak Gain >3dBic Based on 7 x 7cm ground plane
Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
Polarization: RHCP

LNA/Filter :

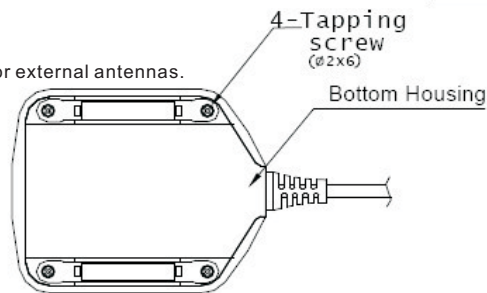
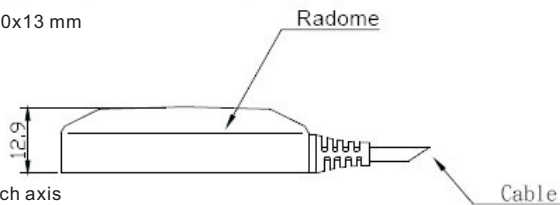
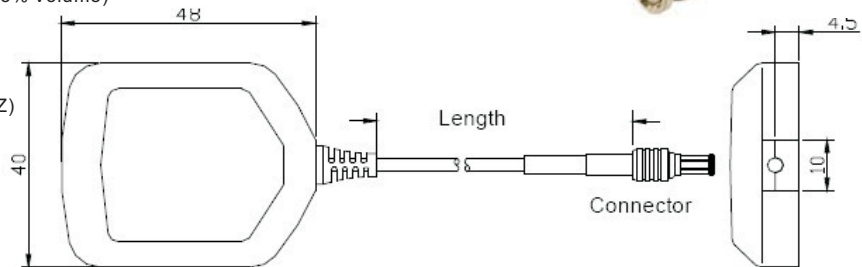
LNA Gain (without cable): 28dB typical
Noise Figure 1.5dB
Filter Out Band Attenuation: (f0=1575.42 MHz)
7dB in f0+/-20MHZ
20dB in f0+/-50MHZ
30dB in f0+/-100MHZ
V.S.W.R < 2.0
DC Voltage 2.2V to 5.0V
DC Current < 5mA

Mechanical:

Weight: <110gram
Size: 48 x 40 x 13 mm or 43x34x13mm or 34x30x13 mm
Cable: RG174 5 meter or other
Connector: TNC male straight or right angle
Mounting: magnetic base or adhesive
Housing color: Black

Environmental:

Working Temp: -40oC~+85oC
Storage Temp: -45oC~+100oC
Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
Humidity Humidity: 95%~100% RH
Weatherproof: 100% Waterproof
Compatible GPS Devices:
All GPS receivers/systems with a TNC connector for external antennas.



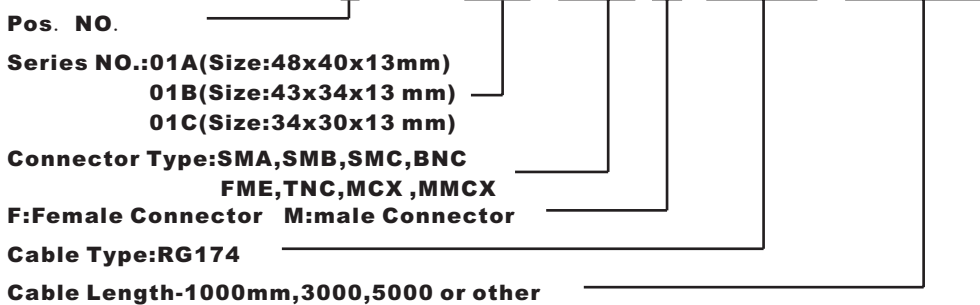
M Series

Radome: ABS+PC
Bottom Housing: Aluminum
Unit: mm

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES:	
ANGLE	± 1°
1 PLACE DECIMALS	±0.2
2 PLACE DECIMALS	±0.15
3 PLACE DECIMALS	±0.05

ORDER INFORMATION

Product No. : KLS1-GPS-01A-TNC-M-RG174-1000MM





GPS Antennas Series

KLS1-GPS-02 (Active Antenna)

Features :

- Compatible with GPS receivers/systems with a SMA connector for external antennas
- Built-in GPS signal amplifier to enhance and improve GPS signal reception
- Optional mounting: removable magnetic mount or adhesive mount (Default: magnetic mount)
- Optional straight or right angle connector type (Default: straight type)

Specifications:

Dielectric Antenna:

- Center Frequency: 1575.42MHz±3 MHz
- V.S.W.R 1.5:1
- Band Width: ±5 MHz
- Impedence: 50 ohm
- Peak Gain >3dBic Based on 7 x 7cm ground plane
- Gain Coverage >-4dBic at -90° to +90° (over 75% Volume)
- Polarization: RHCP

LNA/Filter :

- LNA Gain (without cable): 28dB typical
- Noise Figure 1.5dB
- Filter Out Band Attenuation: (f0=1575.42 MHz)
- 7dB in f0+/-20MHZ
- 20dB in f0+/-50MHZ
- 30dB in f0+/-100MHZ
- V.S.W.R < 2.0
- DC Voltage 2.2V to 5.0V
- DC Current < 15mA

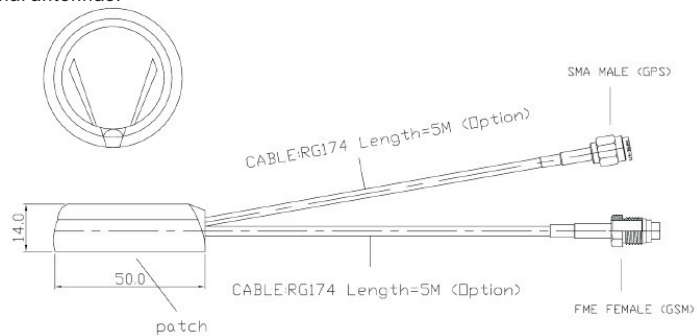
Mechanical:

- Weight: <110gram
- Cable: RG174 5 meter or other
- Connector: SMA or SMA/SMB/SMC/BNC/FME/TNC/MCX /MMCX
- Mounting: magnetic base or adhesive
- Housing color: Black

Environmental:

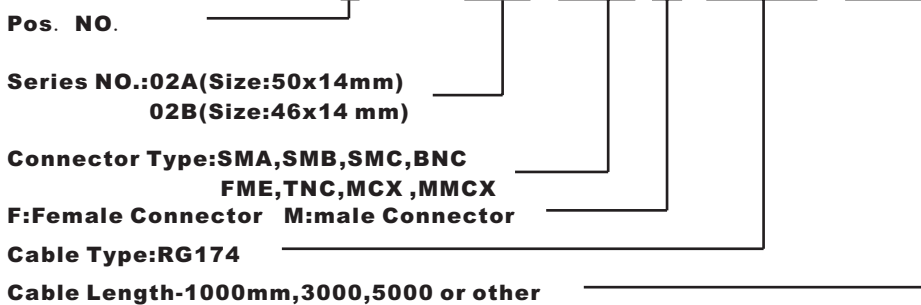
- Working Temp: -40oC~+85oC
- Storage Temp: -45oC~+100oC
- Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
- Humidity Humidity: 95%~100% RH
- Weatherproof: 100% Waterproof
- Compatible GPS Devices:

All GPS receivers/systems with a SMA connector for external antennas.



ORDER INFORMATION

Product No. : KLS1-GPS-02A-SMA-M-RG174-1000MM





GPS Antennas Series

KLS1-GPS-02 (Active Internal Antenna)

Specifications:

Dielectric Antenna:

Center Frequency 1575.42MHz±3 MHz
 V.S.W.R 1.5:1
 Band Width: ±5 MHz
 Impedence: 50 ohm
 Peak Gain > 3dBic Based on 7 x 7cm ground plane
 Gain Coverage > -4dBic at -90° ~ +90° (over 75% Volume)
 Polarization RHCP

LNA/Filter :

NA Gain (Without cable) 10 ~ 30 dB Typical
 Noise Figure 1.5dB
 Filter Out Band Attenuation (f0=1575.42 MHz)
 7dB Min f0+/-20MHz ;
 20dB Min f0+/-50MHz
 30dB Min f0+/-100MHz
 V.S.W.R < 2.0
 DC Voltage 2.2V to 5.0V/other
 DC Current: 5 ~ 15mA Max

Mechanical:

Weight < 80gram
 Cable RF1.13 or other
 Connector SMA/SMB-M/SMC/BNC/FME/TNC/MCX /MMCX or other (Default SMA)

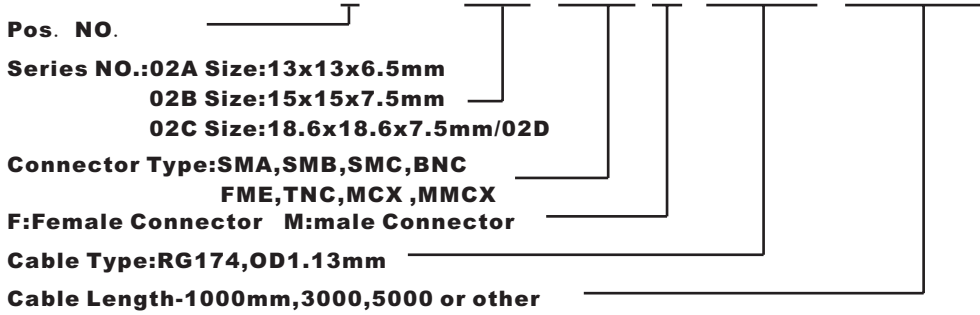
Environmental:

Working Temp -40oC~+85oC
 Storage Temp. -45oC~+100oC
 Vibration Sine sweep 1g(0-p)10~50~10Hz each axis



ORDER INFORMATION

Product No. : KLS1-GPS-02A-SMA-M-RG174-1000MM





GPS Antennas Series

KLS1-GPS-03 (Active Internal Antenna with switch)

Specifications:

Dielectric Antenna:

Center Frequency 1575.42MHz±3 MHz
 V.S.W.R 1.5:1
 Band Width: ±5 MHz
 Impedence: 50 ohm
 Peak Gain > 3dBic Based on 7 x 7cm ground plane
 Gain Coverage > -4dBic at -90° ~ +90°(over 75% Volume)
 Polarization RHCP

LNA/Filter :

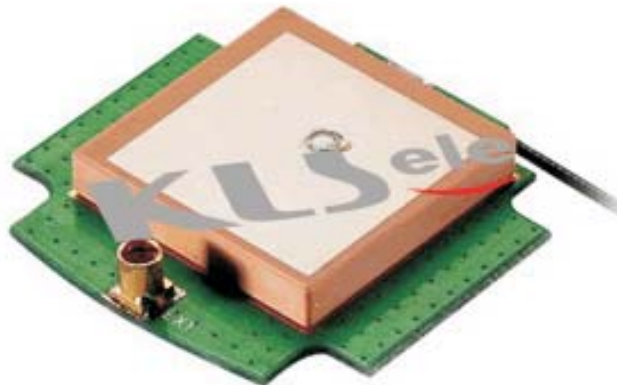
NA Gain (Without cable) 10 ~ 30 dB Typical
 Noise Figure 1.5dB
 Filter Out Band Attenuation (f0=1575.42 MHz)
 7dB Min f0+/-20MHz ;
 20dB Min f0+/-50MHz
 30dB Min f0+/-100MHz
 V.S.W.R < 2.0
 DC Voltage 2.2V to 5.0V/other
 DC Current: 5 ~ 15mA Max

Mechanical:

Weight < 80gram
 Size 37x37x5.5mm/37x37x7.5mm
 Cable RF1.13 or other
 Connector SMA/SMB-M/SMC/BNC/FME/TNC/MCX /MMCX or other (Default SMA)

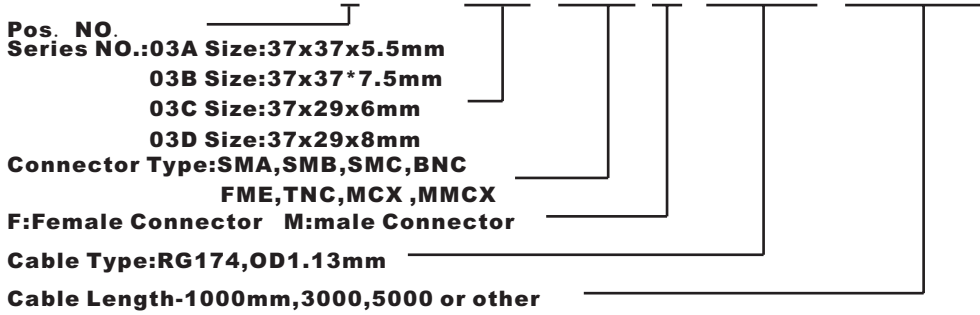
Environmental:

Working Temp -40oC~+85oC
 Storage Temp. -45oC~+100oC
 Vibration Sine sweep 1g(0-p)10~50~10Hz each axis



ORDER INFORMATION

Product No. : KLS1-GPS-03A-SMA-M-RG174-1000MM



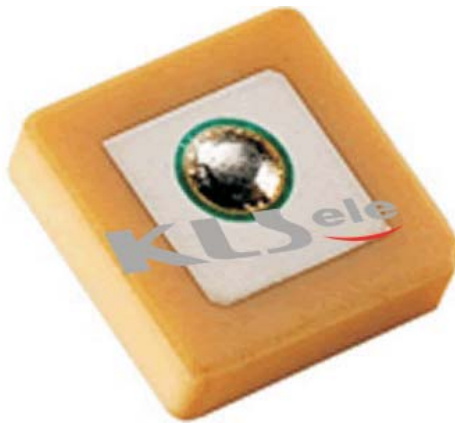


GPS Antennas Series

KLS1-GPS-04 (Dielectric Antenna)

Product Description:

Size 20x20x4mm
Center Frequency 1575.42 MHz±3 MHz
V.S.W.R 1.5 : 1
Band Width ±5 MHz
Impedence 50 ohm
Polarization Type RHCP
Working Temp -40°C~+85°C
Humidity 5%~75%RH
Waterproof IP67



ORDER INFORMATION

Product No. : KLS1-GPS-04A

Pos. NO. _____

Series NO.: 04A Size:13x13x3.5mm
04B Size:15x15x4mm
04C Size:18x18x4mm
04D Size:20x20x4mm
04E Size:25x25x4mm



GPS Antennas Series

KLS1-GPS-05 (Passive Antenna)

Features

Compatible with all GPS devices/systems that apply passive antennas
 Mount options: removable magnetic mount or adhesive mount (Default: magnetic mount)
 Connector type options: straight or right angle BNC,TNC,MCX,MMCX,SMA,SMB-F,SMB-M,SMC,FAKRA,HRS GT5 etc.
 (Default: straight SMA type)
 Cable length options: maximal 2 meters (Default: 1 meter)

Specifications:

Dielectric Antenna:

Center Frequency: 1575.42MHz±3 MHz
 V.S.W.R 1.5:1
 Band Width: ±5 MHz
 Impedence: 50 ohm
 Peak Gain >3dBic Based on 7 x 7cm ground plane
 Gain Coverage >-4dBic at -90° ~ +90° (over 75% Volume)
 Polarization: RHCP

Mechanical:

Weight: <110gram
 Cable: RG174 2 meter or other
 Connector: your specification
 Mounting: magnetic base or adhesive
 Housing color: Black

Environmental:

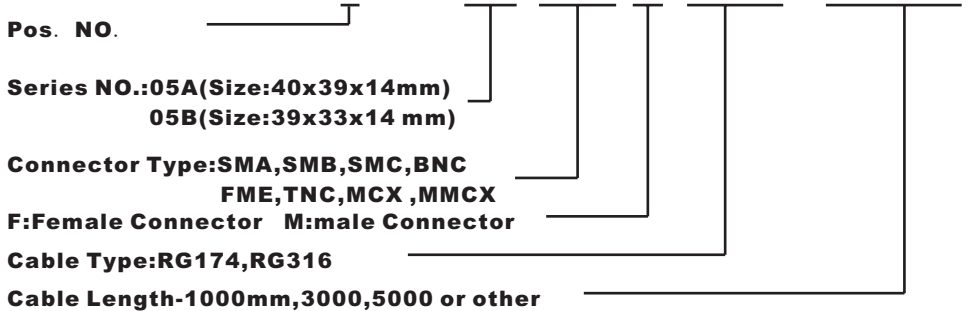
Working Temp: -40oC~+85oC
 Storage Temp: -45oC~+100oC
 Vibration Sine sweep: 1g(0-p)10~50~10Hz each axis
 Humidity Humidity: 55%~75% RH
 Weatherproof: IP67
 Compatible GPS Devices:
 All GPS receivers/systems based on passive antenna designs.



For GPS system developers, we recommend to order and test few samples first before placing a quantity order.

ORDER INFORMATION

Product No. : KLS1-GPS-05-SMA-M-RG174-1000MM





Combo Antennas

KLS1-GPS+GSM-01 (GPS+GSM Antennas)

GPS antenna High performance GPS patch antenna with state-of-the-art low noise amplifier

Features:

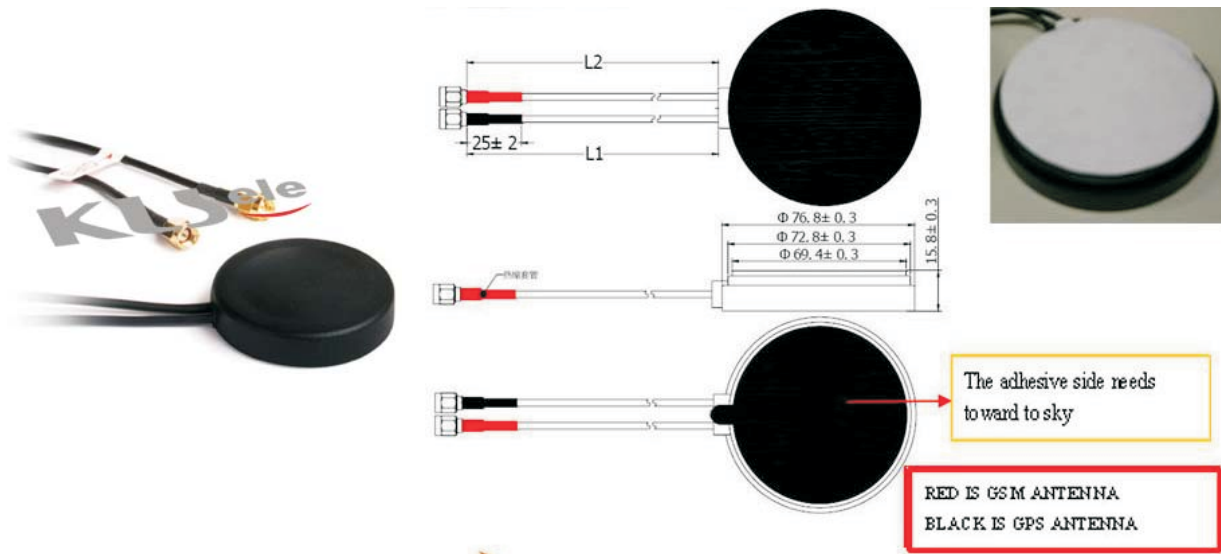
- * GPS Active combined with GSM CDMA
- * Double-sided sticky which is easier for installation and portage usage.

GPS-Description:

* Frequency: 1575.42MHz
* Polarization: RHCP (right hand circular polarization)
* Gain: 27dB typical
* Noise figure: 1.5 max.
* Attenuation: 20dB min. at F0 +/- 50MHz
* Bandwidth: >10MHz
* V.S.W.R: 2.0 max
* Impedance: 50 ohms
* Power consumption: 12.5mA (at 3.3V)
* Cable and connector: 5m RG-174 with SMA connector
* Operating temperature: -35 to +85 degrees Celsius Storage temperature: -40 to +95 degrees Celsius

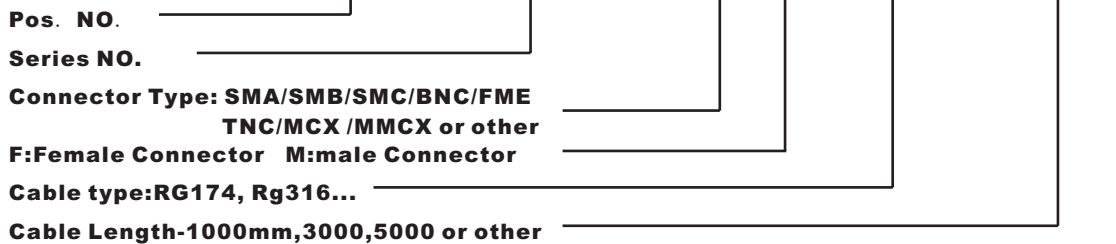
GSM CDMA UMTS Description:

* Proof antenna for 824-960/1710-2170MHz cellular phone
* Frequency: 824-894/1710-2170MHz
* Polarization: vertical
* Gain: 2dBi
* V.S.W.R: 2.0 max
* Impedance: 50 ohms
* Power handling capacity: 10W max
* Cable and connector: 3m RG-174 with SMA connector
* Operating temperature: -35 to +85 degrees Celsius
* Storage temperature: -40 to +95 degrees Celsius



ORDER INFORMATION

Product No. : KLS1-GPS+GSM-01-SMA-F-RG174-1000MM





Combo Antennas

KLS1-GPS+GSM-02 (GPS+GSM Antennas)

GPS antenna High performance GPS patch antenna with state-of-the-art low noise amplifier

Features:

*	GPS Active combined with GSM or CDMA, PCS.
*	Screw type for installation

GPS-Description:

*	Frequency: 1575.42MHz
*	Polarization: RHCP (right hand circular polarization)
*	Gain: 27dB typical
*	Noise figure: 1.5 max.
*	Attenuation: 20dB min. at F0 +/- 50MHz
*	Bandwidth: 10MHz
*	V.S.W.R: 2.0 max
*	Impedance: 50 ohms
*	Power consumption: 2.7 to 5.5VDC/28mA
*	Cable and connector: 5m RG-174 with SMA connector
*	Operating temperature: -35 to +85 degrees Celsius
*	Storage temperature: -40 to +95 degrees Celsius

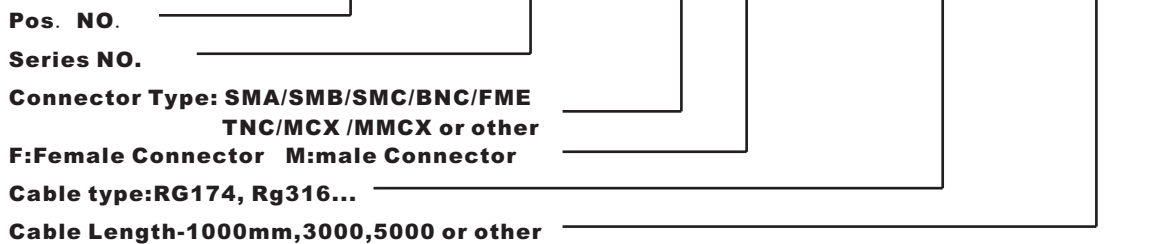
GSM (PCS,CDMA) Description

*	Proof antenna for 900/1800MHz(800/1900) cellular phone
*	Frequency: 900 to 1800MHz (800/1900)
*	Polarization: vertical
*	Gain: 0dBi
*	V.S.W.R: 2.0 max
*	Impedance: 50 ohms
*	Power handling capacity: 10W max
*	Cable and connector: 3m RG-174 with FME connector
*	Operating temperature: -35 to +85 degrees Celsius
*	Storage temperature: -40 to +95 degrees Celsius



ORDER INFORMATION

Product No. : KLS1-GPS+GSM-02-SMA-F-FME-RG174-1000MM





Combo Antennas

KLS1-GPS+GSM-03 (GPS+GSM Antennas)

GPS antenna High performance GPS roof screw type antenna with state-of-the-art low noise amplifier.

Features:

*	GPS Active combined with GSM or CDMA, PCS.
*	Screw type for installation

GPS-Description:

*	Frequency: 1575.42MHz
*	Polarization: RHCP (right hand circular polarization)
*	Gain: 27dB typical
*	Noise figure: 1.5 max.
*	Attenuation: 20dB min. at F0 +/- 50MHz
*	Bandwidth: 10MHz
*	V.S.W.R: 2.0 max
*	Impedance: 50 ohms
*	Power consumption: 2.7 to 5.5VDC/28mA
*	Cable and connector: 5m RG-174 with SMA connector
*	Operating temperature: -35 to +85 degrees Celsius Storage temperature: -40 to +95 degrees Celsius

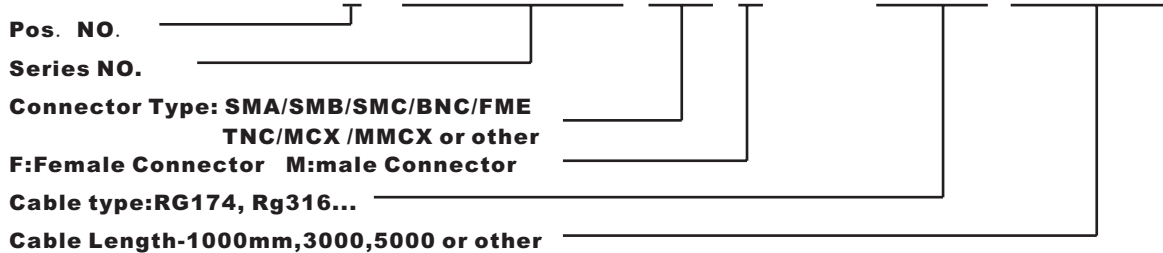
GSM (PCS,CDMA) Description

*	Proof antenna for 900/1800MHz(800/1900) cellular phone
*	Frequency: 900 to 1800MHz (800/1900)
*	Polarization: vertical
*	Gain: 0dBi
*	V.S.W.R: 2.0 max
*	Impedance: 50 ohms
*	Power handling capacity: 10W max
*	Cable and connector: 3m RG-174 with FME connector
*	Operating temperature: -35 to +85 degrees Celsius
*	Storage temperature: -40 to +95 degrees Celsius



ORDER INFORMATION

Product No. : KLS1-GPS+GSM-03-SMA-F-FME-RG174-1000MM





Combo Antennas

KLS1-GPS+GSM-04 (GPS+GSM Antennas)

GPS antenna High performance GPS roof screw type antenna with state-of-the-art low noise amplifier.

Features:

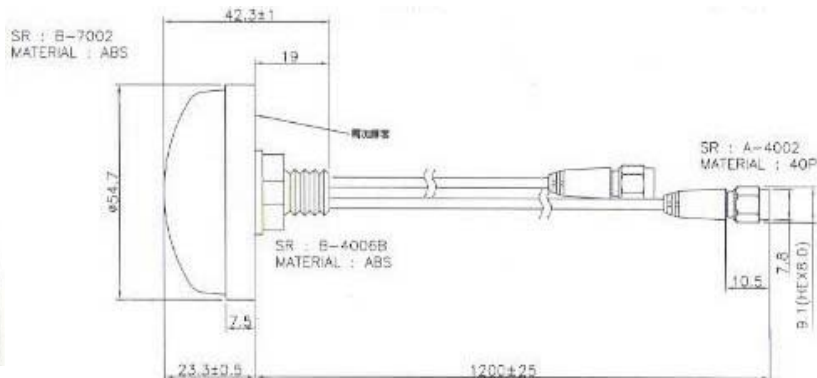
* GPS Active combined with GSM or CDMA, PCS.
* Screw type for installation

GPS-Description:

* Frequency: 1575.42MHz
* Polarization: RHCP (right hand circular polarization)
* Gain: 27dB typical
* Noise figure: 1.5 max.
* Attenuation: 20dB min. at F0 +/- 50MHz
* Bandwidth: 10MHz
* V.S.W.R: 2.0 max
* Impedance: 50 ohms
* Power consumption: 2.7 to 5.5VDC/28mA
* Cable and connector: 5m RG-174 with SMA connector
* Operating temperature: -35 to +85 degrees Celsius Storage temperature: -40 to +95 degrees Celsius

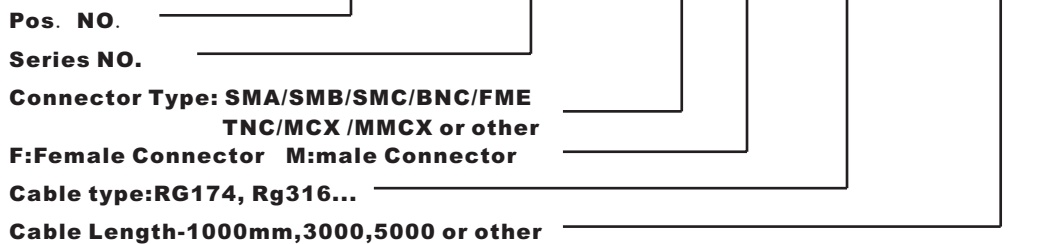
GSM (PCS,CDMA) Description

* Proof antenna for 900/1800MHz(800/1900) cellular phone
* Frequency: 900 to 1800MHz (800/1900)
* Polarization: vertical
* Gain: 0dBi
* V.S.W.R: 2.0 max
* Impedance: 50 ohms
* Power handling capacity: 10W max
* Cable and connector: 3m RG-174 with FME connector
* Operating temperature: -35 to +85 degrees Celsius
* Storage temperature: -40 to +95 degrees Celsius



ORDER INFORMATION

Product No. : KLS1-GPS+GSM-04-SMA-F-RG174-1000MM





Combo Antennas

KLS1-GPS+GSM-05 (GPS+GSM Antennas)

GPS antenna High performance GPS roof screw type antenna with state-of-the-art low noise amplifier.

Features:

* GPS Active combined with GSM or CDMA, PCS.
* Screw type for installation

GPS-Description:

* Frequency: 1575.42MHz
* Polarization: RHCP (right hand circular polarization)
* Gain: 27dB typical
* Noise figure: 1.5 max.
* Attenuation: 20dB min. at F0 +/- 50MHz
* Bandwidth: 10MHz
* V.S.W.R: 2.0 max
* Impedance: 50 ohms
* Power consumption: 2.7 to 5.5VDC/28mA
* Cable and connector: 5m RG-174 with SMA connector
* Operating temperature: -35 to +85 degrees Celsius Storage temperature: -40 to +95 degrees Celsius

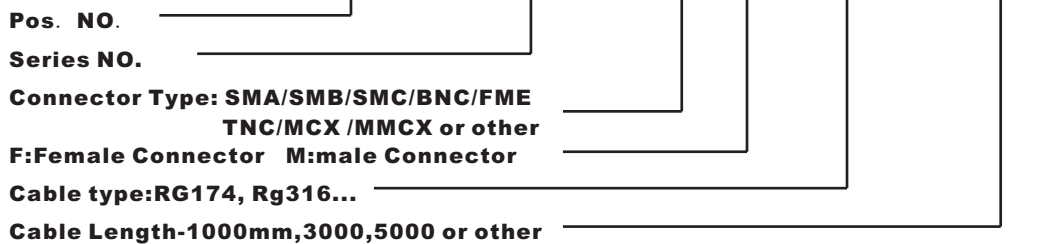
GSM (PCS,CDMA) Description

* Proof antenna for 900/1800MHz(800/1900) cellular phone
* Frequency: 900 to 1800MHz (800/1900)
* Polarization: vertical
* Gain: 0dBi
* V.S.W.R: 2.0 max
* Impedance: 50 ohms
* Power handling capacity: 10W max
* Cable and connector: 3m RG-174 with FME connector
* Operating temperature: -35 to +85 degrees Celsius
* Storage temperature: -40 to +95 degrees Celsius



ORDER INFORMATION

Product No. : KLS1-GPS+GSM-05-SMA-F-RG174-1000MM





Combo Antennas

KLS1-GPS+GSM+UHF-01 (GPS+GSM+UHF Antennas)

1. Features: GPS active combined with GSM (or CDMA) and UHF 380-475MHz (or Wi-Fi 2.4GHz)
2. Screw type for installation

GPS description:

Frequency: 1575.42MHz
Polarization: RHCP (right hand circular polarization)
Gain: 27dB typical
Noise figure: 1.5 maximum
Attenuation: 20dB minimum at F0 +/- 50MHz
Bandwidth: 10MHz
V.S.W.R: 2.0 maximum
Impedance: 50Ω
Power consumption: 2.7 to 5.5VDC/28mA
Cable and connector: optional

GSM (PCS/CDMA) description:

Proof antenna for 900 and 1800MHz (800/1900) cellular phone
Frequency: 900 to 1800MHz (800/1900)
Polarization: vertical
Gain: 0dBi
V.S.W.R: 2.0 maximum
Impedance: 50Ω
Power handling capacity: 10W maximum
Cable and connector: optional

UHF description (or WLAN 2.4GHz)

Frequency: 380 to 470MHz (or 2.4GHz)
Cable and connector: optional
With RoHS Compliant
Made in Taiwan



ORDER INFORMATION

Product No. : KLS1-GPS+GSM+UHF-01-RG174-1000MM

Pos. NO.	_____
Series NO.	_____
Cable type:RG174, Rg316...	_____
Cable Length-1000mm,3000,5000 or other	_____



Combo Antennas

KLS1-GPS+RADIO+WIFI-01 (GPS+RADIO+WIFI Antennas)

Frequency : 1575.42MHz
824 MHz ~ 894 MHz, 890~960 MHz
1710~1890 MHz, 1850 ~ 1990 MHz
2400~2483(ISM 2.4GMHz), 2.1G
Gain : GPS:27 dB
1.7dBi
VSWR : <2.0:1
Dimension : 63 (Dia.) x 15.6 (H) mm
Mounting : Magnetic Mount



ORDER INFORMATION

Product No. : KLS1-GPS+RADIO+WIFI-01

Pos. NO. _____
Series NO. _____